



# HANS RAJ MAHILA MAHA VIDYALAYA

MAHATMA HANS RAJ MARG, JALANDHAR (PUNJAB) INDIA



## Program Outcomes (POs)

and

## Course Outcomes (COs)

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**HANS RAJ MAHILA MAHA VIDYALAYA**  
MAHATMA HANS RAJ MARG, JALANDHAR (PUNJAB) INDIA



**FACULTY OF**  
**ARTS AND LANGUAGES**

**Program Outcomes (POs)**  
and  
**Course Outcomes (COs)**

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## **Post Graduate Department of English**

### **Name of Program: MA in English**

#### **Program Outcomes**

- PO 1: General Proficiency-The Masters of Arts Program provides the candidates with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, or public administration.
- PO 2: Research aptitude- The students will acquire knowledge and understanding in their specific field of study as well as into current research and development work.
- PO 3: Complex problem handling-They will be able to demonstrate the ability to identify issues critically and to plan the assigned tasks accordingly.
- PO 4: Lifelong learning-The Program provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO 5: Social interaction-The Program (including English, Punjabi, Hindi and Political Science) combines theoretical teaching with logical tools and theories, through group work, seminars and workshops.

#### **Program Specific Outcomes**

- PSO 1: To inculcate a proficiency in English Language
- PSO 2: To understand the nuances and techniques of usage of English language in formal and informal expression in our life.
- PSO 3: To have a critical understanding of the society from the literature- diachronically and synchronically, in the light of various world theories of sociology, psychology, economy.
- PSO 4: To develop a critical perception of the world thoughts and theories through literature
- PSO 5: To apprise students of a class ridden society we are a part of, build values for global peace, and create a bend towards an equalitarian society or gender neutralization.
- PSO 6: To ignite in them a love for literature and prepare them for extensive study

#### **Course Outcomes**

##### **Semester-I**

##### **Paper-I: Poetry-I Renaissance to Romantic**

- CO 1: To acquaint the students with the most significant English poets and their poetry.
- CO 2: To acquaint students with major trends in English literature from the times of Renaissance to Romanticism through a detailed study of poetry of that time.
- CO 3: Enable students to trace the evolution of various poetic forms.
- CO 4: To train the students in the close reading of poems in the contexts of literary convention and history.

##### **Paper-II: Renaissance Drama**

- CO 1: Students will get familiarized with the Renaissance Age, its significance and its impact on the literary trends of the age.
- CO 2: Students will understand and appreciate the evolving of the English Drama from religious domain to the creative human domain i.e. shift from Theocentric to Homocentric approach.
- CO 3: There will be inculcated an understanding of the universality and timelessness of human aspirations and efforts.
- CO 4: Students will learn to read drama in the light of the psychological theories like Oedipus complex.
- CO 5: Students will get to know the theory of Humors prevalent in the ancient Ages.
- CO 6: They will get a thorough understanding of Drama as an Art through their reading of Aristotle's Poetics.

##### **Paper-III: English Novel (up to 19th Century)**

- CO 1: Students will understand the Impact of industrialization strongly felt in 'Hard times' by Dickens.
- CO 2: They will study of emergence of women writers and understand their standpoint on the place of women in society.

- CO 3: Inculcating a comprehension of the concept of Realism as used in the Victorian era in the students.
- CO 4: Developing an understanding of the emerging feminism and studying the filial relationships shadowed with strong human passion of violence.

**Paper-IV: Phonetics and Spoken English**

- CO 1: To introduce students with the world English-es (i.e. varieties of English) at the phonological level.
- CO 2: Making students Understand the standard version of spoken English, i.e. R.P.
- CO 3: Introducing students with all the 44 sounds (i.e. phonemes) of English.
- CO 4: Making students understand different features of connected English speech.
- CO 5: Introduce the grammatical, semantic, and emotional importance of the rise and fall (i.e. intonation patterns) in English speech to the students.

**Paper-V: Western Literary History–I**

- CO 1: Students will be able to analyse literary texts in light of their historical and intellectual background.
- CO 2: Students will become familiar with important literary figures and canonical works of historical period i.e. studied.
- CO 3: Students will be able to analyse literary texts either singly or in relation to other texts, contextualize them in the light of the period in which they were written.
- CO 4: Students will get to know about the journey of English as literature and as a language from past to present.
- CO 5: They will be expected to know how to read and interpret some key texts.
- CO 6: Students will gain knowledge of different literary movements.
- CO 7: They will get familiarized with different literary periods and eras.
- CO 8: An in-depth knowledge of different literary genres like drama, poetry and fiction of various ages will come to students.
- CO 9: Students will get to know various religious, geographical, historical and personal factors that influenced English literature and its writers in the past.

**Semester-II**

**Paper-VI: Poetry-II (Victorian & Modern)**

- CO 1: To familiarize students with English Poetry starting from Victorian age and moving towards the modern period.
- CO 2: To acquaint students with major trends in English literature from the times of Victorian age to modern times through a detailed study of poetry of that time.
- CO 3: Enable students to trace the evolution of various poetic forms
- CO 4: To train the students in the close reading of poems in the contexts of literary convention and history.

**Paper-VII: Modern Drama**

- CO 1: Comprehension of Christianity as an orthodox and fanatic religion in the Past.
- CO 2: Gaining knowledge about French Kingdom and its society.
- CO 3: Understanding the postmodern concept of meaninglessness of human existence conveyed through Beckett and Pinter's works.
- CO 4: Getting acquainted with Eliot's platonic view of spiritual salvation and regeneration.
- CO 5: Sensitization towards man's alienation from the society thereby depicting growing concerns for the institution of family.

**Paper-VIII Modern Novel**

- CO 1: An understanding of modernism and the techniques like stream of consciousness as novel literary techniques.
- CO 2: Comparing the chronological order in fiction-writing adopted in the 19th century with 20th century focusing on psychological impact of the 'moment'.
- CO 3: Applying the theory of Oedipus complex by Freud on the writings of D.H. Lawrence.

CO 4: Reflecting upon the shift in sensibilities, perceptions and expressions in the 20th century writings.

#### **Paper-IX: English Grammar and Writing**

CO 1: To provide an understanding of the practical, functional, and experimental nature of modern grammar.

CO 2: Understanding of the smallest meaningful units and how they form words in English.

CO 3: Comparing grammatical form and its function in different environments.

CO 4: Comparing time, tense, aspect, and mood in English.

CO 5: Introducing types of sentences and clauses, their function, and how cohesive devices are used to create long text.

CO 6: Applied grammar and composition and how the understanding of language is essential beyond grammar.

#### **Paper-X: Western Literary History–II**

CO 1: The course covers the period from World War I to the present age by which the students become acquainted with the transitions in society with time.

CO 2: Literature is universal and so the syllabus unfolds the layers of literature from all the spheres of world i.e. British, American, Continental.

CO 3: The learner imbibes the scenario and structure of a particular society and is able to relate literature with its respective era.

CO 4: The students understand the historical stance of each genre.

#### **Semester-III**

##### **Paper-XI: Irish Literature**

CO 1: Analysing, Synthesising and Integrating knowledge and practice creative thinking and expression.

CO 2: Getting acquainted with concepts and information related to Irish History and Culture clearly.

CO 3: Understanding of mythological and literary concepts.

CO 4: Helps in the construction of nation and national history through literature.

##### **Paper-XII: General Linguistics**

CO 1: Understanding of semiotics and the way various signs and symbols convey meaning.

CO 2: The study of synchronic structural linguistics of Saussure and Bloomfield.

CO 3: Understanding and knowledge of transformational-generative linguistics of Chomsky.

CO 4: Highlighting the importance of systemic functional linguistics of Halliday.

CO 5: Acquainting students with various methods of teaching (grammar-translation method, direct method, audio-lingual method) and approaches (structural and communicative approaches).

##### **Paper-X:**

CO 1: Understand various aspects of literary criticism for proper understanding and appreciation of literature.

CO 2: To acquaint students with some of the fundamental questions in literature.

CO 3: This course aims at helping the students to develop critical insight into literary productions.

CO 4: To introduce literary and critical theory as reading tools for students.

##### **Paper-XIV: Indian Writing in English**

CO 1: getting familiarised with the 20th Century Indian Writers writing in English.

CO 2: Developing a strong understanding of Indian-ness contrasted with western culture.

CO 3: Analyse the working of a patriarchal set up and understanding its fundamentals.

CO 4: Develop a critical approach by getting acquainted with Kamala Das' autobiographical strain and her voice against sexual exploitation.

CO 5: Creative thinking on the need of women empowerment appreciating her pivotal role in freedom movement and in real life.

##### **Paper-XV: Communication Studies**

CO 1: Understanding the nature of language of cinema.

CO 2: Getting acquainted with the visual mode of story-telling.

CO 3: Imbibing potential for cross culture communication.

CO 4: Gaining knowledge of the medium and models of communication.

CO 5: Improving interpersonal skills of the stakeholders.

#### **Semester-IV**

##### **Paper-XVI: Modern Literary Theory**

CO 1: Introduction of students to theories like- feminism, structuralism, orientalism etc.

CO 2: Familiarization with knowledge areas and analytical tools.

CO 3: Learning to De –construct the text to find out new meanings.

CO 4: Using ideas from text in reading and writing.

##### **Paper-XVII: American Literature**

CO1: Perceive the evolving of a great nation-America from a Puritan narrow foundation.

CO2: Trace the belief and faith in humanity which is the true foundation of Democracy.

CO3: Envision the universal philosophical vision about life, work, and humanity in the poetry of Frost.

CO4: Develop a viewpoint in the light of the Psychological study of the concept of racial prejudices, collective unconscious and understanding the relevance of human dignity in life.

CO5: Build an insight about the modern American Society and its ramifications

##### **Paper-XVIII: Post-Colonial Literature**

CO 1: To familiarize the students with theoretical concepts related to the literatures of the ‘new world’ - Caribbean, Asian, Canadian, Nigerian - which have long remained ignored.

CO 2: To foreground issues such as history, class, race, gender, nation, culture, marginality, diaspora consciousness.

CO 3: To enable students to primarily focus on interrogating the Western canon.

CO 4: To introduce students to recent theoretical approaches to understand post-colonial, and gain a better insight into how these issues relate to their own country’s history of colonisation.

##### **Paper-XIX: Prose and Short Stories**

CO 1: Understanding the origin and development of English essay.

CO 2: Understanding a literary text in different contexts.

CO 3: Imbibing knowledge of socio political and economic conditions of the society.

CO 4: Developing an ability to write critically and creatively.

##### **Paper-XX: Indian Literature In Translation**

CO 1: Reading Japji is to reach into our inner conscience cuts through the folds of our ego so as to understand the true purpose of life.

CO 2: Tracing the relevance of Tagore’s Novel in modern times for its delineation of the conflict between the forces of fanatic Nationalism and humanism.

CO 3: Understanding the rich heritage of Sanskrit drama from Kalidas Kavya and the concepts of Epic and lyric.

CO 4: Attempting to reconcile Modernity and tradition through works of Anantha Murthy which challenges the orthodoxy of Brahmanism.

#### **Name of the program: B.A**

##### **Program Outcomes**

PO 1: Effective Communication-The Program makes the students familiar with nuances and usage of language in formal and informal expressions of life.

PO 2: Effective Citizenship-The students get knowledge in fields of social sciences, performing arts, visual arts and literature and become responsible citizens of the society.

PO 3: Social Interaction-The students are acquainted with the social, political, economic, historical and psychological facades pertaining to different situations.

PO 4: Self-directed Learning-The Program gives liberty to the students to choose their area of interest

##### **Program Specific Outcomes**

PSO 1: To inculcate a proficiency in English Language

PSO 2: To understand the nuances and techniques of usage of English language in formal and informal expression in our life.

PSO 3: To have a critical understanding of the society from the literature- diachronically and synchronically, in the light of various world theories of sociology, psychology, economy.

PSO 4: To develop a critical perception of the world thoughts and theories through literature

PSO 5: To apprise students of a class ridden society we are a part of, build values for global peace, and create a bend towards an equalitarian society or gender neutralization.

### **B.A. (Bachelor of Arts)/ B.Com./BBA/ B.Sc. Medical/ Non-Medical/ Computer Science**

#### **Semester-I**

CO 1: Understanding the content thoroughly by focussing on its theme.

CO 2: Detailed, balanced and rigorous examination of texts or spoken language and the ability to articulate interpretations to others.

CO 3: Sensitivity to the power of language and its role in creating meaning.

CO 4: Enhancing psychological ability to evaluate different cultures, their traditions, rituals, beliefs etc.

CO 5: Making the right use of tenses in creating writing material.

#### **Semester- II**

CO 1: Understanding sentence formation by arranging parts of speech.

CO 2: Analysing the sentences for compound and complex structures.

CO 3: Evaluating the text from a critical point of view keeping it open to interpretation.

CO 4: Creating writing skills through the understanding of tenses and parts of speech, and the perception of texts.

#### **Semester- III**

CO 1: Gaining knowledge of the technical aspects of language.

CO 2: The study on Global Health facilitates to relate physical health with mental health and thereby develop a healthy lifestyle.

CO 3: The section on Multiculturalism broadens their outlook and promotes reflection on cultural diversity within the community and in everyday life.

CO 4: Poetry creates the ability to evaluate the poetic images symbolically.

CO 5: Poems familiarise the students with literary poetical forms like lyric, mock-epic, ballad, sonnet, dramatic monologue etc. and enhance their cognitive skills.

CO 6: Creativity is promoted by attempting to write poems in different verse forms.

#### **Semester- IV**

CO 1: Understanding of Tenses, Voice, Modals etc. to enhance their language and grammatical skills.

CO 2: Environmental statistics enables the students to analyse the devastating role of human interference in ecology.

CO 3: The text enhances the learning of sounds of language, and develops a critical insight into the problems of second language speakers.

CO 4: Students develop an understanding of Victorian poetry and assess it through comparison with poets of other ages.

CO 5: Reading of poetry ignites questions relating to the prevalent structure and themes and motivates the students to strengthen their own writing skills.

#### **Semester- V**

CO 1: Interpreting the poems against the background of Romantic and Victorian period.

CO 2: Creating values through reflection and deep understanding of the prescribed poems.

CO 3: Analysing the concept of American dream of success and relating it with real life situations.

CO 4: Assessing the role of various characters in the play, their strengths and weaknesses.

CO 5: Developing professional and technical writing skills through resume and report writing, formal letters and official correspondence.

## **Semester- VI**

- CO 1: Reading of the plays broadens the vision of the students and helps to retrieve the concepts outlined in the texts.
- CO 2: Students learn to interpret the text in different perspectives and from varied angles- historical, social, economic etc.
- CO 3: They try to integrate themes elucidated in the prescribed plays into the works of other well-established writers.
- CO 4: The novel 'The English Teacher' broadly teaches them to experiment with life.
- CO 5: The envisioned thoughts in this novel facilitates them to create their own digital blogs, practice role playing, and even solve the mysteries of life.

**Name of the Program: B.Voc.**  
**Subject: Communication Skills in English**

**Program Outcomes**

- PO 1: Industry-Academia gap bridging- Students will be able to practically understand and apply the knowledge related to the requirements of industry.
- PO 2: Professional competency-To provide a judicious mix of professional skills and suitable general education component.
- PO 3: Academic flexibility- To provide flexibility to the students to serve the industry by having exit points at different levels.
- PO4: National Employability- To provide an opportunity to the students to get on the job training which help them to enhance their professional skills
- PO5: Vertical mobility-To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce. To provide vertical mobility to students coming out of 10+2 with vocational subjects.

**Program Specifics Outcomes**

- PSO 1: Student learns to articulate in English in group discussions and personal interviews
- PSO 2: Technical knowledge is reflected only through the proper usage of words and the learners get to learn how to make a proper framework of their ideas in words
- PSO 3: The confidence level of the students increases
- PSO 4: This program is helpful in their higher studies

**Course Outcomes**

### **Semester-I**

#### **Paper: Communication Skills in English**

- CO 1: Knowing the relevance and importance of proper communication.
- CO 2: Learning about the various aspects of communication.
- CO 3: Enhancing the reading and writing skills.
- CO 4: Able to frame official letters, applications, office memorandum, notices etc.

### **Semester-II**

#### **Paper: Communication Skills in English**

- CO 1: Improves the listening and speaking skills of the young learners.
- CO 2: Sharpens their communication proficiency as they gain practical knowledge about how to deal and interact with others.
- CO 3: Raises their confidence level.
- CO 4: Makes them familiar with the correct and accurate pronunciation of English word as they work on fluency in English as well as proper intonation and accent of speaking.

**Name of Program: B.A.**

**Paper: Elective English  
Course Outcomes**

**Semester-I**

- CO 1: Ability to have a critical appreciation of English literature.
- CO 2: Understanding of the literary devices.
- CO 3: Critically analyse literature in the light of culture, psychology, and economics.
- CO 4: Improvement of pronunciation, and inculcate an understanding of phonetics.

**Semester-II**

- CO 1: Awareness about the critical appreciation of English literature.
- CO 2: Understanding of literary devices.
- CO 3: Critically analyse literature in the light of culture, psychology, and economics.
- CO 4: Improvement of pronunciation, and inculcate an understanding of phonetics.

**Semester-III**

- CO 1: Familiarization with the current issues of the society.
- CO 2: Developing critical and analytical ability of the learners.
- CO 3: Imbibing the creative world of the writers from all over the world.
- CO 4: Create an empathetic viewpoint

**Semester-IV**

- CO 1: Familiarization with the current issues of the society.
- CO 2: Developing critical and analytical ability of the learners.
- CO 3: Imbibing the creative world of the writers from all over the world.
- CO 4: Pick the various markers- problem, emotion, solution etc. from the text and have a critical ability to analyse the text.

**Semester-V**

- CO 1: Understanding the background of the English Literature and thus appreciating the evolving of the English drama, poetry and novel.
- CO 2: Learning the art of the critical reading of English drama.
- CO 3: Appreciating the cultural differences as well the universality of humanity in the literature.
- CO 4: Analyse the various characters and situation in the background of the historical, cultural and psychological setups.

**Semester-VI**

- CO 1: Understanding the modern critical movements and their impact on English literature.
- CO 2: Reading the novel with a focus on the cultural depiction.
- CO 3: Getting to know the historical implications of the Second World War on the state of Bengal.
- CO 4: Ability to get into psychological depths of the characters and situation and express their opinion

**Class: - B.C.A./BSc IT**

**SUBJECT - COMMUNICATION SKILLS IN ENGLISH**

**Program Outcomes**

- PO 1: Modern tool usage-This Program inculcates the basic understanding of Computer and Computer Programming .Languages in students so that they can have complete knowledge about the system and its inner working details.
- PO 2: Computer Knowledge-This Program aware the students about the high use of Computers in various fields and increasing number of Jobs in this field.
- PO 3: Computing environment-This Program make the students well versed with the computing environment and the various concepts, topics and subjects related to this field.
- PO 4: Design and development of solutions-This Program enables the students to have the complete understanding of various branches of Computer and Technology such as Computer Graphics, Operating Systems and Data Structures,
- PO 5: Problem solving and analysis-This Program will inculcate the ability of identify, analyze and synthesize scholarly literature relating to the field of computer science and IT.

PO 6: Design of Solutions: The effectiveness of this Program is to ensure that the students understand the use of software development tools, IDEs, various software system and modern computing platforms.

#### **Program Specifics Outcomes**

PSO 1: Student learns to articulate in English in group discussions and personal interviews

PSO 2: Technical knowledge is reflected only through the proper usage of words and the learners get to learn how to make a proper framework of their ideas in words

PSO 3: The confidence level of the students increases

PSO 4: This Program is helpful in their higher studies.

#### **Course Outcomes**

##### **Semester-I**

Paper: Communication Skills in English

CO 1: To know the relevance and importance of proper communication.

CO 2: To learn about the various aspects of communication.

CO 3: Improve the reading and writing skills of the students.

CO 4: Learn how to frame official letters, applications, office memorandum, notices etc.

##### **Semester-II**

##### **Paper: Communication Skills in English**

CO 1: Improves the listening and speaking skills of the young learners.

CO 2: Sharpens their communication proficiency as they gain practical knowledge about how to deal and interact with others.

CO 3: Raises their confidence level.

CO 4: Makes them familiar with the correct and accurate pronunciation of English word as they work on fluency in English as well as proper intonation and accent of speaking.

#### **Name of the Course: BFA/BD**

#### **Subject: Communication Skills in English**

**PO 1: Art knowledge**-The students acquire knowledge in the field of fine arts which make them sensitive and sensible enough.

**PO 2: Artistic thinking**-The BFA graduates are acquainted with the artistic traditions and thinking.

**PO 3: Effective communication**: Program familiarizes them with the nuances of fine arts which make them effective communicator through brush and colours.

**PO 4: Practical learning**-The Program enhances the confidence of the graduates through carefully chosen curriculum with emphasis on practical learning, activities and close interaction with teachers and fellow students.

**PO 5: Human values**-The Program enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.

**PO 6: Creative learning**-The students are given an exposure to creative environment which sparks their thoughts, process and help to think of the solutions of various issues in life to make this world a better place to live.

**PO 7: Modern tool usage**-Use of ICT helps in providing experiential learning which deeply embeds and has long lasting impact.

#### **Program Specifics Outcomes**

PSO 1: Student learns to articulate in English in group discussions and personal interviews

PSO 2: Technical knowledge is reflected only through the proper usage of words and the learners get to learn how to make a proper framework of their ideas in words

PSO 3: The confidence level of the students increases

PSO 4: This program is helpful in their higher studies

## **Semester-I**

### **Paper: Communication Skills in English**

CO 1: To know the relevance and importance of proper communication.

CO 2: To learn about the various aspects of communication.

CO 3: Improve the reading and writing skills of the students.

CO 4: Learn how to frame official letters, applications, office memorandum, notices etc.

## **Semester-II**

### **Paper: Communication Skills in English**

CO 1: Improves the listening and speaking skills of the young learners.

CO 2: Sharpens their communication proficiency as they gain practical knowledge about how to deal and interact with others.

CO 3: Raises their confidence level.

CO 4: Makes them familiar with the correct and accurate pronunciation of English word as they work on fluency in English as well as proper intonation and accent of speaking.

## **Name of Program: B.Sc. (Bio-Technology)**

### **Paper: Communication Skills in English**

PO 1: Critical Thinking: The Program aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.

PO 2: Lifelong learning: Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.

PO 3: Logical experimentation: The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.

PO 4: Creative thinking: They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.

PO 5: Interdisciplinary approach: To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.

PO 6: Scientific aptitude: The Program targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.

PO 7: Self-reliant: To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

### **Program specific outcome:-**

PSO 1: Student learns to articulate in English in group discussions and personal interviews

PSO 2: Technical knowledge is reflected only through the proper usage of words and the learners get to learn how to make a proper framework of their ideas in words

PSO 3: The confidence level of the students increases

PSO 4: This Program is helpful in their higher studies

## **Semester-I**

CO 1: To know the relevance and importance of proper communication.

CO 2: To learn about the various aspects of communication.

CO 3: Improve the reading and writing skills of the students.

CO 4: Learn how to frame official letters, applications, office memorandum, notices etc.

## **Semester-II**

CO 1: Improves the listening and speaking skills of the young learners.

CO 2: Sharpens their communication proficiency as they gain practical knowledge about how to deal and interact with others.

CO 3: Raises their confidence level.

CO 4: Makes them familiar with the correct and accurate pronunciation of English word as they work on fluency in English as well as proper intonation and accent of speaking.

**Name of Program: M.Sc. FD**  
**Program Specifics Outcomes**  
**Subject: Communication Skills**

PSO 1: Develops professional attitude in the students

PSO 2: Learns aesthetics of fashion industry

PSO 3: Advances career as a designer

PSO 4: Enhances confidence to deal with upper class customer

PSO 5: Trains to work for setting up of business (personal boutique)

PSO 6: Motivates to take up research work

**Semester-I**

CO 1: Enhances students' ability to be an effective speaker, listener, reader as well as writer.

CO 2: Develops expertise in the English language.

CO 3: Enhances knowledge of grammar and English language in general.

CO 4: Gets opportunity to participate in debates, Elocution and other co-curricular activities in various universities.

CO 5: Students learn to interact.

CO 6: Helps in career development.

CO 7: Students learn writing different kinds of Business letters.

CO 8: Increases vocabulary through interaction.

**Semester-IV**

CO 1: The knowledge and skills in English get enhanced.

CO 2: There is a remarkable improvement in the ability to express.

CO 3: Learns to apply grammar in spoken and written form of communication with accuracy.

CO 4: Participation in competitions organized by other academic institutions further enhances their confidence and gives them a platform for self-expression.

CO 5: Improves the formal writing skills and prepares them for public dealing.

## PG Department of Hindi

### स्नातकोत्तर हिन्दी विभाग

#### Course Outcomes

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#### Sem – I

पेपर – आधुनिक कविता, व्याकरण तथा अनुवाद

Co1 छात्राओं को अनुवाद लेखन की जानकारी

Co2 छात्राओं को व्याकरणिक सिद्धांतों की जानकारी

Co3 छात्राओं को हिन्दी साहित्य का परिचय

Co4 छात्राओं को कार्यालिपी हिन्दी का बोध

#### Sem – II

पेपर – गद्य साहित्य : सैद्धान्तिकी, व्याकरण तथा पत्रकारिता

Co1 छात्राओं को मीडिया लेखन में कौशल ज्ञान

Co2 छात्राओं को समकालीन साहित्य की जानकारी

Co3 छात्राओं को प्रशासनिक शब्दावली का बोध

Co4 गद्य साहित्य की विधाओं का सूक्ष्म ज्ञान

#### Sem – III

पेपर – मध्ययुगीन काव्य, इतिहास, व्याकरण तथा काव्यांग

Co1 छात्राओं को हिन्दी साहित्य के इतिहास से अवगत करवाना

Co2 मध्यकालीन हिन्दी काव्य का मुख्य अध्ययन

Co3 छात्राओं को हिन्दी व्याकरण का व्यावहारिक ज्ञान

Co4 मध्यकालीन काव्य का आलोचनात्मक अध्ययन

#### Sem – IV

पेपर – उपन्यास, नाटक : सैद्धान्तिकी, व्याकरण तथा भक्तिकाल

Co1 छात्राओं को भक्तिकाल का समीक्षात्मक अध्ययन

Co2 गद्य की विधाओं की शास्त्रीय समीक्षा

Co3 मुंशी प्रेमचन्द के 'निर्मला' उपन्यास के माध्यम से सामाजिक समस्याओं के प्रति संवेदनशील दृष्टिकोण निर्मित करना।

Co4 छात्राओं को हिन्दी व्याकरण का व्यावहारिक ज्ञान प्रदान करना।

#### Sem – V

पेपर – विशिष्ट कवि एवं काव्य सिद्धान्त, कामकाजी हिन्दी तथा रीतिकाल

Co1 छात्राओं को हिन्दी साहित्य विशेषकर रीतिकाल का सुबोध

Co2 भाषा का सूक्ष्म अध्ययन

Co3 कार्यालयी हिन्दी के प्रयोग की सूझबूझ का प्रतिपादन

Co4 भारतीय संस्कृति एवं साहित्य से सम्बन्धित विशिष्ट संदर्भों की ग्रहणता।

## **Sem –VI**

पेपर – लघु विधा – आधुनिक काल, निबन्ध लेखन तथा परिभाषिक शब्दावली

Co1 राजभाषा हिन्दी का रचनात्मक लेखन

Co2 समकालीन साहित्य का मूल्यांकन

Co3 विभिन्न गद्य विधाओं की सैद्धांतिक एवं व्यावहारिक समीक्षा यथा–रेखाचित्र, संस्मरण, पात्रावृत्त, पत्र लेखन

Co4 परिभाषिक शब्दावली का बोध व प्रयोग।

बी.ए.ऑनर्स हिन्दी

## **Sem –III**

पेपर – आधुनिक काव्य तथा काव्य नाटक

Co1 आधुनिककालीन काव्य का आलोचनात्मक अध्ययन

Co2 नियकीय काव्य नाटक के माध्यम से समकालीन समस्याओं के प्रति सजगता

Co3 आधुनिक कविता के माध्यम से समाज का समाजशास्त्रीय एवं मनोवैज्ञानिक अध्ययन

Co4 आधुनिक कालीन कवियों का मूल्यांकन

## **Sem –IV**

पेपर – गद्य साहित्य : निबंध, संस्मरण तथा अनुवाद

Co1 हिन्दी के प्रतिनिधि साहित्यकारों का आलोचनात्मक अध्ययन

Co2 छात्राओं को गद्य की विविध विधाओं का शास्त्रीय ज्ञान

Co3 भारतीय संस्कृति एवं परम्पराओं का साहित्य के माध्यम से निरीक्षण

Co4 हिन्दी साहित्य का सामाजिक दृष्टि से मूल्यांकन

## **Sem – V**

पेपर – भक्ति और समकालीन काव्य

Co1 मध्यकालीन हिन्दी साहित्यकारों का आलोचनात्मक अध्ययन

Co2 हिन्दी के मध्यकालीन साहित्य के सशक्त हस्ताक्षर कवियों की युगीन प्रासंगिकता

Co3 रसखान के काव्य के माध्यम से कृष्ण काव्य का मूल्यांकन

Co4 आधुनिक काव्य के विभिन्न संदर्भों का विश्लेषण

## **Sem –VI**

पेपर – भारतीय काव्यशास्त्र और प्रयोजनमूलक हिन्दी

Co1 भाषा के विविध पहलुओं का सूक्ष्म अध्ययन

Co2 छात्राओं को राजभाषा हिन्दी के विविध पहलुओं का ज्ञान बोध

Co3 कार्यालयी हिन्दी के विविध प्रकार्यों का आलोचनात्मक अध्ययन

Co4 काव्य के शिल्प पक्ष की शास्त्रीय आलोचना

## Programme Specific Outcomes

एम.ए. (प्रोग्राम स्पेसिफिक आउटकम)

- Co1 साहित्य के इतिहास का विश्लेषण व अनुशीलन
- Co2 छात्राओं में शोधात्मक प्रवृत्ति का विकास
- Co3 रचनात्मक लेखन की शास्त्रीय व व्यावहारिक आलोचना के योग्य बनाना
- Co4 छात्राओं को रचनात्मक कौशल का विकास
- Co5 छात्राओं का पत्रकारिता व कार्यालयी हिन्दी लेखन का प्रशिक्षण देते हुए उन्हें व्यावहारिक कौशल प्रदान करना

## Course Outcomes

एम.ए. Sem –I

पेपर – I आधुनिक हिन्दी काव्य (द्विवेदीयुगीन एवं छायावाद)

- Co1 समकालीन साहित्य का मूल्यांकन आधुनिककालीन काव्य के द्वारा
- Co2 समाज का समाजशास्त्रीय एवं मनोवैज्ञानिक मूल्यांकन
- Co3 द्विवेदीयुगीन व छायावादी कवियों का आलोचनात्मक अध्ययन
- Co4 मियकीय महाकाव्यों के माध्यम से भारतीय संस्कृति का विशिष्ट बोध

पेपर – II हिन्दी साहित्य का इतिहास (भाग – I)

- Co1 छात्राओं को हिन्दी साहित्य के इतिहास का समीक्षात्मक अध्ययन
- Co2 हिन्दी साहित्य के इतिहास के विविध कालों के उद्भव व विकास का आलोचनात्मक अध्ययन
- Co3 साहित्य की विविध विधाओं का विश्लेषण
- Co4 साहित्य के सुप्रसिद्ध ग्रन्थों का विवेचन और मूल्यांकन

पेपर – III भारतीय काव्यशास्त्र एवं साहित्यालोचना

- Co1 छात्राओं को काव्य साम्प्रदायों का सैद्धान्तिक अध्ययन का बोध
- Co2 काव्य का शैलीगत अध्ययन
- Co3 आलोचनात्मक पद्धतियों का विश्लेषण
- Co4 साहित्य में तत्त्वों का विशिष्ट अध्ययन

पेपर – IV प्रयोजनमूलक हिन्दी

- Co1 कार्यालयी हिन्दी के प्रकार्यों का विस्तृत अध्ययन
- Co2 छात्राओं को हिन्दी भाषा में प्रयुक्त तकनीकी एवं प्रशासनिक शब्दावली का विशेष अध्ययन
- Co3 राजभाषा हिन्दी का विस्तृत विश्लेषण
- Co4 कम्प्यूटर एवं इंटरनेट का व्यावहारिक ज्ञान

### **पेपर – V नाटक एवं रंगमंच**

- Co1 छात्राओं को हिन्दी रंगमंचीयता का अभिज्ञान
- Co2 भारतीय नाट्य शास्त्र का समाज शास्त्रीय एवं मनोवैज्ञानिक संदर्भ
- Co3 छात्राओं को हिन्दी के सुप्रसिद्ध सशक्त लेखकों व उनकी रचनाओं का अध्ययन व आलोचनात्मक विश्लेषण
- Co4 रंगमंचीयता के शास्त्रीय अध्ययन के माध्यम से छात्राओं को नाटकों के प्रस्तुतिकरण के योग्य बनाना।

### **Sem – II**

#### **पेपर –VI - आधुनिक हिन्दी काव्य छायावादोत्तर हिन्दी काव्य**

- Co1 छात्राओं को आधुनिककालीन हिन्दी काव्य का विस्तृत सुबोध
- Co2 भारत के सामाजिक परिदृश्य के प्रति सजगता
- Co3 काव्य के माध्यम से राजनीतिक चेतनता को विकसित करना
- Co4 हिन्दी के आधुनिक कवियों का आलोचनात्मक विश्लेषण

#### **पेपर – VII हिन्दी साहित्य का इतिहास – आधुनिक काल**

- Co1 साहित्य की विभिन्न विधाओं का मूल्यांकन
- Co2 समकालीन हिन्दी साहित्य का आलोचनात्मक विश्लेषण
- Co3 समाज के सामाजिक व धार्मिक आयामों का अभिज्ञान
- Co4 आधुनिक साहित्य की विशिष्टताओं का आलोचनात्मक अध्ययन

#### **पेपर – VIII पाश्चात्य काव्यशास्त्र**

- Co1 पाश्चात्य साहित्य के इतिहास का सुबोध
- Co2 काव्यशास्त्रीय आलोचकों का तुलनात्मक अध्ययन
- Co3 काव्यशास्त्र के विभिन्न संदर्भों का सैद्धान्तिक विश्लेषण
- Co4 हिन्दी आलोचना का व्यावहारिक मूल्यांकन

#### **पेपर – IX – मीडिया लेखन**

- Co1 छात्राओं को मीडिया व इंटरनेट के विभिन्न संदर्भों का व्यावहारिक ज्ञान
- Co2 छात्राओं के लेखन, पठन एवं समाचार निर्मित कौशल की रचनात्मकता में अभिवृद्धि
- Co3 छात्राओं को हिन्दी कम्प्यूटर कौशल का व्यावहारिक ज्ञान
- Co4 छात्राओं को विभिन्न दृश्य एवं श्रव्य संसाधनों का सुबोध

#### **पेपर – X –नाटककार मोहन राकेश**

- Co1 नाटकों के माध्यम से समाज का मनोवैज्ञानिक व समाजशास्त्रीय तुलनात्मक अध्ययन।
- Co2 आधुनिक समाज में भारतीय रंगमंच की भूमिका का विशिष्ट सुबोध
- Co3 नाटकीय लेखन का अभिज्ञान
- Co4 नाटकीयता का शास्त्रीय अध्ययन

### **Sem –III**

#### **पेपर – XI - प्राचीन एवं मध्यकालीन काव्य**

- Co1 छात्राओं को आदिकालीन एवं भक्तिकालीन कवियों का आलोचनात्मक अभिज्ञान
- Co2 निर्गुण व सगुण काव्यधाराओं का तुलनात्मक अध्ययन
- Co3 मध्यकालीन काव्य के माध्यम से हिन्दी भाषा के प्रति रचनात्मकता अभिव्यक्ति को विकसित करना
- Co4 सूफी काव्यधाराओं का सूक्ष्म अध्ययन

#### **पेपर – XII - आधुनिक गद्य साहित्य**

- Co1 हिन्दी साहित्य के इतिहास का विशिष्ट अभिज्ञान
- Co2 आधुनिक हिन्दी गद्य विधाओं का सद्धान्तिक अध्ययन
- Co3 आधुनिक गद्य साहित्य के विविध संदर्भों का विश्लेषण
- Co4 आधुनिक साहित्य के सशक्त लेखकों का आलोचनात्मक अध्ययन

#### **पेपर – XIII - भाषा विज्ञान**

- Co1 छात्राओं को भाषा व उसके अवयवों का अध्ययन
- Co2 भाषा विज्ञान का सैद्धान्तिक अध्ययन
- Co3 भाषा के विभिन्न वैज्ञानिक संदर्भों का रचनात्मक अभिज्ञान
- Co4 भाषा विज्ञान का शास्त्रीय विश्लेषण

#### **पेपर – XIV - पत्रकारिता प्रकाशन**

- Co1 छात्राओं को इलेक्ट्रॉनिक व प्रिंट मीडिया का विस्तृत सुबोध
- Co2 छात्राओं को समाचार पत्रों व पत्रिकाओं की रचनात्मकता का विस्तृत अभिज्ञान
- Co3 समाचार पत्रों में संपादक/सह-संपादक की भूमिका का विस्तृत विश्लेषण
- Co4 छात्राओं को प्रिंट मीडिया के व्यापक क्षेत्र का सुज्ञान
- Co5 अनुवाद के महत्व का विस्तृत विश्लेषण

#### **पेपर – V - (विकल्प – I - सूरदास)**

- Co1 कृष्ण काव्य परम्परा का विस्तृत विश्लेषण
- Co2 भक्ति साहित्य का आलोचनात्मक अध्ययन
- Co3 सूरदास के काव्य का मनोविश्लेषणात्मक अभिज्ञान
- Co4 निर्गुण व सगुण काव्यधारा का द्वन्द्वात्मक अध्ययन
- Co5 छात्राओं में गीतात्मक कविता के प्रति अभिरुचि का प्रतिपादन

### **Sem –IV**

#### **पेपर – XVI - मध्यकालीन हिन्दी काव्य**

- Co1 मध्यकालीन हिन्दी काव्य का आलोचनात्मक अभिज्ञान
- Co2 राम एवं कृष्ण भक्ति का तुलनात्मक अध्ययन
- Co3 भक्तिकालीन साहित्य की प्रासंगिकता पर विमर्श
- Co4 रीतिकालीन व भक्तिकालीन विशिष्टताओं का तुलनात्मक अभिज्ञान

**पेपर – XVII – आधुनिक गद्य साहित्य**

- Co1 छात्राओं को आधुनिक हिन्दी लेखकों एवं जीवनी का अभिज्ञान
- Co2 महात्मा गांधी जी के जीवन व विचारों का अध्ययन
- Co3 महान लेखकों की लेखनी के माध्यम से सामाजिक काल का ज्ञान
- Co4 आधुनिक समाज की जीवन्त समस्याओं का विस्तृत ज्ञान

**पेपर – XVIII – हिन्दी भाषा और देवनागरी लिपि**

- Co1 छात्राओं को विभिन्न भाषाओं की ऐतिहासिक जानकारी
- Co2 भाषाओं का तुलनात्मक अध्ययन
- Co3 हिन्दी भाषा का वैज्ञानिक ज्ञान
- Co4 हिन्दी भाषा की विभिन्न बोलियों का अभिज्ञान

**पेपर – XIX – राजभाषा प्रशिक्षण**

- Co1 कार्यालयी हिन्दी का विशिष्ट अध्ययन
- Co2 छात्राओं को हिन्दी के कार्यालयी स्वरूप का विशेष ज्ञान
- Co3 कार्यालयी हिन्दी के विभिन्न संवैधानिक स्वरूपों का अभिज्ञान
- Co4 छात्राओं को अनुवादक की भूमिका एवं पद के प्रति विशिष्ट ज्ञान

**पेपर – XX – उत्तरकाव्यधारा के सदस्य में गुरु तेग बहादुर जी की वाणी का विशेष अध्ययन**

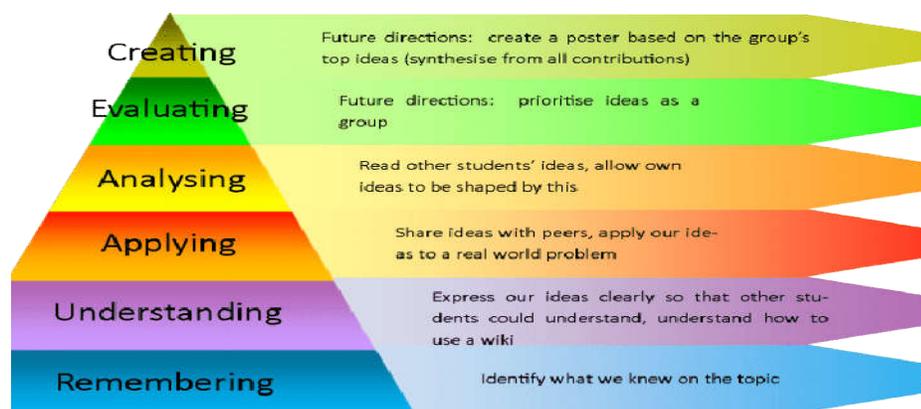
- Co1 हिन्दी साहित्य के उत्तरकाव्य का विशिष्ट अध्ययन
- Co2 गुरु जी की वाणी के विभिन्न पहलुओं का अभिज्ञान
- Co3 छात्राओं को आत्मिक ज्ञान
- Co4 गुरु जी की वाणी के माध्यम से सकारात्मक गुणों का अध्ययन

**PG DEPARTMENT OF PUNJABI  
HANS RAJ MAHILA MAHA VIDYALA, JALANDHAR**

**NAME OF PROGRAMME : B.A ( ELECTIVE PUNJABI)  
PROGRAMME OUTCOME**

PROGRAMME	OUTCOME
PO 1.	ਇਹ ਪ੍ਰੋਗਰਾਮ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਉਪਚਾਰਕ ਅਤੇ ਅਣਉਪਚਾਰਕ ਪੱਧਰ ਤੇ ਸੂਖਮਤਾ ਦੇ ਨਾਲ ਭਾਸ਼ਾ ਦੀ ਵਰਤੋਂ ਦੇ ਸਮਰੱਥ ਬਣਾਉਂਦਾ ਹੈ।
PO.2	ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਾਹਿਤ ਅਤੇ ਸਮਾਜ ਵਿਗਿਆਨਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਮਿਲਦੀ ਹੈ ਜਿਸਦੇ ਨਾਲ ਉਹ ਸਮਾਜ ਦੇ ਜਿੰਮੇਵਾਰ ਨਾਗਰਿਕ ਬਣਦੇ ਹਨ।
PO.3	ਵਿਦਿਆਰਥੀ ਸਮਾਜਕ, ਰਾਜਨੀਤਿਕ ਆਦਿ ਖੇਤਰਾਂ ਅਤੇ ਹਾਲਾਤਾਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।
PO.4	ਇਹ ਪ੍ਰੋਗਰਾਮ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਆਪਣਾ ਪਸੰਦੀਦਾ ਖੇਤਰ ਚੁਣਨ ਵਿਚ ਸਹਾਇਤਾ ਕਰਦਾ ਹੈ।

**COURSE OUT COME WITH BLOOM TAXONOMY**



**NAME OF COURSE : B.A 1<sup>TH</sup> SEM**

**COURSE : ELECTIVE PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਕਈ ਰੂਪਾਂ ਤੋਂ ਵਕੀਫ ਹੁੰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਦੇ ਸੁੱਧ ਉਚਾਰਣ ਨੂੰ ਸਮਝਦੇ ਹਨ ਅਤੇ ਆਪਣੇ ਬੋਲਚਾਲ ਦੌਰਾਨ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਕਾਵਿ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਭਾਰਤੀ ਸੰਸਕ੍ਰਿਤੀ ਅਤੇ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਗ੍ਰਹਿਣ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਨਾਵਲ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ ਦਰਪੇਸ਼ ਮੁਸ਼ਕਿਲਾਂ ਨੂੰ ਸਮਝਦੇ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **B.A 2<sup>nd</sup> SEM**

### **COURSE : ELECTIVE PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ, ਆਰਥਿਕ ਅਤੇ ਰਾਜਨੀਤਿਕ ਸਮੱਸਿਆਵਾਂ ਦਾ ਹੱਲ ਕੱਢਦੇ ਹਨ ।

**Co3:** ਵਿਦਿਆਰਥੀ ਕੋਸ਼ਕਾਰੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਕੋਸ਼ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਕਹਾਣੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ ਦਰਪੇਸ਼ ਮੁਸ਼ਕਿਲਾਂ ਨੂੰ ਸਮਝਦੇ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **B.A 3<sup>RD</sup> SEM**

### **COURSE : ELECTIVE PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਅਤੇ ਰੂਪ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ, ਆਰਥਿਕ ਅਤੇ ਰਾਜਨੀਤਿਕ ਸਮੱਸਿਆਵਾਂ ਦਾ ਹੱਲ ਕੱਢਦੇ ਹਨ ।

**Co3:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਰੂਪਾਂ ਦੇ ਜ਼ਰੀਏ ਨੈਤਿਕ ਕਦਰਾਂ ਕੀਮਤਾਂ ਦੇ ਧਾਰਨੀ ਬਣਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਕਹਾਣੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ ਦਰਪੇਸ਼ ਮੁਸ਼ਕਿਲਾਂ ਨੂੰ ਸਮਝਦੇ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **B.A 4<sup>th</sup> SEM**

### **COURSE : ELECTIVE PUNJABI**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬ ਦੇ ਅਮੀਰ ਸਭਿਆਚਾਰ ਨੂੰ ਸਮਝਦੇ ਹਨ ।

**Co3:** ਵਿਦਿਆਰਥੀ ਕਾਵਿ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਭਾਰਤੀ ਸੰਸਕ੍ਰਿਤੀ ਅਤੇ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਗ੍ਰਹਿਣ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਸਾਹਿਤ ਬਾਰੇ ਮੁੱਲਵਾਨ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਦੇ ਹਨ ਅਤੇ ਸਾਹਿਤ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **B.A 5<sup>TH</sup> SEM**

### **COURSE : ELECTIVE PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਗੁਰਮਤਿ ਕਾਵਿ, ਸੂਫੀ ਕਾਵਿ ,ਵਾਰ ਕਾਵਿ ਅਤੇ ਕਿੱਸਾ ਬਾਰੇ ਮੁਲਵਾਨ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਅਜੋਕੀ ਪੀੜ੍ਹੀ ਦਾ ਪਰਵਾਸ ਪ੍ਰਤੀ ਵੱਧ ਰਹੇ ਰੁਝਾਨ ਨੂੰ ਸਮਝਦੇ ਹਨ ਅਤੇ ਵਿਚਾਰ ਵਟਾਂਦਰਾ ਕਰਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਕਾਵਿ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਭਾਰਤੀ ਸੰਸਕ੍ਰਿਤੀ ਅਤੇ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਗ੍ਰਹਿਣ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪਰਵਾਸ ਦੀਆਂ ਦਰਪੇਸ਼ ਮੁਸ਼ਕਿਲਾਂ ਅਤੇ ਸੰਭਾਵਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਨਾਟਕ ਨੂੰ ਪੜ੍ਹ ਕੇ ਸਮਾਜ ਵਿਚ ਔਰਤ ਦੀ ਦਸ਼ਾ ਨੂੰ ਦੇਖਦੇ ਹਨ ਅਤੇ ਉਸ ਪ੍ਰਤੀ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਨੂੰ ਉਤਸ਼ਾਹਿਤ ਹੁੰਦੇ ਹਨ।

## **B.A 6<sup>TH</sup> SEM**

### **COURSE : ELECTIVE PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਸਾਹਿਤ ਬਾਰੇ ਮੁੱਲਵਾਨ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co2:** ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ (9ਵੀਂ ਸਦੀ ਤੋਂ 16ਵੀਂ ਸਦੀ ਤੱਕ) ਬਾਰੇ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਆਲੋਚਨਾਤਮਕ ਨਜ਼ਰੀਆ ਅਪਣਾਉਂਦੇ ਹਨ ਅਤੇ ਆਪਣੀ ਜ਼ਿੰਦਗੀ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਮੂਲ ਸੰਕਲਪਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਸਾਹਿਤ ਸਿਰਜਣਾ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

## **NAME OF PROGRAMME : B.A/BSC/B.COM/BBA ( GENRAL PUNJABI)**

### **COURSE : GENRAL PUNJABI 1<sup>st</sup> SEM**

**Co1 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਵਿਚ ਸ਼ਾਮਿਲ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਮਾਜਿਕ ਜ਼ਿੰਦਗੀ ਨਾਲ ਅੰਤਰ ਸੰਬੰਧਿਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਮਹਾਨ ਲੇਖਕਾਂ ਦੀਆਂ ਸਵੈ ਜੀਵਨੀਆਂ ਤੋਂ ਚੰਗੀਆਂ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਿੱਖਦੇ ਹਨ ਅਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬ ਦੇ ਅਮੀਰ ਸਭਿਆਚਾਰ ਅਤੇ ਮਹਾਨ ਕਲਾਕਾਰਾਂ, ਚਿੱਤਰਕਾਰਾਂ ਆਦਿ ਦੀ ਜ਼ਿੰਦਗੀ ਨੂੰ ਆਲੋਚਨਾਤਮਕ ਅਤੇ ਸੂਖਮ ਨਜ਼ਰੀਏ ਤੋਂ ਵੇਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **2<sup>nd</sup> SEM**

### **COURSE : GENRAL PUNJABI**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਾਕ ਸੰਰਚਨਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co3 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ, ਆਰਥਿਕ ਅਤੇ ਰਾਜਨੀਤਿਕ ਸਮੱਸਿਆਵਾਂ ਦਾ ਹੱਲ ਕੱਢਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਜ਼ਿੰਦਗੀ ਦੀਆਂ ਸੱਚਾਈਆਂ ਜਿਵੇ, ਅਖਾਣ , ਮੁਹਾਵਰੇ, ਲੋਕ ਸਿਆਣਪਾ ਆਦਿ ਨੂੰ ਆਪਣੇ ਬੋਲ ਚਾਲ ਵਿਚ ਵਰਤਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਕਾਵਿ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਕਈ ਕਾਵਿ ਵਿਧਾਵਾਂ ਨੂੰ ਸਿੱਖਦੇ ਹਨ ਅਤੇ ਕਾਵਿ ਰਚਨਾਵਾਂ ਕਰਦੇ ਹਨ

## **3<sup>rd</sup> SEM**

### **COURSE : GENRAL PUNJABI**

**Co2 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਵਿਚ ਸ਼ਾਮਿਲ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਮਾਜਿਕ ਜ਼ਿੰਦਗੀ ਨਾਲ ਅੰਤਰ ਸੰਬੰਧਿਤ ਕਰਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਨਿਬੰਧ ਸਾਹਿਤ ਰੂਪ ਤੋਂ ਚੰਗੀਆਂ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਿੱਖਦੇ ਹਨ ਅਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ

**Co4 :** ਵਿਦਿਆਰਥੀ ਇਕਾਂਗੀ ਸਾਹਿਤ ਰਾਹੀਂ ਜ਼ਿੰਦਗੀ ਨੂੰ ਆਲੋਚਨਾਤਮਕ ਅਤੇ ਸੂਖਮ ਨਜ਼ਰੀਏ ਤੋਂ ਵੇਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **4<sup>th</sup> SEM**

### **COURSE : GENRAL PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਜੀਵਨੀ ਸਾਹਿਤ ਵਿਚ ਸ਼ਾਮਿਲ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਪਛਾਣਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਨਾਟਕ ਸਾਹਿਤ ਰਾਹੀਂ ਚੰਗੀਆਂ ਕਦਰਾਂ ਕੀਮਤਾਂ ਦੇ ਨਾਲ ਨਾਲ ਪ੍ਰਬੰਧਕੀ ਢਾਂਚੇ ਪ੍ਰਤੀ ਵੀ ਸਮਝ ਰੱਖਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਵਿਆਕਰਨ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਸਮਝਦੇ ਹਨ ਅਤੇ ਬੋਲਚਾਲ ਦੌਰਾਨ ਲਾਗੂ ਕਰਦੇ ਹਨ

**Co4 :** ਵਿਦਿਆਰਥੀ ਨਾਟਕ ਸਾਹਿਤ ਰਾਹੀਂ ਜ਼ਿੰਦਗੀ ਨੂੰ ਆਲੋਚਨਾਤਮਕ ਅਤੇ ਸੂਖਮ ਨਜ਼ਰੀਏ ਤੋਂ ਵੇਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **5<sup>TH</sup> SEM**

### **COURSE : GENRAL PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਸਮਾਜ ਵਿਚਲੀਆਂ ਘਟਨਾਵਾਂ ਤੋਂ ਵਾਕਿਫ਼ ਹਨ ਜਿਸ ਕਰਕੇ ਉਹ ਸਾਹਿਤ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਾਜਿਕ ਘਟਨਾਵਾਂ ਨਾਲ ਅੰਤਰ ਸੰਬੰਧਿਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਸਮਾਜਿਕ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਸਾਹਿਤ ਦੇ ਆਧਾਰ ਤੇ ਉਹਨਾਂ ਦਾ ਸਧਾਰਨੀਕਰਨ ਕਰਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਨਾਵਲ ਅਤੇ ਕਹਾਣੀਆਂ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ ਸਮੱਸਿਆਵਾਂ ਜਿਵੇ, ਗਰੀਬੀ, ਲਿੰਗ ਅਤੇ ਜਾਤ ਅਧਾਰਿਤ ਵਿਤਕਰੇ ਆਦਿ ਦਾ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **6<sup>TH</sup> SEM**

### **COURSE : GENRAL PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਅੰਡੇਮਾਨ ਨਿਕੋਬਾਰ ਦੇ ਟਾਪੂਆਂ ਦੇ ਸਭਿਆਚਾਰ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ ਅਤੇ ਨਵੀਂ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਵੱਖੋ ਵੱਖਰੇ ਦੇਸ਼ਾਂ ਜਿਵੇ, ਸਵਿਟਜ਼ਰਲੈਂਡ, ਬੈਕਾਂਕ ਆਦਿ ਦੇ ਸਮਾਜਿਕ, ਰਾਜਨੀਤਿਕ ਅਤੇ ਆਰਥਿਕ ਗਤੀਵਿਧੀਆਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co3 :** ਪੰਜਾਬੀ ਸਾਹਿਤ ਵਿਚੋਂ ਗੁਰਬਾਣੀ ਪ੍ਰਤੀ ਜਾਣਕਾਰੀ ਹਾਸਿਲ ਕਰਕੇ ਨੈਤਿਕ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦਾ ਸ਼ੁੱਧ ਗਿਆਨ ਹਾਸਿਲ ਕਰਕੇ ਸ਼ੁੱਧ ਪੰਜਾਬੀ ਬੋਲਦੇ ਹਨ।

## **NAME OF PROGRAMME : UG PROFESSIONAL CLASSES ( GENRAL PUNJABI)**

### **COURSE : GENRAL PUNJABI 1<sup>st</sup> SEM**

**Co1 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਵਿਚ ਸ਼ਾਮਿਲ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਮਾਜਿਕ ਸੰਦਰਭ ਵਿਚ ਪਛਾਣਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਮਹਾਨ ਲੇਖਕਾਂ ਦੀਆਂ ਸਵੈ ਜੀਵਨੀਆਂ ਤੋਂ ਚੰਗੀਆਂ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਿੱਖਦੇ ਹਨ ਅਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬ ਦੇ ਅਮੀਰ ਸਭਿਆਚਾਰ ਅਤੇ ਮਹਾਨ ਕਲਾਕਾਰਾਂ, ਚਿੱਤਰਕਾਰਾਂ ਆਦਿ ਦੀ ਜ਼ਿੰਦਗੀ ਨੂੰ ਆਲੋਚਨਾਤਮਕ ਅਤੇ ਸੂਖਮ ਨਜ਼ਰੀਏ ਤੋਂ ਵੇਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਸਾਹਿਤ ਰੂਪਾਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **UG PROFESSIONAL CLASSES :2<sup>nd</sup> SEM**

### **COURSE : GENRAL PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਵਿਚ ਸ਼ਾਮਲ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਮਾਜਿਕ ਸੰਦਰਭ ਵਿਚ ਪਛਾਣਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਾਕ ਸੰਰਚਨਾ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਜ਼ਿੰਦਗੀ ਦੀਆਂ ਸੱਚਾਈਆਂ ਜਿਵੇ, ਅਖਾਣ ,ਮੁਹਾਵਰੇ, ਲੋਕ ਸਿਆਣਪਾ ਆਦਿ ਨੂੰ ਆਪਣੇ ਬੋਲ ਚਾਲ ਵਿਚ ਵਰਤਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਕਾਵਿ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਕਈ ਕਾਵਿ ਵਿਧਾਵਾਂ ਨੂੰ ਸਿੱਖਦੇ ਹਨ ਅਤੇ ਕਾਵਿ ਰਚਨਾਵਾਂ ਕਰਦੇ ਹਨ।

## **NAME OF PROGRAMME :BPES 1 YEAR**

### **COURSE : GENRAL PUNJABI**

**Co2 :** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਵਿਚ ਸ਼ਾਮਲ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਮਾਜਿਕ ਜ਼ਿੰਦਗੀ ਨਾਲ ਅੰਤਰ ਸੰਬੰਧਿਤ ਕਰਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਨਿਬੰਧ ਉਤੇ ਰੇਖਾ ਚਿੱਤਰਾਂ ਰਾਹੀਂ ਚੰਗੀਆਂ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਸਿੱਖਦੇ ਹਨ ਅਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬ ਦੇ ਅਮੀਰ ਸਭਿਆਚਾਰ ਅਤੇ ਮਹਾਨ ਕਲਾਕਾਰਾਂ, ਚਿੱਤਰਕਾਰਾਂ ਆਦਿ ਦੀ ਜ਼ਿੰਦਗੀ ਨੂੰ ਆਲੋਚਨਾਤਮਕ ਅਤੇ ਸੂਖਮ ਨਜ਼ਰੀਏ ਤੋਂ ਵੇਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

## **NAME OF PROGRAMME : BPES 2 YEAR**

### **COURSE : GENRAL PUNJABI**

**Co2:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ, ਆਰਥਿਕ ਅਤੇ ਰਾਜਨੀਤਿਕ ਸਮੱਸਿਆਵਾਂ ਦਾ ਹੱਲ ਕੱਢਦੇ ਹਨ ।

**Co3:** ਵਿਦਿਆਰਥੀ ਵਿਆਕਰਿਕ ਨਿਯਮਾਂ ਨੂੰ ਲਿਖਤ ਪੱਧਰ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ ਦਰਪੇਸ਼ ਮੁਸ਼ਕਿਲਾਂ ਨੂੰ ਸਮਝਦੇ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਮਿੰਨੀ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

**NAME OF PROGRAMME : BPES 3 YEAR**

**COURSE : GENRAL PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਰੂਪਾਂ ਜਿਵੇ, ਨਾਟਕ ਅਤੇ ਨਾਵਲ ਆਦਿ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ, ਆਰਥਿਕ ਅਤੇ ਰਾਜਨੀਤਿਕ ਸਮੱਸਿਆਵਾਂ ਦਾ ਹੱਲ ਕੱਢਦੇ ਹਨ ।

**Co3:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਰੂਪਾਂ ਦੇ ਜ਼ਰੀਏ ਨੈਤਿਕ ਕਦਰਾਂ ਕੀਮਤਾਂ ਦੇ ਧਾਰਨੀ ਬਣਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਕਹਾਣੀ ਸਾਹਿਤ ਦੇ ਜ਼ਰੀਏ ਸਮਾਜਿਕ ਦਰਪੇਸ਼ ਮੁਸ਼ਕਿਲਾਂ ਨੂੰ ਸਮਝਦੇ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co 6:** ਵਿਦਿਆਰਥੀ ਆਲੇ ਦੁਆਲੇ ਦੀਆਂ ਘਟਨਾਵਾਂ ਨੂੰ ਸਮਝਦੇ ਹੋਏ ਕਵਿਤਾਵਾਂ ਅਤੇ ਕਹਾਣੀਆਂ ਦੀ ਰਚਨਾ ਕਰਦੇ ਹਨ।

**NAME OF PROGRAMME : B.A/ BSC / B.COM / BBA 1<sup>st</sup> SEM**

**COURSE : BASIC PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਸ਼ਬਦ ਜੋੜਾਂ, ਪੈਂਤੀ ਅੱਖਰੀ ਅਤੇ ਮੁਹਾਰਨੀ ਆਦਿ ਦਾ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**2<sup>nd</sup> SEM**

**COURSE : BASIC PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬ ਦੀਆਂ ਰੁੱਤਾਂ, ਦੇਸੀ ਮਹੀਨਿਆਂ, ਸਾਕੇਦਾਰੀ ਆਦਿ ਦਾ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

### **3<sup>RD</sup> SEM**

#### **COURSE : BASIC PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀਆਂ ਲੋਕ ਸਿਆਣਪਾਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਵਿਆਕਰਣ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਲਿਖਤ ਪੱਧਰ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਚਿੱਠੀ ਪੱਤਰ ਦੇ ਨਿਯਮਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪਹਿਰਾ ਰਚਨਾ ਰਾਹੀਂ ਪੰਜਾਬ ਦੀਆਂ ਸਮਾਜਿਕ ਗਤੀਵਿਧੀਆਂ ਦਾ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ

### **NAME OF PROGRAMME : UG PROFESSIONAL CLASSES 1<sup>st</sup> SEM**

#### **COURSE : BASIC PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਸ਼ਬਦ ਜੋੜਾਂ, ਪੈਂਤੀ ਅੱਖਰੀ ਅਤੇ ਮੁਹਾਰਨੀ ਆਦਿ ਦਾ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

### **UG PROFESSIONAL CLASSES 2<sup>nd</sup> SEM**

#### **COURSE : BASIC PUNJABI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬਾਰੇ ਮੁੱਢਲੀ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬ ਦੀਆਂ ਰੁੱਤਾਂ, ਦੇਸੀ ਮਹੀਨਿਆਂ, ਸਾਕੇਦਾਰੀ ਆਦਿ ਦਾ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

## NAME OF PROGRAMME : M.A PUNJABI

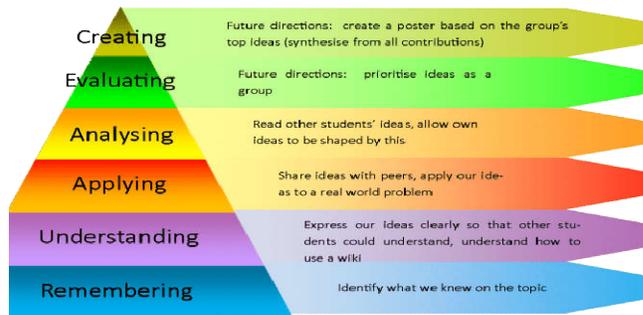
### PROGRAMME OUTCOME

PROGRAMME	OUTCOME
PO 1.	ਇਹ ਪ੍ਰੋਗਰਾਮ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਝ, ਸਧਾਰਨੀਕਰਨ, ਵਿਧੀਗਤ ਗੁਣਵਤਾ ਪੈਦਾ ਕਰਦਾ ਹੈ ਉਤੇ ਉਦਯੋਗਿਕ, ਸਿਖਿਆ ਅਤੇ ਲੋਕ ਪ੍ਰਬੰਧਕੀ ਖੇਤਰਾਂ ਵਿਚ ਉਨੱਤੀ ਕਰਨ ਦੇ ਸਮਰੱਥ ਬਣਾਉਂਦਾ ਹੈ।
PO.2	ਵਿਦਿਆਰਥੀ ਆਪਣੇ ਵਿਸ਼ੇਸ਼ ਖੇਤਰ ਦੀ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ ਅਤੇ ਆਪਣੇ ਖੇਤਰ ਵਿਚ ਖੋਜ ਤੇ ਵਿਕਾਸ ਦੇ ਕੰਮਾਂ ਪ੍ਰਤੀ ਸਮਰੱਥਾ ਗ੍ਰਹਿਣ ਕਰਦੇ ਹਨ ।
PO.3	ਵਿਦਿਆਰਥੀ ਅਲੋਚਨਾਤਮਕ ਢੰਗ ਨਾਲ ਸਮੱਸਿਆਵਾਂ ਨੂੰ ਸਮਝਣ ਦੇ ਯੋਗ ਬਣਦੇ ਹਨ ਅਤੇ ਯੋਜਨਾਬੱਧ ਢੰਗ ਨਾਲ ਨੇਪਰੇ ਚਾੜ੍ਹਦੇ ਹਨ।
PO.4	ਇਹ ਪ੍ਰੋਗਰਾਮ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸੂਖਮ ਪੱਧਰ ਤੇ ਜਾਣਕਾਰੀ ਦਿੰਦੇ ਹਨ ਅਤੇ ਅੱਗੇ ਜਾ ਕੇ ਵਿਦਿਆਰਥੀ ਨੂੰ ਆਪਣੀ ਪਸੰਦ ਦਾ ਖੋਜ ਵਿਸ਼ਾ ਚੁਣਨ ਵਿਚ ਸਹਾਇਤਾ ਮਿਲਦੀ ਹੈ ।
PO.5	ਇਹ ਪ੍ਰੋਗਰਾਮ (eng, pbi, hindi, pol sci) ਸੰਯੁਕਤ ਪੱਧਰ ਤੇ ਤਾਰਕਿਕ ਸੰਦਾਂ ਸਿਧਾਂਤਾਂ ਅਤੇ ਸਮੂਹਿਕ ਕਾਰਜਾਂ ਅਤੇ ਸੈਮੀਨਾਰਾਂ ਵਰਕਸ਼ਾਪ ਆਦਿ ਦੇ ਜ਼ਰੀਏ ਵਿਦਿਆਰਥੀਆਂ ਨੂੰ ਸਿੱਧਾਂਤਕ ਸਿਖਿਆ ਦਿੰਦੇ ਹਨ।

### PROGRAMME SPECIFIC OUTCOME

PROGRAMME	OUTCOME
PSO 1.	ਕਵਿਤਾ, ਵਾਰਤਕ ,ਫਿਲਾਸਫੀ ,ਸੰਗੀਤ ਆਦਿ ਦੇ ਜ਼ਰੀਏ ਵਿਦਿਆਰਥੀ ਆਪਣੇ ਅਮੀਰ ਅਤੇ ਵੱਖਰਤਾ ਭਰਪੂਰ ਸਭਿਆਚਾਰ ਅਤੇ ਪਰੰਪਰਿਕ ਵਿਕਾਸ ਬਾਰੇ ਸਿੱਖਦੇ ਹਨ।
PSO.2	ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰ ਸਮਾਜਕ ਰਾਜਨੀਤਿਕ ਅਤੇ ਧਾਰਮਿਕ ਪ੍ਰਸੰਗਾਂ ਤੋਂ ਅਲੋਚਨਾਤਮਕ ਸੋਚ ਦਾ ਵਿਕਾਸ ਹੁੰਦਾ ਹੈ।
PSO.3	ਇਹ ਪ੍ਰੋਗਰਾਮ ਪੰਜਾਬੀ ਲੋਕ ਸਾਹਿਤ ਅਤੇ ਸਭਿਆਚਾਰ ਦੀ ਉਤਪਤੀ ਅਤੇ ਵਿਕਾਸ ਤੋਂ ਜਾਣੂੰ ਕਰਵਾਉਂਦੇ ਹਨ।
PSO.4	ਭਾਸ਼ਾ ਦੇ ਤੱਤਾਂ ਮੁੱਢਲੇ ਸੰਕਲਪਾਂ, ਸਮਕਾਲੀਨ ਹਾਲਾਤ ਅਤੇ ਭਾਸ਼ਾ ਦੀ ਸੰਰਚਨਾ ਬਾਰੇ ਜਾਣਕਾਰੀ ਮਿਲਦੀ ਹੈ।

## M.A PUNJABI COURSE OUT COME WITH BLOOM TAXONOMY



**NAME OF PROGRAMME : M.A PUNJABI**

**SEM 1**

**COURSE : PAPER 1 GURMAT KAAV**

**Co2 :** ਵਿਦਿਆਰਥੀ ਦਸ ਗੁਰੂ ਦੇ ਜੀਵਨ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ ਅਤੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਗੁਰਬਾਣੀ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਆਪਣੀ ਜ਼ਿੰਦਗੀ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਧਰਮ ਪ੍ਰਤੀ ਗਿਆਨ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਗੁਰਬਾਣੀ ਸਾਹਿਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**COURSE : PAPER 2 SUFI KAAV**

**Co2 :** ਵਿਦਿਆਰਥੀ ਸੂਫੀ ਸੰਤਾਂ ਦੇ ਜੀਵਨ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ ਅਤੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਸੂਫੀਵਾਦ ਦੇ ਸਿੱਧਾਂਤਾਂ ਅਤੇ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਆਪਣੀ ਜ਼ਿੰਦਗੀ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਇਸਲਾਮ ਅਤੇ ਸੂਫੀਵਾਦ ਪ੍ਰਤੀ ਗਿਆਨ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਸੂਫੀ ਸਾਹਿਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**COURSE : PAPER 3 SAHIT SIDHANT ATE BHARTI KAAV SHASTER**

**Co2 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਅਤੇ ਕਾਵਿ ਸ਼ਾਸਤਰ ਬਾਰੇ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਸਾਹਿਤ ਅਤੇ ਕਾਵਿ ਸ਼ਾਸਤਰ ਦੀਆਂ ਵਿਭਿੰਨ ਇਕਾਈਆਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਭਾਰਤੀ ਅਤੇ ਪੱਛਮੀ ਸਾਹਿਤ ਪ੍ਰਤੀ ਗਿਆਨ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਭਾਰਤੀ ਸਾਹਿਤ ਦਾ ਆਲੋਚਨਾਤਮਕ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**COURSE : PAPER 4 LOKDHARA ATE PUNJABI LOKDHARA**

**Co2:** ਵਿਦਿਆਰਥੀ ਲੋਕਧਾਰਾ ਦੀਆਂ ਵਿਭਿੰਨ ਇਕਾਈਆਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਲੋਕਧਾਰਾ ਅਤੇ ਪੰਜਾਬੀ ਲੋਕਧਾਰਾ ਦੇ ਸੰਕਲਪਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਲੋਕਧਾਰਾ ਦਾ ਆਲੋਚਨਾਤਮਕ ਨਜ਼ਰੀਏ ਤੋਂ ਤੁਲਨਾ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6:** ਵਿਦਿਆਰਥੀ ਲੋਕਧਾਰਾ ਦਾ ਗਿਆਨ ਹਾਸਿਲ ਕਰਕੇ ਲੋਕਧਾਰਾਈ ਸਾਮੱਗਰੀ ਨੂੰ ਬਣਾਉਣਾ ਸ਼ੁਰੂ ਕਰਦੇ ਹਨ।

**COURSE : PAPER 5 TULNATMIK SAHIT**

**Co1 :** ਵਿਦਿਆਰਥੀ ਤੁਲਨਾਤਮਕ ਸਾਹਿਤ ਬਾਰੇ ਨਵੀਨ ਨਜ਼ਰੀਆਂ ਅਪਣਾਉਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਤੁਲਨਾਤਮਕ ਸਾਹਿਤ ਦੀਆਂ ਵਿਭਿੰਨ ਇਕਾਈਆਂ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਤੁਲਨਾਤਮਕ ਸਾਹਿਤ ਦੇ ਸੰਕਲਪਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਭਾਰਤ ਪਾਕਿਸਤਾਨ ਵੰਡ ਦਾ ਆਲੋਚਨਾਤਮਕ ਨਜ਼ਰੀਏ ਤੋਂ ਤੁਲਨਾ ਅਤੇ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**NAME OF PROGRAMME : M.A PUNJABI**

**SEM 2<sup>nd</sup>**

**COURSE : PAPER 6 BHAGTI SAHIT**

**Co1 :** ਵਿਦਿਆਰਥੀ ਭਗਤਾਂ ਦੇ ਜੀਵਨ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਭਗਤੀ ਕਾਵਿ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਆਪਣੀ ਜ਼ਿੰਦਗੀ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਧਰਮ ਪ੍ਰਤੀ ਗਿਆਨ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਭਗਤੀ ਸਾਹਿਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**COURSE : PAPER 7 MADHKALI PUNJABI KAAV**

**Co1 :** ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਕਾਵਿ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਗੁਰੂ ਸਹਿਬਾਨ ਅਤੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਆਪਣੀ ਜ਼ਿੰਦਗੀ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਕਿੱਸਾ ਕਾਵਿ ਪ੍ਰਤੀ ਗਿਆਨ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ ਅਤੇ ਉਸ ਸਮੇਂ ਦੇ ਸੱਭਿਆਚਾਰ ਨੂੰ ਤੁਲਨਾਤਮਕ ਪੱਧਰ ਤੇ ਵਾਚਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਮੱਧਕਾਲੀ ਪੰਜਾਬੀ ਕਾਵਿ ਸਾਹਿਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

### **COURSE : PAPER 8 KHOJ ATE PUNJABI ALOCHNA**

**Co1 :** ਵਿਦਿਆਰਥੀ ਖੋਜ ਅਤੇ ਆਲੋਚਨਾ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਆਲੋਚਨਾ ਅਤੇ ਖੋਜ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਖੋਜ ਅਤੇ ਆਲੋਚਨਾ ਦੇ ਸਿੱਧਾਂਤਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਖੋਜ ਅਤੇ ਆਲੋਚਨਾ ਦੇ ਸਿੱਧਾਂਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਖੋਜ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 9 PUNJABI SABHYACHAAR**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਆਪਣੀ ਜ਼ਿੰਦਗੀ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਸਿੱਧਾਂਤਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਸਿੱਧਾਂਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਭਿਆਚਾਰ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 10 PATARKARI ATE PUNJABI PATARKARI**

**Co1 :** ਵਿਦਿਆਰਥੀ ਪੱਤਰਕਾਰੀ ਅਤੇ ਪੰਜਾਬੀ ਪੱਤਰਕਾਰੀ ਦੇ ਸਿੱਧਾਂਤਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ ਰੱਖਦੇ ਹਨ।

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਪੱਤਰਕਾਰੀ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੱਤਰਕਾਰੀ ਦੇ ਸਿੱਧਾਂਤਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹੋਏ ਰੁਗਾਰ ਦੇ ਮਾਧਿਅਮ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਪੱਤਰਕਾਰੀ ਦੇ ਸਿੱਧਾਂਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਪੱਤਰਕਾਰੀ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

## **SEM 3<sup>RD</sup>**

### **COURSE : PAPER 11 ADHUNIK PUNJABI KAVITA**

**Co2:** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵੀਆਂ ਦੇ ਕਾਵਿ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸਿੱਧਾਂਤਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸਿੱਧਾਂਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 12 PUNJABI NOVEL**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ ਅਤੇ ਉਸ ਉਪਰ ਪਏ ਅੰਗਰੇਜ਼ੀ ਨਾਵਲ ਦੇ ਪ੍ਰਭਾਵ ਦਾ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੇ ਸਿੱਧਾਂਤਾਂ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੇ ਸਿੱਧਾਂਤ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਵਲ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 13 PUNJABI BHASHA ATE BHASHA VIGYAAN**

**Co2:** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਸਿੱਧਾਂਤਾਂ ਜਿਵੇਂ ਸਾਸਿਊਰ ਆਦਿ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਨਿਯਮਾਂ ਨੂੰ ਬੋਲਚਾਲ ਵਿਚ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

## **CLASS : M.A PUNJABI SEM 2<sup>nd</sup>**

### **COURSE : PAPER 14 PUNJABI SAHIT DA ITIHAAS (1850 TAK)**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 15 PARVASI PUNJABI SAHIT**

**Co2:** ਵਿਦਿਆਰਥੀ ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ ਅਤੇ ਪਰਵਾਸ ਦੀਆਂ ਮੁਸ਼ਕਿਲਾਂ ਦਾ ਅਨੁਭਵ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪਰਵਾਸੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

## **SEM 4<sup>TH</sup>**

### **COURSE : PAPER 16 ADUNIK PUNJABI KAVITA**

**Co2:** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ ਅਤੇ ਆਧੁਨਿਕ ਕਾਵਿ ਧਾਰਾਵਾਂ ਨੂੰ ਲਿਖਤ ਪੱਧਰ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 17 PUNJABI NIKI KAHANI**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਿੱਕੀ ਕਹਾਣੀ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਿੱਕੀ ਕਹਾਣੀ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ ਅਤੇ ਸਮਾਜਿਕ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਪਰਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਿੱਕੀ ਕਹਾਣੀ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਿੱਕੀ ਕਹਾਣੀ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 18 PUNJABI BHASHA ATE BHASHA VIGYAAN 2**

**Co2:** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਸਿੱਧਾਂਤਾਂ ਜਿਵੇਂ ਵਾਕ ਬਣਤਰ, ਉਪਵਾਕ ਭਾਸ਼ਾਈ ਵੰਨਗੀਆਂ ਆਦਿ ਨੂੰ ਸਮਝਦੇ ਹਨ।

**Co3:** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਆਰਥੋਗ੍ਰਾਫੀ ਨਿਯਮਾਂ ਨੂੰ ਲਿਖਤ ਪੱਧਰ ਤੇ ਲਾਗੂ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਭਾਸ਼ਾ ਅਤੇ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 19 PUNJABI NATAK**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ ਅਤੇ ਰੰਗਮੰਚ ਦੀਆਂ ਪਰਤਾਂ ਨੂੰ ਜ਼ਿੰਦਗੀ ਨਾਲ ਅੰਤਰ ਸੰਬੰਧਿਤ ਕਰਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ ਅਤੇ ਸਮਾਜਿਕ ਕਦਰਾਂ ਕੀਮਤਾਂ ਨੂੰ ਪਰਖਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਨਾਟਕ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

### **COURSE : PAPER 20 PUNJABI SAHIT DA ITIHAAS ( 1850 TO HON TAKK)**

**Co2:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਚੰਗੀ ਤਰ੍ਹਾਂ ਸਮਝਦੇ ਹਨ।

**Co4:** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦਾ ਗਹਿਨ ਅਧਿਐਨ ਕਰਦੇ ਹਨ।

**Co5 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਬਾਰੇ ਗੰਭੀਰਤਾ ਨਾਲ ਖੋਜ ਦੇ ਨਜ਼ਰੀਏ ਤੋਂ ਮੁਲਾਂਕਣ ਕਰਦੇ ਹਨ।

**Co6 :** ਵਿਦਿਆਰਥੀ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਇਤਿਹਾਸ ਦੇ ਸਿੱਧਾਂਤਾਂ ਨੂੰ ਅਪਣਾਉਂਦੇ ਹੋਏ ਖੋਜ ਪੱਤਰ ਲਿਖਣ ਲਈ ਪ੍ਰੇਰਿਤ ਹੁੰਦੇ ਹਨ।

**DEPARTMENT OF SANSKRIT**  
**Name of Programme: B.A. (Bachelor of Arts)**

**Course Outcomes**

**Semester- I**

**Paper: Kavya Evm Vyakaran**

- CO 1: Students will describe the glorious life history of bhakat pooran singh ji .  
CO 2: Students will identify the values like compassion, selflessness, sacrifice embodied by bhakat pooran singh ji.  
CO 3: Student will be able to appraise the dedication towards the work and selfless service to humanity.  
CO 4: Students will be able to reproduce vocabulary.  
CO 5: Students will be able to estimate the values of good deeds in once life.

**Semester-II**

**Paper: Kavya Evm Vyakaran Evem Anuvad**

- CO 1: Students will ascertain the importance bravery and boldness while facing the trials and tribulations of life.  
CO 2: It inspires students and enlightens their path to success.  
CO 3: Students will be able to maintain the social decorum and thus link to the notions of etiquettes and manners.  
CO 4: They will get knowledge and usage of sandhi ,samās, shabd-roop, dhatu-roop and pronunciation of language and they are able to apply the concepts of grammar.  
CO 5: Students writing skills and reading skills would be enhanced.

**Semester- II**

**Paper: Natak Tatha Vyakaran**

- CO 1: Students will be able to appraise the greatness of characters portrait in madhyamvyayog (mahabharata)  
CO 2: Students will be able to incorporate Sanskaras like respect women, help the weaker section of society. They are able to analyze the situations of life.  
CO 3: Encourage them to explore the writings of great and renowned sanskrit scholars and appreciate their literary genius.  
CO 4: They will get the glimpses of characters portrayed in epic Mahabharata like the great life of bheem who reflects the grandeur of Indian culture.  
CO 5: They will articulate sanskrit words with proper intonation and stress and able to create their own write-ups.

**Semester-IV**

**Paper: Kavya Evm Vyakaran**

- CO 1: Students will be able to learn important lessons of life through short stories and able to analyze the different situations.  
CO 2: They will imbibe the values which will help them to lead successful life.  
CO 3: They will learn moral values in very fun filled and entertaining way and create their own perceptions regarding stories.  
CO 4: They will ascertain wider usages of samās, shabd-roop, avya and shabd .  
CO 5: Students will be able to interpret the ideology of the great poets.

**Semester-V**

**Paper: Neetikatha Sahitya Tatha Vyakaran**

- CO 1: Students will be able to observe the basic knowledge of four Vedas.  
CO 2: Students will be able to comprehend the richness of this language and compute the basic sentences of Sanskrit.  
CO 3: They will learn to respond and act spontaneously in a given situation and develop ability to evaluate the situation.  
CO 4: Depict the ethical behavior through allegory will help them to lead better life.  
CO 5: They will incorporate moral values by reading fables.

## **Semester-VI**

### **Paper: Katha Sahitya Tatha Nibandh**

CO 1: Students will be able to analyze the role of a teacher in shaping the life of student.

CO 2: Students will examine the importance of a balanced life.

CO 3: Students evaluate the importance of karama yoga - a discipline of selfless action without any expectation.

CO 4: They will be able to appraise the vastness and richness of sanskrit language- a mother of all languages.

CO 5: They will get vast knowledge of sanskrit language skills followed by great writers like mahakavi kalidas , bhas ,bhavbhuti famous writers of sanskrit which will enable them to read or write in sanskrit.

**Department of Home Science**  
**Name of Programme: B.A. (Bachelor of Arts)**

**Course Outcomes**

**Semester-I**

**Paper: Family Resource Management & Hygiene**

- CO 1: Students will acquire detail knowledge of importance of home science in daily life
- CO 2: Students will be able to understand the principals of art in relation to interior decoration during planning of house.
- CO 3: Students will come to know about to the pathogenic diseases, mode of transmission, causes and spread of various bacterial and viral diseases and can enlist their methods to control them.
- CO 4: Students will acquire knowledge and able to analyze various methods used to maintain the hygiene in daily life.

**Semester-II**

**Paper: Family Resource Management and Physiology**

- CO 1: Students will be able to understand the meaning and various aspects of home management.
- CO 2: Students will able to learn the structure and functioning of circulatory, digestive and reproductive system in human body.
- CO 3: The students can categorize various methods acquired by the florists to for long term flower arrangement
- CO 4: The students will know & learn to solve problems related with resources e.g. money and energy management.

**Semester-III**

**Paper: Clothing Textiles–I (Theory)**

- CO 1: Students will be able to understand the concept of equipments and supplies in clothing market.
- CO 2: Students will know about the manufacture and properties of various textile fibers
- CO 3: The students will learn to record body measurements in order to develop various pattern designing.
- CO4: Students will be able to understand various methods used for colouring and dyeing various fabrics.

**Semester-IV**

**Paper: Clothing Textiles –II (Theory)**

- CO 1: Students will be able to understand principals of designs such as harmony, balance, rhythm and proportion.
- CO 2: The students can summarize the various methods used to store various kinds of garments like cotton, wool, and silk.
- CO 3: The students will be able to understand the concept of formation and processing of various types of the Yarn.
- CO 4: The students will learn to select suitable clothes for various age groups like infants, adults, old, school going etc.

**Semester-V**

**Paper: Foods and Nutrition & Child Development- I (Theory)**

- CO 1: Students will develop critical understanding of fundamentals of various food components and its role in development.
- CO 2: The students can understand the role of various vitamins and minerals in various metabolic pathways.
- CO 3: Students are able to know about various factors and their importance in child development
- CO 4: The students are able to understand the phenomenon of Metamorphosis, motor development from infancy to late childhood.

**Semester-VI**

**Paper: Foods and Nutrition & Child Development- II (THEORY)**

- CO 1: The students are able to describe various types of food adulteration used now a days and method as to check them.

- CO2: Students will learn planning of balanced diet for middle income groups and their implications in daily life.
- CO 3: Students will be able to define concept of balanced diet and classification of food based on five/seven food groups.
- CO 4 Students will be able to understand structure and types of therapeutic diets in various health conditions.

## Department of Psychology

### Name of Programme: B.A. (Bachelor of Arts) Course Outcomes

#### Semester-I & II Paper: Basic Psychological Processes

- CO 1: Students will demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.
- CO 2: Students will respect and use critical and creative thinking, skeptical inquiry and the scientific approach to solve problems related to behavior and mental processes.
- CO 3: Students will understand and apply psychological principles to personal, social, and organizational issues.
- CO 4: Students will be able to weigh evidence, tolerate ambiguity, act ethically, and reflect other values that are the underpinnings of psychology as a discipline.
- CO 5: Students will recognize, understand, and respect the complexity of sociocultural and international diversity.

#### Semester-III & IV

##### Paper: Experimental Psychology

- CO 1: Students will have the opportunity to develop a deep understanding and broad knowledge of the general theoretical and scientific principles of psychology.
- CO 2: Students will acquire in-depth knowledge in specialized areas of their subject.
- CO 3: They will have the opportunity to acquire and demonstrate bibliographic skills to search out information appropriate to a particular topic.
- CO 4: They will have experience in compiling written reviews of key topics in psychology in which they will be expected to have knowledge, depth of understanding, and a critical appreciation of the strengths and weaknesses of theoretical claims and research evidence or conceptual argument.
- CO 5: They will have the opportunity to discuss in detail aspects of research or enquiry.

#### Semester-V & VI

##### Paper: Abnormal Psychology

Upon successful completion, students will have the knowledge and skills and should be able to:

- CO 1: identify and describe major terms and concepts in abnormal psychology.
- CO 2: describe and apply major theories of abnormal psychology.
- CO 3: describe the symptomatology associated with major mental disorders and apply to case examples.
- CO 4: think critically about issues and changes in psychiatric nomenclature.
- CO 5: think critically about ethical, legal, cultural and contemporary topics in abnormal psychology.
- CO 6: demonstrate preliminary knowledge of the main empirically based approaches available to treat or manage the conditions covered in the course.

### Name of Programme: B.A. Psychology with Honours

#### Course Outcomes

##### Semester-III

##### Paper: History and Schools of Psychology

After completing the course, the students will be able to:

- CO 1: discuss the philosophical and scientific foundations of psychology.
- CO 2: critically examine problems, questions, and assumptions of various schools of thought such as functionalism, psychoanalysis, behaviourism, and Gestalt, humanistic and experimental psychology.
- CO 3: compare Eastern and Western philosophical and intellectual traditions from antiquity with contemporary thought on human relationships.
- CO 4: describe the philosophical implications of mind-body interaction for psychology as a science.
- CO 5: develop deeper understanding and insight into the origin and contents of various school of thoughts and the ability to critically analyse.

##### Semester-IV

##### Paper: Social Psychology

After completing the course, the students will be able to:

- CO 1: demonstrate in an applied context a systematic understanding of the behaviour of the individual in social interaction.
- CO 2: examine critically the explanations or the occurrence of certain kinds of social behaviour.
- CO 3: critically apply social psychological principles to social problems and issues.
- CO 4: identify both theoretical and practical methodological issues central to social psychological research.

## **Semester-V**

### **Paper: Psychological testing**

CO 1: The goal of this paper is to support students in building a thorough understanding of the development and use of psychological tests. This aim includes an understanding of the application of such tests in the education, counselling, and business sectors.

CO 2: At the end of this course, students will be able to demonstrate knowledge:

- How psychological tests are developed.
- How psychological tests are evaluated.
- About the characteristics and purposes of the major psychological tests used in education, clinical and counselling practice, and business.
- About ethics and laws pertaining to the use of psychological tests.

## **Semester-VI**

### **Paper: Applied Psychology**

CO 1: Students will develop effective interpersonal skills to enable them to work in a variety of practical settings.

CO 2: Students will obtain the knowledge and skills necessary to apply in counseling, educational set up, health sector, human service related organizations or in related areas.

CO 3: Students will demonstrate foundational knowledge and comprehension of applied psychology subject matter through examination or learning portfolio.

CO 5: Instill cooperative learning strategies that enable students to participate effectively in group projects and in circumstances surrounding employment.

### **Name of Programme: B.Voc. (Mental Health Counselling)**

#### **Program Outcomes**

PO 1: Students will be able to practically understand and apply the knowledge related to the requirements of industry.

PO 2: To provide a judicious mix of professional skills and suitable general education component.

PO 3: To provide flexibility to the students to serve the industry by having exit points at different levels.

PO 4: To provide an opportunity to the students to get on the job training which help them to enhance their professional skills.

#### **Programme Specific Outcomes**

PSO 1: The graduated students acquire knowledge and understanding of the clinical mental health counselling profession as well as the basics of legal and ethical practice.

PSO 2: They will be able to apply knowledge and skills related to counselling work with diverse groups both nationally and internationally.

PSO 3: Students will demonstrate knowledge and skills related to building, maintaining and utilizing counselling relationships to address mental health issues and meet client goals.

PSO 4: It will enable students to understand the significance of research in informing counselling practice and demonstrate the ability to critically evaluate available research to inform their own counselling work.

#### **Course Outcomes**

### **Semester-I**

#### **Paper: Mental Health Counselling**

CO 1: Students will show knowledge and understanding of the clinical mental health counselling profession as well as the basics of legal and ethical practice.

CO 2: They will acquire knowledge, awareness, and skills related to counselling work with diverse groups both nationally and internationally.

CO 3: They will be able to demonstrate knowledge and skills related to building, maintaining, and utilizing counselling relationships to address mental health issues and meet client goals.

CO 4: They will get knowledge and understanding of career development, assessment, and planning for clients.

**Paper: Techniques of Appraisal for Counselling**

- CO 1: Students will show knowledge and understanding of psychological testing, and psychological assessment along with the purpose.
- CO 2: They will have knowledge on career assessment related to interest, personality and values.
- CO 3: They will understand the various aspects of career development, assessment, and planning for clients.
- CO 4: They will understand the purpose and uses of a variety of tests along with the limitations of testing and assessment.
- CO 5: They will become capable to understand and demonstrate competency with counselling assessments, including knowledge of types of assessments, statistical concepts, and the use of assessment tools.
- CO 6: They will study the development and use of psychological tests i.e. application of tests in education and counselling.
- CO 7: They will understand the legal and ethical issues in psychological testing and internship.

**Paper: Approaches to Counselling**

- CO 1: Students will become familiar with the major counselling approaches categorized as humanistic, experiential, learning/cognitive, and psychoanalytic/psychodynamic
- CO 2: They will become able to critically examine different approaches to counselling and understanding of theoretical frameworks.
- CO 3: They will understand the link between theory and practice and will be able to arrive at their own personal orientation to counselling.
- CO 4: They will be able to demonstrate knowledge of the therapist's role and the values by which the therapist conducts counselling.
- CO 5: They will study the core premises of psychodynamic therapy such as transference, countertransference, resistance, and interpret.

**Semester-II****Paper: Child Psychopathology**

- CO 1: Detailed understanding of disorders seen in infancy, childhood and adolescence according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).
- CO 2: Students will gain understanding of key principles relevant to conducting psychological assessments with children /adolescents and their families for formulation, diagnosis and treatment planning.
- CO 3: Knowledge of theoretical frameworks for conceptualising child development and behaviour is developed while ensuring that students understand –normal child development and the importance of taking a developmental perspective
- CO 4: They will be able to describe the role of early experiences in shaping children's development and behaviour
- CO 5: They will study possible diagnoses and differential diagnoses.
- CO 6: They will learn to develop a comprehensive case formulation and treatment plan.

**Paper: Counselling Applications**

- CO 1: Learners will develop knowledge of the core theoretical areas, major models, and basic techniques of counselling and psychology.
- CO 2: Describe and demonstrate theories and methods of cognitive and personality assessment.
- CO 3: They will understand the link between theory and practice and arrive at their own personal orientation to counselling
- CO 4: Students will understand the philosophical underpinnings of the major counselling theories.
- CO 5: They will be able to identify primary intervention techniques of the major psychological theories.

**Paper: Practicing Individual Counselling Skills and Techniques**

- CO 1: Students develop an understanding of the historical development of the counselling profession and an applied understanding of counselling skills.
- CO 2: Students' self-awareness of the values, attitudes and biases is fundamental in the development of effective counselling skills.
- CO 3: Students will be able to understand the process of assessment and establishing the counselling relationship.
- CO 4: The counselling relationship is an important means of facilitating change and growth. Understanding of the stages of counselling provides a framework for practicing new skills. Students will learn how they can assist clients to achieve positive outcomes and increase their self-understanding.

**Semester-III****Paper: Substance Abuse (Problem and Consequences)**

- CO 1: Students will be able to identify psychosocial factors associated with alcohol and drug abuse.
- CO 2: They will study physiological/medical factors associated with substance abuse.
- CO 3: They will get knowledge regarding the impact of substance abuse on the community, family and individual.
- CO 4: They will learn to assess and analyse the techniques used by professionals in the field of substance abuse.
- CO 5: They will have understanding of medical and behavioural model of addiction.

**Paper: Classification of Psychotropic Drugs and Their Treatment**

- CO 1: Students will learn to distinguish the actions of psychoactive drugs as they affect the body.
- CO 2: They will develop deep understanding to types of drugs
- CO 3: They will have knowledge to define the routes of administration, methods of ingestion, tolerance, withdrawal and interactions of these drugs with other psychoactive and non-psychoactive drugs.
- CO 4: They will be able to evaluate the signs and symptoms associated with the different classifications of psychoactive chemicals.
- CO 5: They will study the concepts of use, misuse, abuse, dependence, withdrawal, and overdose/toxicity.
- CO 6: Learners will develop understanding of management and treatment of drug abused.

**Semester-IV****Paper: HIV/AIDS Counselling**

- CO 1: Students will understand the basic facts of HIV and AIDS (means of transmission, types of tests, CD4 count, viral load).
- CO 2: They will study the social, behavioural, gender and cultural drivers of the HIV pandemic.
- CO 3: They will acquire knowledge regarding the contents of HIV pre- and HIV post-test counseling sessions.
- CO 4: They study the goals of ART and how antiretroviral work.
- CO 5: Learners will study the psycho-social needs and challenges of living with a chronic disease.

**Semester-V****Paper: Basic psychological processes**

- CO 1: Students will demonstrate familiarity with the major concepts, theoretical perspective, empirical findings.
- CO 2: Students will understand and apply psychological principles to personal, social and organisational issues.
- CO 3: Demonstrator understanding of philosophical and scientific foundations of psychology.
- CO 4: Students will exhibit philosophical implications of mind-body interaction for psychology as science.

**Paper: Human Development**

- CO 1: Demonstrate an understanding of the biological, psychological, social and lifespan human development
- CO 2: Demonstrate an understanding of how gender, ethnicity, class, historical period, and social location relate to the life course experience.

CO 3: Critically evaluate research relevant to human development as well as popular notions of human nature.

CO 4: Use the primary literature of the field to prepare a clear, organised summary of a topic.

**Paper: Basic Statistics**

CO 1: Students will obtain knowledge in quantitative research, including statistical procedures for analysing psychological data.

CO 2: Students will have insights into preliminary exploration of different types of data.

CO 3: Students will exhibit Knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations.

**Semester-VI**

**Paper: Abnormal Psychology**

CO 1: Students will demonstrate the ability to use DSM V and ICD 10 classificatory systems

CO 2: Students will exhibit understanding of disorders and their causes

CO 3: Show understanding of the use of psychological theory to answer real world questions

**Paper: Abnormal and Clinical Psychology**

CO 1: Students would demonstrate knowledge about various methods along with different Clinical assessment techniques.

CO 2: Students would understand the various symptoms and treatment modalities of somatoform and bipolar disorders.

CO 3: To orient about clinical assessment process and it's application.

CO 4: Students will have understanding of the causes of disorder.

**Paper: Research Methodology**

CO 1: Students will exhibit understanding of basic principles of research methodology.

CO 2: Familiarise with the basics of scientific research in applied psychology

CO 3: Students can identify and critically evaluate psychological research methods.

CO 4: Students would be acquainted with research designs and research problems.

**Department of Sociology**  
**Name of Programme: B.A. (Bachelor of Arts)**

**Course Outcomes**

**Semester I**

**Paper: Fundamentals of Sociology I**

- CO 1: Students will acquire detail knowledge regarding the emergence of Sociology and its Basic concept.
- CO 2: Student will understand the subject matter of sociology, enlist the area of study.
- CO 3: Student will able to learn about the various aspects related to the society, community and social institutions and their importance in human life.
- CO 4: Student will be able to analysis the process of socialization and will understand importance of agencies of socialization.

**Semester II**

**Paper: Fundamentals of Sociology II**

- CO 1: Students will able to explain about the social structure and function of the norms and values in the civilized society.
- CO 2: Student will understand about the role and status in the life and the importance of culture.
- CO 3: Students will acquire the ability to understand the socio-economic background of individuals and groups.
- CO 4: Student will come to know about the role of formal and informal agencies of Social Control.

**Semester III**

**Paper: Society in India**

- CO 1: Students will be able to understand about the Indian society and its diverse pattern in terms of languages, culture and regional uniqueness etc.
- CO 2: Students will know about the origin of caste system and different theories of the caste.
- CO 3: The students will learn about the national and international relevant social issues like communalism, gender and human rights.
- CO 4: Students will be able to understand the social institutions and types of the societies and their differences.

**Semester IV**

**Paper: Social Change in India**

- CO 1: Students will understand regarding about the concept of social change and its difference perspectives.
- CO 2: The students will learn about the various factors of social change and their relevance.
- CO 3: The students will acquire the knowledge about the different processes of social change like westernization, sanskritization, modernization, urbanization, industrialization etc.
- CO 4: Students will develop the analytical ability to understand the social problems and find out the solutions.

**Semester V**

**Paper: Social Thought**

- CO 1: Students will learn about the fundamental sociological perspectives and theories.
- CO 2: The student will able to understand the emergence of capitalism and class struggle.
- CO 3: The students will developed the critical thinking to understand the social issues like suicidal tendencies in the society.
- CO 4: Students will learn about the theoretical perspectives and its applicability to understand the society.

**Semester VI**

**Paper: Social Research**

- CO 1: The students will acquire the knowledge about the research methods and scientific techniques.
- CO 2: Students will learn about different types of Research designs and its uses.

CO 3: Students will learn about samplings methods for the representative sample and techniques of the data collection.

CO 4: The students will able to know about the handling of the data, its analysis.

## Post Graduate Department of Economics

### Name of Programme: B.A./ B.Sc. Economics Program Specific Outcome

On completion of the programme the students will be able to:

PSO 1: Apply an ethical understanding and perspective to different market situations.

PSO 2: Apply the concept of equilibrium to both microeconomics and macroeconomics.

PSO 3: Identify key macroeconomic indicators and measures of economics change, growth and development.

PSO 4: Develop understanding of how markets work to allocate resources and the optimal individual decision-making that underlies market outcomes.

PSO 5: Collect, analyse and interpret the economic data and suggest the policies for economic growth and stability

### Course Outcomes

#### Semester-I

##### Paper: Micro Economics

The students will be able to:

CO 1: explain law of demand, factors affecting demand, causes of downward sloping demand curve, and identify various types of demand.

CO 2: evaluate price, income and cross elasticity of demand and determine consumers' equilibrium.

CO 3: illustrate revenue and cost curve through diagrams.

CO 4: compare different forms of market and producers' equilibrium in different markets.

#### Semester-II

##### Paper: Macro Economics

The students will be able to:

CO 1: compare and contrast between micro and macroeconomics.

CO 2: compare the features of Classical and Keynesian model of Income, Output and Employment.

CO 3: understand the concept of effective demand in determination of income and employment and its relative importance

CO 4: analyze the concept of consumption function, M.P.C. and A.P.C. and explain and illustrate Psychological law of consumption.

#### Semester-III

##### Paper: Indian Economy

The students will be able to:

CO 1: understand the basic characteristics of Indian economy, the development process in India after independence and the role of the Indian Economy in the global context.

CO 2: analyse the progress and changing nature of agriculture, industry and tertiary sectors and their contribution to the economy as a whole.

CO 3: develop a perspective on the different economic problems in India.

CO 4: elaborate the planning process and economic reforms undertaken by the government of India, its objectives, failures and achievements.

#### Semester- IV

##### Paper: International Economics and Public Finance

The students will be able to:

CO 1: Explain the concepts of terms of trade and contrast the theories of international trade.

CO 2: Compare free trade and protectionist policy and analyze the impact of International trade on economic development.

CO 3: Analyse the impact of public policy on the allocation of resources and analysis of public expenditures, taxation, budgetary procedures and debt issues.

CO 4: Elaborate the fixed and flexible exchange rates and propose the methods for correcting adverse balance of payments.

#### **Semester-V**

##### **Paper: Economics of Development**

The students will be able to:

CO 1: Understand the concepts, factors and measurement of Economic Development.

CO 2: Identify the nature and characteristics of Underdevelopment.

CO 3: Analyse various models of economic growth.

CO 4: Contrast the Export Promotion and Import Substitution policies of development.

CO 5: Assess the sources of capital formation and the choice of techniques.

CO 6: Elaborate the role of planning in under developed countries, its need, objectives, strategy, types and problems.

#### **Semester- VI**

##### **Paper: Quantitative Methods for Economists**

The students will be able to:

CO 1: Illustrate the concepts of Sets, Relations, Functions, Limits, Continuity, Derivatives, Maxima/Minima and Matrices.

CO 2: Use and apply the measures of central tendency, dispersion, skewness and kurtosis.

CO 3: Analyse the underlying relationships between the variables, interpret covariance and correlation coefficient and estimate regression coefficients.

CO 4: Construct index numbers for different purposes and test the consistency.

CO 5: Estimate the missing values with various methods of interpolation.

**Name of Programme: B.A. /BSc. Economics (Quantitative Techniques)**

#### **Semester-II**

##### **Paper: Quantitative Techniques-II**

The students will be able to:

CO 1: understand the role, scope and functions of Statistics and demonstrate the basic statistical concepts such as data collection, classification, statistical series, tabular, diagrammatic and graphical representation of data.

CO 2: Use and apply the measures of central tendency and dispersion.

CO 3: analyse the underlying relationships between the variables, interpret covariance and correlation coefficient and estimate regression coefficients and trend values in time series analysis.

CO 4: Construct index numbers for different purposes and test the consistency.

#### **Semester-III**

##### **Paper: Quantitative Techniques-III**

The students will be able to:

CO 1: apply maxima and minima offunction to solve various economics applications

CO 2: understand and apply the concept of matrices to solve various economics applications

CO 3: solve Simultaneous system of equations using Crammer's rule and Matrix Inverse method and apply it to solve real life situations

CO 4: riddle out problems using Graphic and Simplex method of Linear programming.

#### **Semester-IV**

##### **Paper: Quantitative Techniques-IV**

The students will be able to:

CO 1: find solution of multiple linear regression, partial and multiple correlation.

CO 2: understand non-linear regression and able to estimate the fitting of various growth curves.

CO3: solve applications of probability based on addition, multiplication and Bayes theorem of probability.

CO4: grasp the concept of random variable, probability mass function and density function, mathematical expectation (meaning and properties), moments, moment generating function and characteristic function.

#### **Semester-V**

##### **Paper: Quantitative Techniques-V**

The students will be able to:

- CO 1: understand and apply probability theory and theoretical probability distributions in economic applications.
- CO 2: use sample statistics to test hypothesis regarding population
- CO 3: estimate the population parameters and to make judgments about the population.
- CO 3: present an economic argument in quantitative terms and develop ability to solve it.

#### **Semester-VI**

##### **Paper: Quantitative Techniques-VI**

The students will be able to:

- CO 1: understand, solve and build regression models
- CO 2: understand and detect various problems associated with regression such as auto correlation, multi collinearity, heteroscedasticity along with their consequences and remedies.
- CO 3: apply econometric methods like autoregressive distributed lag model to different economic theories.
- CO 4: understand the concept of dummy variable and its application in different economic situations.

#### **Name of Programme: B.A. /BSc. Economics with Economics Honours**

#### **Semester-III**

##### **Paper: I Money and Banking**

The students will be able to:

- CO 1: summarize the nature, kinds, functions and definition of money.
- CO 2: identify the different measures of money supply in India.
- CO 3: understand and demonstrate credit creation by commercial banks
- CO 4: explain the role and functions of non-banking financial institutions.

#### **Semester-IV**

##### **Paper: II Public Finance**

The students will be able to:

- CO 1: distinguish between public and private finance.
- CO 2: analyse advantages and disadvantages of various sources of public revenue and classify taxation and discuss incidence, impact, and effects of taxation.
- CO 3: critically examine causes of growth of public expenditure and its effect on economic growth, distribution and stability.
- CO 4: critically evaluate the need, role, burden and management of public debt.

#### **Name of Programme: B.Com**

#### **Semester-I**

##### **Paper: BCG-106 Business Statistics**

Students will be able to:

- CO 1: understand meaning of statistics, basic statistical concepts and relevance of statistics in business.
- CO 2: understand, calculate and interpret descriptive statistics such as measures of central tendency, dispersion, asymmetry, correlation, regression analysis, time series analysis and index numbers.
- CO 3: understand and apply probability theory and theoretical probability distributions in business.

CO 4 develop understanding of various types of probability and non-probability sampling techniques and their selection for drawing sample.

### **Semester-II**

#### **Paper: BCG-205 Business Economics**

Students will be able to:

- CO 1: understand the concept of demand, law of demand, calculate and interpret elasticity of demand and develop knowledge regarding its significance in business, trade and government policies.
- CO 2: understand and determine consumers' equilibrium.
- CO 3: interpret and evaluate equilibrium of producers under different market conditions.
- CO 4: identify various market structures and discuss their implications for resource allocation
- CO 5: differentiate between micro and macro concepts and objectives of economy.
- CO 6: understand concept of national income, judge its importance, apply and interpret different methods of measurement of national income in different sectors.

### **Name of the Programme: BBA**

### **Semester-I**

#### **Paper: BBA-105 Managerial Economics-I**

The students will be able to:

- CO 1: analyse the basic concepts, nature and scope of managerial economics.
- CO 2: explain fundamental laws of consumption- Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility.
- CO 3: distinguish between traditional and modern theory of costs.
- CO 4: compare and contrast different market structures, their characteristics and short and long run equilibrium.

### **Semester-II**

#### **Paper: BBA-205 Managerial Economics-II**

The students will be able to:

- CO1: Define the concepts of Macroeconomics, National Income aggregates and compare the methods of measurement of national income.
- CO2: Apply the classical and modern principles of Macro Economics in explaining the behaviour of aggregate variables such as consumption, investment, saving, employment and money supply at national and global level.
- CO3: Analyse the problem of inflation and examine its causes and consequences.
- CO4: Elaborate the working of multiplier and formulate policy recommendations to counter business cycles.

### **Semester-III**

#### **Paper: BBA-303 Statistics for Business**

The students will be able to:

- CO 1: Understand the role, scope and functions of Statistics and demonstrate the basic statistical concepts such as data collection, classification, statistical series, tabular, diagrammatic and graphical representation of data.
- CO 2: Illustrate matrix operations, determinants, minors, cofactors, inverse of a matrix, matrix method, Cramer's rule to solve system of equations and rank of a matrix.
- CO 3: Use and apply the measures of central tendency, dispersion, skewness and kurtosis.
- CO 4: Analyse the underlying relationships between the variables, interpret covariance and correlation coefficient and estimate regression coefficients and trend values in time series analysis.
- CO 5: Construct index numbers for different purposes and test the consistency.
- CO 6: Develop theoretical distributions by applying the concepts of probability.

**Name of Programme: B. Com. (Financial Services)**

**Semester-I**

**Paper: Paper-IV Quantitative Techniques for Business-I**

The students will be able to:

- CO 1: understand, calculate and interpret descriptive statistics such as measures of central tendency, dispersion, asymmetry,
- CO 2: construct index numbers for different purposes, test their consistency and identify suitable and best method.
- CO 3: understand, solve, fit trend analysis and estimate the values on the basis of fitted trend.
- CO 4: calculate simple and compound interest and apply discounting techniques.

**Semester-II**

**Paper: Paper-III Quantitative Techniques for Business-II**

The students will be able to:

- CO 1: to evaluate nature and degree of association between variables by using various methods of measurement of correlation.
- CO 2: build regression models and estimate regression coefficients.
- CO 3: understand and apply probability theory and theoretical probability distributions in business.
- CO 4: understand and compare various types of probability and non-probability sampling techniques and their selection for drawing sample.

**Paper: Paper-VI Indian Financial System**

The students will be able to:

- CO 1: Understand Indian Financial System, its significance, purpose, organization and components.
- CO 2: Compare and contrast traditional and innovative financial instruments and financial services.
- CO 3: Analyse the process of money creation and working of financial markets.
- CO 4: Elaborate the development of financial institutions and commercial banking.

**Name of Programme: B.Voc. (Banking and Financial Services)**

**Semester-II**

**Paper: BVC-203 Managerial Economics**

The students will be able to:

- CO 1: feature out the basic concepts, nature and scope of managerial economics.
- CO 2: explain fundamental laws of consumption- Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility.
- CO 3: analyse the elasticity of demand, its meaning, types, degrees, methods of measuring, factors determining elasticity of demand and its importance.
- CO 4: distinguish between traditional and modern theory of costs.
- CO 5: compare and contrast different markets structure, their characteristics and short and long run equilibrium.

**Semester-III**

**Paper: BVC-301 Business Statistics**

The students will be able to:

- CO 1: explain the functions, scope and limitations of statistics.
- CO 2: Evaluate various types of averages – Arithmetic Mean (Simple and Weighted), Median and Mode.
- CO 3: solve and build Regression equations.
- CO 4: solve and apply both weighted and unweighted Index Numbers.
- CO 5: Estimate trends using graphical method, semi average method, moving averages method and method of least squares for linear path.
- CO 6: illustrate and solve simple applications of Probability based on addition and multiplication theorem of probability.

#### **Semester–IV**

##### **Paper: BVC-402 Business Environment**

The students will be able to:

- CO 1: analyse the Concept, Importance and Inter relationship between environment and business.
- CO 2: distinguish between different Types of Environment
- CO 3: analyse Nature and impact of culture on business
- CO 4: explore the Economic roles of government.
- CO 5: understand Economic Environment its Nature and components.

#### **Name of Programme: B.Sc. (Bio- Technology)**

#### **Semester- II**

##### **Paper: BT5 Bioinformatics**

Students will be able to:

- CO 1: solve and apply the concept of measures of central tendency.
- CO 2: evaluate dispersion and its co-efficient by applying various methods of dispersion
- CO 3: apply various methods of simple correlation to find relation between two variables.
- CO 4: construct and build regression lines.
- CO 5: understand the basic concepts of probability, addition, multiplication and Bayes theorem and their application.
- CO 6: Create and Evaluate hypotheses for a chi-square test of goodness-of-fit and for a chi-square test for association.

#### **Name of Programme: MA (Economics)**

##### **Program Specific Outcome**

On completion of the programme the students will be able to:

- PSO 1: evaluate working of markets, and take optimal decision-making regarding allocation of resources and markets.
- PSO 2: Identify key macroeconomic indicators and examine their contribution in economics change, growth and development.
- PSO 3: discuss various strategies opted for development of different sectors like agriculture, industry, services, international trade.
- PSO 4: critically assess generation and allocation of finances of government and budgets.
- PSO 5: develop skills related to collection, analysis and interpretation of economic data and evaluate and recommend the policies for economic growth and stability.

#### **Course Outcomes**

##### **Semester-I**

##### **Paper: MAE 101 Micro Economics-I**

Students will be able to:

- CO 1: analyse different economics problems
- CO 2: explain role of assumptions in theory formulation
- CO 3: predict Consumer's behaviour under asymmetric information
- CO 4: examine recent developments in demand analysis (pragmatic approach and linear expenditure systems).

##### **Paper: MAE 102 Macro Economics-I**

The students will be able to:

- CO 1: Examine the concepts of Macroeconomics and National Income aggregates and compare the methods of measurement of national income.
- CO 2: Compare various methods of measurement of national income.

CO 3: Apply the classical and modern principles of Macro Economics in explaining the behaviour of aggregate variables such as consumption, investment, saving, employment and money supply at national.

CO 4: Analyse the circular flow of income and working of social accounting framework.

**Paper: MAE 103 Quantitative Methods for Economists-I**

Students will be able to

CO 1: apply concept of derivatives, maxima minima for solving economic problems related to elasticity of demand, profit maximization, cost minimization, consumer's and producer's equilibrium.

CO 2: determine consumer's surplus and producer's surplus with application of integration.

CO 3: make optimal decision making related to choice and combination of inputs for maximizing profits, revenues and minimizing costs using linear programming techniques.

CO 4: apply the concept of matrices and input output tables to various economic problems.

**Paper: MAEO-11 Computer Applications for Economists**

The students will be able to:

CO 1: explain and identify various types of input and output devices.

CO 2: convert one number system to another number system.

CO 3: construct programs in 'C' language.

CO 4: develop accurate and well-designed documents using MS Word.

**Paper: MAEO-4 Money, Banking and Finance**

The students will be able to:

CO 1: Identify the functions, kinds and role of money in socialistic and capitalistic economy.

CO 2: Analyse the demand and supply of money and the related theories.

CO 3: Examine the structure of banking in India, nationalisation of banks in India and banking sector reforms.

CO 4: Evaluate the financial system, theories of banking, credit creation and monetary policy.

CO 5: Explain the functions of Central Banking with special reference to developing countries.

CO 6: Elaborate the determination of rate of interest, money and capital markets and recent developments.

**Semester-II**

**Paper: MAE-201 Micro Economics-II**

Students will be able to:

CO 1: explain Short run and long run equilibrium of the firm and industry, price and output determination and supply curve under perfect competition.

CO 2: Analyse and distinguish between different forms of markets.

CO 3: state and explain Baumol's sales revenue maximization model.

CO 4: summarize Pareto optimal conditions.

**Paper: MAE 202 Macro Economics-I**

The students will be able to:

CO 1: Apply the classical and modern principles of Macro Economics in explaining the behaviour of aggregate variables such as consumption, investment, saving, employment, prices and money supply at national and global level.

CO 2: Analyse the problem of inflation and its theories and examine its causes and consequences.

CO 3: Assess the recent developments in Macro Economics, their policy implications and evaluate the relative effectiveness of monetary and fiscal policies.

CO 4: Formulate and propose policy recommendations to counter business cycles.

**Paper: MAE-203 Quantitative Methods for Economists-II**

The students will be able to:

CO 1: evaluate nature and degree of association between variables by using various methods of measurement of correlation and its importance in judging economic problems and their solutions.

CO 2: understand, solve and build regression models, trend analysis.

- CO 3: develop understanding and justification for choice of various types of probability and non-probability sampling techniques, and the importance of randomization.
- CO 4: understand and apply probability theory and theoretical probability distributions in economic applications.
- CO5: use sample statistics to test hypothesis regarding population and estimate the population parameters and to make judgments about the population.

**Paper: MAEO-12 Operations Research**

The students will be able to:

- CO 1: formulate operation research models to solve economic problems.
- CO 2: understand and identify various types of queuing models and apply them to solve economic problems.
- CO 3: determine optimum levels of inputs for maximizing profits, output and minimizing losses by applying linear programming models.
- CO 4: solve transportation, game theory and assignment problems

**Paper: MAEO-1 Public Finance**

The students will be able to:

- CO 1: distinguish between public, private and merit goods, and evaluate the role of public finance in development of economy.
- CO 2: analyse advantages and disadvantages of various sources of public revenue and classify taxation and discuss incidence, impact, and effects of taxation.
- CO 3: critically examine causes of growth of public expenditure and its effect on economic growth, distribution and stability.
- CO 4: critically evaluate the need, role, burden and management of public debt.
- CO 5: identify different types of budget and evaluate budgetary position of economy
- CO 6: critically examine the monetary and fiscal policy; centre state financial resources in Indian economy and resource transfer from union to state.

**Name of Programme: M.Com.**

**Semester-I**

**Paper: MC-101 Managerial Economics**

The students will be able to:

- CO 1: understand and determine consumers 'equilibrium through cardinal or ordinal utility analysis .
- CO 2: analyse and evaluate equilibrium of producers under different markets conditions.
- CO 3: identify various market structures and discuss their implications for resource allocation
- CO 4: evaluate various factors responsible for rise in consumption, national income and apply different methods of measurement of national income in various sectors.
- CO 5: identify causes of inflation and policy measures needed to curb it.

**Paper: MC-102 Statistical Analysis for Business**

Students will be able to:

- CO 1: understand and analyse process of collection data, and their sources.
- CO 2: develop understanding and justification for choice of various types of probability and non-probability sampling techniques, and the importance of randomization.
- CO 3: understand and apply probability theory and theoretical probability distributions in business and research.
- CO 4: design questionnaire, conduct pilot survey and pre testing of questionnaire.
- CO 5: use sample statistics to test the hypothesis regarding population and estimate the population parameters and to make judgments about the population especially in business context.
- CO 6: select appropriate statistical techniques for summarizing, displaying, comparing, analyzing and interpreting business data.

## **Semester-II**

### **Paper: MC-203 Research Methodology**

Students will be able to:

- CO 1: critically assess, select and design appropriate research problem, research design and research process to achieve research objective.
- CO 2: assess critically various methods like literature study, case study, structured surveys, in-depth interviews, focus group interviews.
- CO 3: compare, evaluate and design various types of measurement and scaling techniques.
- CO 4: analyse and apply the process of collection, screening, transformation and analysis of data in research.
- CO 5: calculate, present, and discuss descriptive and inferential statistics.
- CO 6: understand, evaluate, apply and test multivariate analysis techniques such as regression analysis, factor analysis, discriminant and logistic analysis.

**Name of the Programme: M.Sc. FD**

## **Semester-III**

### **Paper: Research Methodology**

The students will be able to:

- CO 1: identify the objectives, types of research and review of literature.
- CO 2: compare the research designs, sampling designs, measurement and scaling techniques.
- CO 3: evaluate the techniques of data collection, processing and analysis and interpret the results.
- CO 4: formulate a research problem, design research hypotheses, plan the layout of research project and conduct the test of significance.

**Name of the Programme: PGDFS**

## **Semester-II**

### **Paper: Financial Service-1**

The students will be able to:

- CO 1: explain leasing process and its evaluation.
- CO 2: know about merchant banking and compare its various types and their benefits.
- CO 3: describe different policies and schemes about different bank accounts and their working.
- CO 4: evaluate services of registrar and transfer agents, about the credit card for credit card facilities, depository act and some knowledge of mutual funds.

**Department of History**  
**Name of the Programme – Bachelor of Arts**

**Course Outcomes**

**BA Semester I**

**Paper: Ancient Indian History 320B.C-1000A.D**

- CO 6: The students will be able to illustrate the development of an Empire
- CO 5: Reviewing Ancient Indian civilisation in light of other ancient cultures.
- CO 4: Mind Mapping different cultures, architectural styles and literary writings.
- CO 3: How, when and where people first developed cultures, in terms of evolution, how they evolved from a primitive to a civilised man
- CO 2: Understand the various aspects of Ancient Indian History in terms of society, cultural ,political relations and trade.
- CO 1: The students will highlight the various aspects of Ancient Indian History from the Indus Valley Civilisation to the Vardhanas.

**BA Semester II**

**Paper: Medieval Indian History 1000-1707A.D**

- CO 6: Formulating contribution of various dynasties towards medieval Indian culture.
- CO 5: How early medieval period witnessed wars among the regional kingdoms from North to South and late medieval period saw number of invasions by Mughals, Afghans and Turks.
- CO 4: Analysing various administrative , cultural and literary aspects of Medieval India
- CO 3: The student will be able to illustrate their knowledge in understanding the transition of European traders who by the end of 15th century will a formidable political force.
- CO 2: Understanding the emergence of various dynasties, their administration and final decline.
- CO 1: The student will be able to reproduce the basics of the medieval Indian history

**BA Semester III**

**Paper: Modern Indian History 1707-1947A.D**

- CO 6: The students will be able to formulate political fabric of India around 18th century
- CO 5: Appraise the beginning of the freedom struggle and the saga of partition.
- CO 4: Analyse how British transformed the economic, political and social fabric of India. Was this transformation through acts or otherwise
- CO 3: Discover the emergence of socialist and communist movements in India
- CO 2: Contrast the political ,social , economic features of Delhi Sultanate and Mughal Dynasties
- CO 1: Explain the theatrical part of the Medieval History

**BA Semester IV**

**Paper: History of Punjab 1469-1799A.D**

- CO 6: Building the important pillars of Sikhism and its reason behind being the fifth largest religion of the world.
- CO 5: Appraise the role of Gurus towards the development of Sikhism.
- CO 4: Co-relate the political conditions of Punjab with those of other kingdoms with respect to Dal Khalsa and Misl.
- CO 3: Articulate the role played by Banda Singh Bahadur and other Sikh Generals in the Sikh History.
- CO 2: Describe the advent of Sikhism in Punjab and contribution of 10 Gurus towards the development of Sikh Panth.
- CO 1: Highlighting the early life and contribution of the 10 Guru's towards the development of Sikh Panth.

**BA Semester V**

**Paper: History of the World 1500-the present times**

- CO 6: The students will be able to illustrate the most comprehensive and broadest approach to the question of who we are as both individual and members of the group.
- CO 5: The Student will critically analyse the genesis and consequences of two World Wars which shaped the consequent international relations.
- CO 4: Mind Mapping different cultures, architectural styles and literary writings in modern Europe, China, USSR and America.
- CO 3: The student will be able to assess the causes and impact of major revolutions of the world.
- CO 2: Understand how renaissance and reformation shaped the world in coming centuries.
- CO 1: The students will highlight the emergence of Renaissance and Reformation .

## **BA Semester VI**

### **Paper: History of Punjab 1799-1947 A.D**

- CO 6: Formulating a deep understanding of the saga of partition of Punjab in 1947 and further division of Punjab on linguistic basis in 1966 A.D
- CO 5: Contrasting the emergence and contribution of Socio-reform movements in Punjab.
- CO 4: Analysing various political, administrative , cultural and literary aspects of Punjab from 1799-1966 A.D
- CO 3: The student will be able to illustrate their knowledge in understanding the Anglo-Sikh relations in the 17th century..
- CO 2: Understanding the administration in Punjab during the 17th century
- CO 1: The student will be able to reproduce the early life of Ranjit Singh, along with his conquests and the Misl policy

### **Name of Programm: BA/Bsc/Bcom**

#### **Semester I**

##### **Paper: Punjab History & Culture From the earliest times to C 320 BC**

- CO 6: To construct the political, social, economic and cultural history of Punjab from earliest times to C 320
- CO 5: Evaluating the emergence of two great religions in ancient Punjab i.e. Jainism and Buddhism.
- CO 4: Comparative analyses of Early and Later Vedic period.
- CO 3: Articulating the various dimensions of Harappan Civilisation and its importance in terms of Punjab.
- CO 2: Understanding the Impact of physical features of Punjab on its History
- CO 1: Outlining the Physical features of Pre Partition Punjab .

#### **Semester II**

##### **Paper Punjab History & Culture C320-1000 A.D**

- CO 6: Building up the overall political, social, economic and religious scenario in Punjab from 7th century to 1000 A.D .
- CO 5: Reflecting on socio-cultural history of Punjab from 7th to 1000 A.D
- CO 4: Integrating the development of art and architecture with reference to major dynasties and kingdoms in Ancient Punjab
- CO 3: Examining the development of language and education with reference to Taxila.
- CO 2: Summarising the contribution of Mauryas, Kushans, Guptas and Vardhanas towards the political and administrative development of Punjab
- CO 1: Identifying the role of various dynasties in the history of Ancient Punjab

#### **Semester III**

##### **Paper: Punjab History & culture 1000-1605 A.D**

- CO 6: The students will be able to formulate political, social, religious and cultural fabric of Punjab around 17th century
- CO 5: Appraise the emergence and development of Bhakti and Sufi Movements in Medieval Punjab.
- CO 4: Analyse the role of Guru Nanak Dev as the founder of Sikhism and Guru Arjun Dev as a prelude to transformation in Sikhism.
- CO 3: Assess the life and contribution of Guru Angad Dev, Guru Amar Das and Guru Ram Das towards the development of Sikh Panth.
- CO 2: Understand the role played by Guru Arjun Dev towards the development of Sikh Panth in reference to establishment of various towns, Adi-Granth Sahib and his martyrdom .
- CO 1: Explain the society and culture of Punjab during the Turko-Afghan rule.

#### **Semester IV**

##### **Paper: Punjab History & Culture 1605-1849 A.D**

- CO 6: Collaborating the important aspects of history of Punjab, building the overall understanding of art and Architecture , Fair , Festivals and Folk music in Punjab during the medieval period.
- CO 5: Reflecting on Art and Architecture during the 18th Century.
- CO 4: Mind Mapping the emergence and organisation of Misls in Punjab.
- CO 3: Articulate the role played by Banda Singh Bahadur and other Sikh Generals in the Sikh History
- CO 2: Examining the circumstances behind the creation of Khalsa.
- CO 1: Highlighting the contribution of Gurus, from Guru Hargobind to Guru Gobind Singh towards the development of Sikh Panth.

## **Semester V**

### **Paper: Punjab History & culture 1849-1947A.D**

- CO 6: The students will be able to illustrate the most comprehensive and broadest political, social and religious dimensions to the history of Punjab.
- CO 5: The Student will critically analyse the genesis of the freedom struggle in Punjab with special reference to Jallianwala Bagh Tragedy , Civil Disobedience movement, HSRA and Quit India Movement.
- CO 4: Mind Mapping Gurudwara Reform Movement .
- CO 3: The student will be able to assess the emergence of socio-religious reform movements with reference to Namdhari and Nirankari movement.
- CO 2: Understand how Anglo Sikh wars transformed the political and administrative fabric of Punjab
- CO 1: The students will highlight the annexation of Punjab by the British.

## **Semester VI**

### **Paper: Punjab History & culture 1947-2000A.D**

- CO 6: Collaborating the various facets of history of Punjab, to analyse the political, social economic and cultural dimensions of this prosperous province.
- CO 5: Reflecting on the Punjabi Diaspora and economic growth in Punjab after the Green Revolution..
- CO 4: Integrating the major concerns of Drug addiction and female foeticide.
- CO 3: Examining the development of Education in Punjab after 1947.
- CO 2: Summarising the various stages of formation of Punjabi Suba in 1966.
- CO 1: Identifying the causes and circumstances which culminated in Partition of Punjab.

### **Name of the Programme: Bachelor of Physical Education**

#### **BPES Part I (Annual)**

##### **Paper: Paper on Social Sciences**

- CO 6: Building the critical and analytical thinking while understanding Social Sciences. Using these tools to arrive at any decision in real life as well. To top it up , building skills to clear any competitive exam after opting for sports.
- CO 5: Mind Mapping the regional division of India.
- CO 4: Analysing the Physical features of the India and its main geographical divisions.
- CO 3: Applying the critical thinking tool to examine the nature and scope of social sciences.
- CO 2: Understand the National freedom struggle from 1857-1947.
- CO 1: Outlining the conquests and administration of Ranjit Singh.

#### **BPES Part 1(Annual)**

##### **Paper :Punjab History & Culture**

- CO 6: Formulating contribution of various dynasties towards rich Punjabi Culture.
- CO 5: Evaluate the development of Art and Architecture in light of the political development in ancient Punjab
- CO 4: Analysing the political condition of Ancient Punjab and subsequent Alexander's invasion and the advent of foreigners in Punjab.
- CO 3: The student will be able to illustrate their knowledge in understanding the emergence new religions along with the development of education and literature in Punjab up to 1000 A.D
- CO 2: Understanding the emergence of various dynasties, their administration and final decline
- CO 1: The student will be able to reproduce the major dynasties/kingdoms in ancient Punjab and outlining the Physical features of Pre Partition Punjab .

#### **BPES Part II (Annual)**

##### **Paper: Punjab History & Culture**

- CO 6: The students will be able to formulate political and social fabric of Punjab around 18th century through the study of fairs, festivals, folk music, dance and games in the Punjab.
- CO 5: Appraise the development of Punjabi Language and Literature, Classical Writings and Famous legends of the Punjab.
- CO 4: Analyse how British took over Punjab through the detailed study of Anglo-Sikh wars. Also divulge into the inner most details of the administration under the British.
- CO 3: Sketching the role of Banda Singh Bahadur in establishing sovereignty in Punjab.
- CO 2: Understand the contribution of 10 Gurus towards the development of Sikh Panth.
- CO 1: Explain the advent of Turko-Afghans and Mughals in Punjab during the Medieval times.

**BPES Part III (Annual )**

**Paper: Punjab History & Culture**

- CO 6: Building the important pillars of what led to the Partition of Punjab.
- CO 5: Appraise the spread of modern education.
- CO 4: Analyse the achievements of the revolutionaries of Punjab towards the Freedom Struggle.
- CO 3: Articulate Gurudwara Reform Movement and its subsequent impact on the political fabric of Punjab.
- CO 2: Describe the socio reform movements of Punjab and its achievements.
- CO 1: Highlighting the role played by British in the administration of Punjab and their policy towards Agriculture, Industry, trade and Commerce.

**Post Graduate Department of Political Science**  
**Name of Programme: B.A. (Bachelor of Arts)**

**Course Outcomes**

**Semester-I**

**Paper: Principles of Political Science**

- CO 1: To acknowledge the modern and traditional viewpoint of normative and realistic approach
- CO 2: To build the relationship of Political Science with other subject like Economics, History, Sociology and Psychology
- CO 3: To discuss the social contract theory Hobbes, Locke and Rousseau and evolutionary theory and liberal, Marxian, and Gandhian views of state.
- CO 4: To gain knowledge of Welfare State: Concept and Functions of Welfare State.
- CO 5: To analyse electorates and electoral Systems.

**Semester-II**

**Paper: Modern political theory**

- CO 1: To build understanding of the political system: its meaning, characteristics and Functions, political culture characteristics and its types, political socializations different agencies.
- CO 2: To recognize the rights and duties
- CO 3: To examine the environmental Protection: issue and efforts made at national and international level to protect environment
- CO 4: To identify the concepts of liberty, justice, equality, and democracy

**Semester-III**

**Paper: Indian constitution**

- CO 1: To build understanding the making of constitution
- CO 2: To identify the rights and duties
- CO 3: To examine Indian federalism through Centre-state relations
- CO 4: To evaluate the structures of government at the State level and National Level
- CO 5: To pursue detailed study of High Court and Supreme Court in India.

**Semester-IV**

**Paper: Indian Political System**

- CO 1: To examine the role of Political parties in Indian Democracy.
- CO 2: To evaluate the Election Commission and electoral process in India.
- CO 3: To research the process of interaction between society and politics in contemporary India- Caste, tribe, and religion.
- CO 4: To create awareness about sociopolitical structure of India.
- CO 5: To evaluate India's foreign policy and make analytical study of relevance of India's Non-alignment Policy.

**Semester-V**

**Paper: Comparative Political Systems (UK & USA)**

- CO 1: To apply the methodology of comparative analysis within the discipline of political science.
- CO 2: To analyse the Contemporary problems in the countries under consideration in light of the conceptual frameworks presented in class.
- CO 3: To evaluate and complete an analysis of the institutions, political behavior and political ideas of another country comparing these attributes to the U.S and U.K model.
- CO 4: To build the comparison between the Political Systems of UK, USA and India.

**Semester-VI**

**Paper: International Politics: Theory and Practice**

- CO 1: To analyse the key historical events which shaped the international system in the 20th century.
- CO 2: To build the concepts of basic structures of the contemporary international system; and the key actors, institutions, and their functions.
- CO 3: To categorize the role of individual and cultural values and perceptions, and the importance of empirical evidence in analyzing international problems.
- CO 4: To conclude the role of International and regional organizations, economic groups in current pandemic phase.

**Name of Programme: B.A. with Honors**

**Semester-III**

**Paper: Public Administration**

- CO 1: To recognize the scope of public administration and Utility, difference between public and private administration.
- CO 2: To develop the theory of Hierarchy; unity of command, coordination and delegated legislation, concept of Good Governance in political system of India.
- CO 3: To discuss the function of civil services: recruitment and training and their role in nation building
- CO 4: To analyse the passing budget process and sound budgetary system in Indian parliamentary control

**Semester-IV**

**Paper: Indian Foreign Policy**

- CO 1: To explain Determinants-internal, historical physical setting, economic and ideological and basic principles of Indian foreign policy.
- CO 2: To develop India's approach towards its neighbouring countries-Sri Lanka, Bangladesh, Nepal and Pakistan and Major Powers: US, China
- CO 3: To analyse India's Approach towards the Restructuring of the UN power and understand India's Nuclear Policy.
- CO 4: To analyse the relevance of India's Non-alignment Policy.

**Semester-V**

**Paper: Indian Political Thinkers**

- CO 1: To appreciate the views of Indian Political Thinkers about ideal state,
- CO 2: To analyse satyagraha, non-violence, views on untouchability and social justices, total revolution, and philosophy of radical humanism.
- CO 3: To apply the views of these thinkers in Political System of India.
- CO 4: To compare different views of different Indian Political Thinkers and make a comparison.

**Semester-VI**

**Paper I: Western Thinkers**

- CO 1: To realize the basic Concepts of Political Thought which addresses the enduring political theories and questions of political life and value.
- CO 2: To develop the concept of western political thought. How the thinkers Plato, T.H. Green and JS Mill concluded king, society, and state.
- CO 3: To analyse the thinking of the western thinkers about the state and religion and how they are separated from each other.

## **Name of Programme: M.A. Political Science**

### **Programme Outcomes**

- PO 1: The Masters of Arts programme provides the candidates with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, or public administration.
- PO 2: The students will acquire knowledge and understanding in their specific field of study as well as into current research and development work.
- PO 3: They will be able to demonstrate the ability to identify issues critically and to plan the assigned tasks accordingly.
- PO 4: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO 5: The programme (including English, Punjabi, Hindi and Political Science) combines theoretical teaching with logical tools and theories, through group work, seminars and workshops. This includes exercises in which participants co-develop and verify practical solutions to real-world issues.

### **Programme Specific Outcomes**

- PSO 1: Understanding the nature and developments in national and international politics.
- PSO 2: Analysing the Indian constitutional provisions, major legislations and reforms.
- PSO 3: Evaluation of Indian society in terms of social, economic and political aspects
- PSO 4: Imparting knowledge of Indian and Western political thinkers.
- PSO 5: Encouraging comparative understanding of specific world constitutions such as UK, USA, China and France.
- PSO 6: Developing knowledge of administrative studies with special reference to Indian administrative structures and practices.
- PSO 7: Examining India's foreign relations with neighbours and great powers.
- PSO 8: Comparative study of international and regional organisations like UNO, SAARC, EU, OPIC etc.

### **Course Outcomes**

#### **Semester-I**

##### **Paper I: Western Political Thought-I**

- CO 1: To acquire knowledge Social and Economic Conditions of Greek City States, theory of Justice Communism, Education, and theory of Philosopher King by Plato.
- CO 2: To analyse Machiavelli: Separation of Ethics from Politics statecraft and Hobbes views on human nature and State of Nature
- CO 3: To discuss Locke theory state of nature, Natural Rights possessive individualism and Social Contract theory
- CO 4: To evaluate Rousseau: human nature and state of nature and social contract theory of General Will

##### **Paper II: International Politics**

- CO 1: To explain the scope and subject matter of International Relations as an autonomous academic discipline. Studying the role of Diplomacy, Propaganda and Military capabilities in the making of foreign policy.
- CO 2: To develop basic concepts like Globalization in contemporary world order. The Cold War phases and understanding the post-Cold War era. Discussing the developments in European Ethno-nationalism since 1990's.
- CO 3: To examine relationship of North and South Countries and their issues.
- CO 4: To define regional groups of International Politics.

##### **Paper III: Indian Political System**

- CO 1: To classify and outline the basic values and philosophy of Indian Constitution as expressed in the Preamble.
- CO 2: To study application of Fundamental rights, duties and Directive Principles of State Policy, Judicial Activism.
- CO 3: To analyse and evaluate the structures of government at the National level and State

level.

CO 4: To explain the Centre & State Relations

**Paper IV: Principles of Public Administration**

CO 1: To build knowledge and examine Significance of Public Administration and Ecology of Public Administration, New Public Administration

CO 2: To analyse the theory of Scientific Management (Taylor), Bureaucratic Theory of Organization (Weber), Human, Relations (Elton Mayo). Herbert Simon's Decision-Making Approach

CO 3: To gain knowledge about Principles of hierarchy, Unity of Command, Span of Control, Delegation, and recruitment

CO 4: To examine The Concept of Budget and Performance Budgeting and functions of Lok Pal and LokAyukta

**Paper V: Political Sociology**

CO 1: To evaluate concepts of Power, Authority and Legitimacy in the context of society

CO 2: To examine the meaning, nature, and scope of Political Sociology.

CO 3: To pursue comparative study of Political Science, Sociology and Political Sociology

CO 4: To discuss the various approaches to the study of Political Culture and evaluate the different agents of Political Socialization and their interrelationships.

CO 5: To evaluate the concept of Political Development and Social Change-Role of Tradition and Modernity

**Semester-II**

**Paper VI: Western Political Thought-II**

CO 1: To examine Bentham theory of utilitarianism

CO 2: To evaluate John Stuart Mill's theory on Liberty and working system of representative government

CO 3: To analyse Hegel's theory of Dialectical and historical materialism

CO 4: To gain knowledge and analyse The Marx Dialectical and Historical Materialism, Class Struggle, and theory of surplus value

**Paper VII: Modern Political Analysis**

CO 1: To analyse what is Modern Political Analysis and explain the approach to the Study of Politics– Normative, Behavioural, Post Behavioural and System.

CO 2: To assess empirical Modern Political Theory: System's Analysis, Structural Functionalism.

CO 3: Evaluate the Dialectical Materialism and Historical Materialism with special reference to relationship between base and superstructure

CO 4: Analyse the Political Development and Modernization.

**Paper VIII: Comparative Political Systems: UK, USA, and France**

CO 1: To develop the theory and the methodology of comparative analysis within the discipline of political science.

CO 2: To analyse Contemporary problems in the countries under consideration in light of the conceptual frameworks presented in class.

CO 3: To evaluate The institutions, political behaviour and political ideas of different countries.

CO 4: To create a difference among the different political systems of the world and make a comparison among them.

**Paper IX: Issues and Trends in Indian Politics**

CO 1: To explain the different theories from the point of view of Indian Political perspective.

CO 2: To build the process of interaction between society and politics in contemporary India- Caste, tribe, and religion.

CO 3: To examine coalition government in detail and analyse Dalit politics.

CO 4: To evaluate Socio-economic system conditioning Indian Democracy

**Paper X: Public Policy**

CO 1: To build knowledge and examine the Features of public policy and five types of public policy (Substantive, Regulatory, Distributive and Re-distributive policies)

CO 2: To explain the policy analysis and policy making in India, evaluate different methods

- and techniques to policy analysis
- CO 3: To study three types of Model Lindblom's incremental, Herbert Simon decision making and Dror Normative optimum model
- CO 4: To analyse the role of executive, legislature, judiciary, political parties, pressure groups, mass media and social movements
- CO 5: To apply the type different conditions for successful implementation of the policy

### **Semester-III**

#### **Paper XI: Politics of International Economic Relations**

- CO 1: To comprehend patterns of interaction and change at the global level.
- CO 2: To evaluate both international politics and economics in an integrated manner.
- CO 3: To analyse the economic issues of trade, finance, production, and development, but not from the perspective of economic theory. Instead, learner will engage with the International Relations concepts, ideas and literatures on the economic relations among states, and between states and non-state actors (such as firms, societal groups and international organizations).
- CO 4: To examine the political problems that arise as a consequence of the increasing density of international economic relations.
- CO 5: To gain knowledge of economics through the course. This is not a requirement though.

#### **Paper XII: Foreign Policy of India**

- CO 1: To analyse the determinants and basic principles of Indian foreign policy.
- CO 2: To compare India's approach towards its neighbouring countries-Sri Lanka, Bangladesh, Nepal and Pakistan and Major Powers: US, China
- CO 3: To formulate India's Approach towards the Restructuring of the UN power.
- CO 4: To comprehend India's Nuclear Policy.

#### **Paper XIII: International Law**

- CO 1: To identify and undertake comparative study of International law and municipal law
- CO 2: To address traditional —public law topics, such as the actions of states and interstate organizations, so-called private international law (dealing with the regulation of persons or property), or modern regimes that blur such distinctions, such as courses on global governance or the World Trade Organization.
- CO 3: To evaluate International law relating to war and peace.
- CO 4: To analyse and evaluate International treaties and International law.

#### **Paper XIV: International Organization**

- CO 1: To assimilate a thorough knowledge of the core literature on international organizations
- CO 2: To gain detailed knowledge of United Nations
- CO 3: To examine information regarding United Nations Declaration on Human Rights
- CO 4: To engage with this literature critically by developing their own argumentation
- CO 5: To analyse the main theoretical approaches and empirical issues in the study of international organizations

#### **Paper XV: Human Rights**

- CO 1: To build human rights as an object of study Social Sciences, as well as a practical reality in national and international politics.
- CO 2: To categorize Human rights as a branch of public international law, and relevant juridical mechanisms at global as well as regional levels,
- CO 3: To judge different ways of promoting and implementing human rights, domestically as well as on the international level.
- CO 4: To define the role of human rights in contemporary issues relating to terrorism, religion, ethnicity, gender, and development

### **Semester-IV**

#### **Paper XVI: Recent Political Theory**

- CO 1: To explain the origin and decline of Political theory.
- CO 2: To analyse Gramsci and Max Webber viewpoints of state, civil society, and hegemony
- CO 3: To explain the different theories of democracy
- CO 4: To assess the concepts of positivism, neo-positivism, modernism, post-modernism, libertarianism

CO 5: To examine the theories of state and its legislation

**Paper XVII: Indian Political Thought**

CO 1: To compare Indian Political Thought which addresses the enduring political theories and questions of political life and values.

CO 2: To help students to derive conclusions on the philosophy of different Political Thinkers.

CO 3: To adapt the Philosophy of Indian Political Thinkers in her practical life.

**Paper XVIII Government and Politics in Punjab**

CO 1: To discuss the Singh Sabha Movement in Punjab, AryaSamaj, Movement, Ghadhar Movement and Praja- Mandal Movement and to analyse the AkaliMorcha in Punjab

CO 2: To explain Role of coalition politics in Punjab

CO 3: To examine the Sarkaria Commission in centre state relations

CO 4: To ascertain the Impact of Green Revolution in Punjab socio politics system

CO 5: To evaluate the dynamics party system in Punjab: Akali Dal, Congress-I, BJP and its emerging trends in Punjab Politics

**Paper XIX: Research Methods in Social Science**

CO 1: To gain knowledge and examine role of scientific methods in social sciences

CO 2: To analyse the concepts of hypothesis

CO 3: To examine selection and formulation of the research problem, research design and sampling and sampling techniques

CO 4: To discuss about different methods like: survey, questionnaire, interview, observation and document analysis.

CO 5: To evaluate the various dimensions of research: data analysis, data interpretation and report writing

**Paper XX: Politics in South Asia**

CO 1: To examine Colonial and, especially, the postcolonial history, institutions, and political processes of South Asian Countries.

CO 2: To compare Specific institutions, events, and actors involved in the politics, political economy, and political sociology of South Asian Countries.

CO 3: To formulate a critical understanding of specific debates regarding patterns of political, economic, social, and cultural change in South Asia countries, as well as an ability to test the ideas that lie behind these debates with empirical data.

**Post Graduate Department of Political Science**  
**Name of Programme: B.A. (Bachelor of Arts)**

**Course Outcomes**

**Semester-I**

**Paper: Principles of Political Science**

- CO 1: To acknowledge the modern and traditional viewpoint of normative and realistic approach
- CO 2: To build the relationship of Political Science with other subject like Economics, History, Sociology and Psychology
- CO 3: To discuss the social contract theory Hobbes, Locke and Rousseau and evolutionary theory and liberal, Marxian, and Gandhian views of state.
- CO 4: To gain knowledge of Welfare State: Concept and Functions of Welfare State.
- CO 5: To analyse electorates and electoral Systems.

**Semester-II**

**Paper: Modern political theory**

- CO 1: To build understanding of the political system: its meaning, characteristics and Functions, political culture characteristics and its types, political socializations different agencies.
- CO 2: To recognize the rights and duties
- CO 3: To examine the environmental Protection: issue and efforts made at national and international level to protect environment
- CO 4: To identify the concepts of liberty, justice, equality, and democracy

**Semester-III**

**Paper: Indian constitution**

- CO 1: To build understanding the making of constitution
- CO 2: To identify the rights and duties
- CO 3: To examine Indian federalism through Centre-state relations
- CO 4: To evaluate the structures of government at the State level and National Level
- CO 5: To pursue detailed study of High Court and Supreme Court in India.

**Semester-IV**

**Paper: Indian Political System**

- CO 1: To examine the role of Political parties in Indian Democracy.
- CO 2: To evaluate the Election Commission and electoral process in India.
- CO 3: To research the process of interaction between society and politics in contemporary India- Caste, tribe, and religion.
- CO 4: To create awareness about sociopolitical structure of India.
- CO 5: To evaluate India's foreign policy and make analytical study of relevance of India's Non-alignment Policy.

**Semester-V**

**Paper: Comparative Political Systems (UK & USA)**

- CO 1: To apply the methodology of comparative analysis within the discipline of political science.
- CO 2: To analyse the Contemporary problems in the countries under consideration in light of the conceptual frameworks presented in class.
- CO 3: To evaluate and complete an analysis of the institutions, political behavior and political ideas of another country comparing these attributes to the U.S and U.K model.
- CO 4: To build the comparison between the Political Systems of UK, USA and India.

**Semester-VI**

**Paper: International Politics: Theory and Practice**

- CO 1: To analyse the key historical events which shaped the international system in the 20th century.
- CO 2: To build the concepts of basic structures of the contemporary international system; and the key actors, institutions, and their functions.
- CO 3: To categorize the role of individual and cultural values and perceptions, and the importance of empirical evidence in analyzing international problems.
- CO 4: To conclude the role of International and regional organizations, economic groups in current pandemic phase.

**Name of Programme: B.A. with Honors**

**Semester-III**

**Paper: Public Administration**

- CO 1: To recognize the scope of public administration and Utility, difference between public and private administration.
- CO 2: To develop the theory of Hierarchy; unity of command, coordination and delegated legislation, concept of Good Governance in political system of India.
- CO 3: To discuss the function of civil services: recruitment and training and their role in nation building
- CO 4: To analyse the passing budget process and sound budgetary system in Indian parliamentary control

**Semester-IV**

**Paper: Indian Foreign Policy**

- CO 1: To explain Determinants-internal, historical physical setting, economic and ideological and basic principles of Indian foreign policy.
- CO 2: To develop India's approach towards its neighbouring countries-Sri Lanka, Bangladesh, Nepal and Pakistan and Major Powers: US, China
- CO 3: To analyse India's Approach towards the Restructuring of the UN power and understand India's Nuclear Policy.
- CO 4: To analyse the relevance of India's Non-alignment Policy.

**Semester-V**

**Paper: Indian Political Thinkers**

- CO 1: To appreciate the views of Indian Political Thinkers about ideal state,
- CO 2: To analyse satyagraha, non-violence, views on untouchability and social justices, total revolution, and philosophy of radical humanism.
- CO 3: To apply the views of these thinkers in Political System of India.
- CO 4: To compare different views of different Indian Political Thinkers and make a comparison.

**Semester-VI**

**Paper I: Western Thinkers**

- CO 1: To realize the basic Concepts of Political Thought which addresses the enduring political theories and questions of political life and value.
- CO 2: To develop the concept of western political thought. How the thinkers Plato, T.H. Green and JS Mill concluded king, society, and state.
- CO 3: To analyse the thinking of the western thinkers about the state and religion and how they are separated from each other.

## **Name of Programme: M.A. Political Science**

### **Programme Outcomes**

- PO 1: The Masters of Arts programme provides the candidates with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, or public administration.
- PO 2: The students will acquire knowledge and understanding in their specific field of study as well as into current research and development work.
- PO 3: They will be able to demonstrate the ability to identify issues critically and to plan the assigned tasks accordingly.
- PO 4: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO 5: The programme (including English, Punjabi, Hindi and Political Science) combines theoretical teaching with logical tools and theories, through group work, seminars and workshops. This includes exercises in which participants co-develop and verify practical solutions to real-world issues.

### **Programme Specific Outcomes**

- PSO 1: Understanding the nature and developments in national and international politics.
- PSO 2: Analysing the Indian constitutional provisions, major legislations and reforms.
- PSO 3: Evaluation of Indian society in terms of social, economic and political aspects
- PSO 4: Imparting knowledge of Indian and Western political thinkers.
- PSO 5: Encouraging comparative understanding of specific world constitutions such as UK, USA, China and France.
- PSO 6: Developing knowledge of administrative studies with special reference to Indian administrative structures and practices.
- PSO 7: Examining India's foreign relations with neighbours and great powers.
- PSO 8: Comparative study of international and regional organisations like UNO, SAARC, EU, OPIC etc.

### **Course Outcomes**

#### **Semester-I**

##### **Paper I: Western Political Thought-I**

- CO 1: To acquire knowledge Social and Economic Conditions of Greek City States, theory of Justice Communism, Education, and theory of Philosopher King by Plato.
- CO 2: To analyse Machiavelli: Separation of Ethics from Politics statecraft and Hobbes views on human nature and State of Nature
- CO 3: To discuss Locke theory state of nature, Natural Rights possessive individualism and Social Contract theory
- CO 4: To evaluate Rousseau: human nature and state of nature and social contract theory of General Will

##### **Paper II: International Politics**

- CO 1: To explain the scope and subject matter of International Relations as an autonomous academic discipline. Studying the role of Diplomacy, Propaganda and Military capabilities in the making of foreign policy.
- CO 2: To develop basic concepts like Globalization in contemporary world order. The Cold War phases and understanding the post-Cold War era. Discussing the developments in European Ethno-nationalism since 1990's.
- CO 3: To examine relationship of North and South Countries and their issues.
- CO 4: To define regional groups of International Politics.

##### **Paper III: Indian Political System**

- CO 1: To classify and outline the basic values and philosophy of Indian Constitution as expressed in the Preamble.
- CO 2: To study application of Fundamental rights, duties and Directive Principles of State Policy, Judicial Activism.
- CO 3: To analyse and evaluate the structures of government at the National level and State

level.

CO 4: To explain the Centre & State Relations

**Paper IV: Principles of Public Administration**

CO 1: To build knowledge and examine Significance of Public Administration and Ecology of Public Administration, New Public Administration

CO 2: To analyse the theory of Scientific Management (Taylor), Bureaucratic Theory of Organization (Weber), Human, Relations (Elton Mayo). Herbert Simon's Decision-Making Approach

CO 3: To gain knowledge about Principles of hierarchy, Unity of Command, Span of Control, Delegation, and recruitment

CO 4: To examine The Concept of Budget and Performance Budgeting and functions of Lok Pal and LokAyukta

**Paper V: Political Sociology**

CO 1: To evaluate concepts of Power, Authority and Legitimacy in the context of society

CO 2: To examine the meaning, nature, and scope of Political Sociology.

CO 3: To pursue comparative study of Political Science, Sociology and Political Sociology

CO 4: To discuss the various approaches to the study of Political Culture and evaluate the different agents of Political Socialization and their interrelationships.

CO 5: To evaluate the concept of Political Development and Social Change-Role of Tradition and Modernity

**Semester-II**

**Paper VI: Western Political Thought-II**

CO 1: To examine Bentham theory of utilitarianism

CO 2: To evaluate John Stuart Mill's theory on Liberty and working system of representative government

CO 3: To analyse Hegel's theory of Dialectical and historical materialism

CO 4: To gain knowledge and analyse The Marx Dialectical and Historical Materialism, Class Struggle, and theory of surplus value

**Paper VII: Modern Political Analysis**

CO 1: To analyse what is Modern Political Analysis and explain the approach to the Study of Politics– Normative, Behavioural, Post Behavioural and System.

CO 2: To assess empirical Modern Political Theory: System's Analysis, Structural Functionalism.

CO 3: Evaluate the Dialectical Materialism and Historical Materialism with special reference to relationship between base and superstructure

CO 4: Analyse the Political Development and Modernization.

**Paper VIII: Comparative Political Systems: UK, USA, and France**

CO 1: To develop the theory and the methodology of comparative analysis within the discipline of political science.

CO 2: To analyse Contemporary problems in the countries under consideration in light of the conceptual frameworks presented in class.

CO 3: To evaluate The institutions, political behaviour and political ideas of different countries.

CO 4: To create a difference among the different political systems of the world and make a comparison among them.

**Paper IX: Issues and Trends in Indian Politics**

CO 1: To explain the different theories from the point of view of Indian Political perspective.

CO 2: To build the process of interaction between society and politics in contemporary India- Caste, tribe, and religion.

CO 3: To examine coalition government in detail and analyse Dalit politics.

CO 4: To evaluate Socio-economic system conditioning Indian Democracy

**Paper X: Public Policy**

CO 1: To build knowledge and examine the Features of public policy and five types of public policy (Substantive, Regulatory, Distributive and Re-distributive policies)

CO 2: To explain the policy analysis and policy making in India, evaluate different methods

- and techniques to policy analysis
- CO 3: To study three types of Model Lindblom's incremental, Herbert Simon decision making and Dror Normative optimum model
- CO 4: To analyse the role of executive, legislature, judiciary, political parties, pressure groups, mass media and social movements
- CO 5: To apply the type different conditions for successful implementation of the policy

### **Semester-III**

#### **Paper XI: Politics of International Economic Relations**

- CO 1: To comprehend patterns of interaction and change at the global level.
- CO 2: To evaluate both international politics and economics in an integrated manner.
- CO 3: To analyse the economic issues of trade, finance, production, and development, but not from the perspective of economic theory. Instead, learner will engage with the International Relations concepts, ideas and literatures on the economic relations among states, and between states and non-state actors (such as firms, societal groups and international organizations).
- CO 4: To examine the political problems that arise as a consequence of the increasing density of international economic relations.
- CO 5: To gain knowledge of economics through the course. This is not a requirement though.

#### **Paper XII: Foreign Policy of India**

- CO 1: To analyse the determinants and basic principles of Indian foreign policy.
- CO 2: To compare India's approach towards its neighbouring countries-Sri Lanka, Bangladesh, Nepal and Pakistan and Major Powers: US, China
- CO 3: To formulate India's Approach towards the Restructuring of the UN power.
- CO 4: To comprehend India's Nuclear Policy.

#### **Paper XIII: International Law**

- CO 1: To identify and undertake comparative study of International law and municipal law
- CO 2: To address traditional —public law topics, such as the actions of states and interstate organizations, so-called private international law (dealing with the regulation of persons or property), or modern regimes that blur such distinctions, such as courses on global governance or the World Trade Organization.
- CO 3: To evaluate International law relating to war and peace.
- CO 4: To analyse and evaluate International treaties and International law.

#### **Paper XIV: International Organization**

- CO 1: To assimilate a thorough knowledge of the core literature on international organizations
- CO 2: To gain detailed knowledge of United Nations
- CO 3: To examine information regarding United Nations Declaration on Human Rights
- CO 4: To engage with this literature critically by developing their own argumentation
- CO 5: To analyse the main theoretical approaches and empirical issues in the study of international organizations

#### **Paper XV: Human Rights**

- CO 1: To build human rights as an object of study Social Sciences, as well as a practical reality in national and international politics.
- CO 2: To categorize Human rights as a branch of public international law, and relevant juridical mechanisms at global as well as regional levels,
- CO 3: To judge different ways of promoting and implementing human rights, domestically as well as on the international level.
- CO 4: To define the role of human rights in contemporary issues relating to terrorism, religion, ethnicity, gender, and development

### **Semester-IV**

#### **Paper XVI: Recent Political Theory**

- CO 1: To explain the origin and decline of Political theory.
- CO 2: To analyse Gramsci and Max Webber viewpoints of state, civil society, and hegemony
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**Department of Music Instrumental**  
**Name of the Programme: B.A. (Bachelor of Arts)**

**Course Outcomes**

**Semester: I**

**Paper: Theory and Practical**

- CO 1: Enables students to learn and exalts the human spirit and enhances the quality of life.
- CO 2: Students will analyse the fundamental purpose to transmit cultural heritage, and music is a powerful means for communicating that message.
- CO 3: Student will understand the basic terminologies of music and learn to write the practical compositions according to the Notation system.
- CO 4: Demonstration and knowledge of theoretical aspects of ragas
- CO 5: The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation.

**Semester: II**

**Paper: Theory and Practical**

- CO 1: Students are able to explain and gain detailed knowledge about Tala system.
- CO 2: Enable students to learn about history of music.
- CO 3: Exhibit knowledge of current issues and trends in music education.
- CO 4: Music uses one of the most powerful systems which can be used for the development of critical thinking skills in all students.
- CO 5: Students will gain knowledge about the ancient and medieval history of Percussion instruments.

**Semester: III**

**Paper: Theory and Practical**

- CO 1: Demonstrate competence in musicianship, to include: aural skills, and knowledge and application of music theory.
- CO 2: Students will learn about the life and contribution of the various artists and composers.
- CO 3: The student understands the development of various musical forms and their features in present musical forms.
- CO 4: He gains knowledge about the role of Music in maintaining the traditional values of Indian culture.
- CO 5: The student studies in detail the theoretical aspects related to the Practical ragas

**Semester: IV**

**Paper: Theory and Practical**

- CO 1: To learn about the various theoretical aspects related to instrument playing.
- CO 2: Explanation of analytical study of the principles of compositions in Indian music.
- CO 3: Exhibit knowledge of current issues and trends in music education.
- CO 4: Students understand the chronological development of various technical terms, schools of vocal & instrumental music & their styles and musical instruments, their origin, development and present status.
- CO 5: Students will understand the classical & folk terms & their interrelationship.

**Semester: V**

**Paper: Theory and Practical**

- CO 1: Describe and explain the traditional function of their instrument in the band or orchestra.
- CO 2: Demonstrate mastery of the following major scales - (concert pitch) Band - C, F, Bb, Eb, Ab, Chromatic; Orchestra - D, G, C, F.
- CO 3: Ability to perform musical compositions in prescribed Ragas & Talas.
- CO 4: Students will demonstrate the application of knowledge related to the history of music, including various time periods, historical figures, styles and genres in musical traditions.
- CO 5: Acquaintance with the biographies of important musicians.

**Semester: VI**

**Paper: Theory and Practical**

- CO 1: Students are able to explain and demonstrate various aspects of talas and their various aspects.

- CO 2: To know about the various ways to document & preserve Music and to know about the sound equipments.
- CO 3: Demonstrate competence in musicianship, to include: aural skills, and knowledge and application of music theory.
- CO 4: To gain knowledge about the various Interdisciplinary aspects of Music.
- CO 5: Students will be able to create, analyze, and synthesize music as a means of supporting developing careers in music teaching and/or performance. (Theory and Musicianship).

**Department of Dance**  
**Name of Programme: B.A. (Bachelor of Arts)**  
**Paper: Indian Classical Dance**

**Course Outcomes**

**Semester-I**

- CO 1: Students will learn about the Origin and development of Kathak Dance from Ancient to Mughal period.
- CO 2: Students will be able to define the following terms :-Theka, Tatkar, Thaah, Amad, Salami, Tora, Paran, Tehai.
- CO 3: Students will acquire the detail Knowledge of :- Ang, Pratyang, Upang
- CO 4: Students will acquire knowledge of Rasa and their importance in Kathak Dance.
- CO 5: Students will understand the role of dance in society.
- CO 6: Students will acquire Knowledge of the Folk Dances of Punjab with their style, costume and music.
- CO 7: Students will learn the notation of Teen Taal with its: Tatkar in Thaah, Dugun and Chaugun Layakaries, Thaah, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit.
- CO 8: Students will be able to describe Teentaal, Tilwara Kehrva with the notation of their Thekas in ekgun, Dugun, Tigun and Chaugun Layakaries and notation of Nagma in Teen Taal.
- CO 9: Practical demonstration of Teen Taal with its: Tatkar in ekgun, Dugun and Chaugun Layakaries, Thaah, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit and Padhant of whole material by hand in all Taal.
- CO 10: Students will be able to demonstrate Punjabi Folk Dance and to play Nagma of Teen Taal on Harmonium.

**Semester-II**

- CO 1: Students will learn about the Origin & Development of Bharat Natyam Dance and Essential characteristics of Manipuri Dance.
- CO 2: Students will be able to define the following terms :- Kavit, Chakardar Paran, Bhaav, Kasak, Masak, Vandana, Gat, Laya
- CO 3: Students will acquire the Knowledge of :- Four neck movements, Eight eye glances, Seven eye-brow movements and Nine head movements.
- CO 4: Students will learn about Asmyukta Mudras based on Abhinaya Darpan and detailed description of any fifteen with its uses.

- CO 5: Students will understand the Importance of Tal and Lehra in Kathak Dance and Advantages of Dance in Physical fitness.
- CO 6: Students will acquire Knowledge of the Historical background of the Folk Dances of Rajasthan and Importance of Vocal & Instrumental Music with Dance.
- CO 7: Students will learn the notation of Jhaptaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaat, Tehai, Salami, Tora, Paran and Chakardar Paran
- CO 8: Students will be able to describe Jhaptal ,Ektal, Dadra with the notation of their Thekas in Ekgun, Dugun, Tigun and Chaugun Layakaries
- CO 9: Practical demonstration of Teen Taal and Jhaptaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaat, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit and Padhant of whole material by hand in all Taal.
- CO 10: Students will be able to demonstrate Punjabi and rajasthani Folk Dance and to play Nagma of Teen Taal on Harmonium in Teentaal & Jhaptaal and theka of Dadra Taal on tabla.

### **Semester-III**

- CO 1: Students will learn about Tandava and Lasya and acquire knowledge of characteristics of Kathak Nritya
- CO 2: Students will acquire detailed knowledge of Samyukta Hastas according to Abhinaya Darpan with their uses in Dance.
- CO 3: Students will acquire the detailed Knowledge of Kathakali Dance with its historical background, style costumes and music etc.
- CO 4: Students will learn about the contribution of the Dance Gurus in their respective field of specialization.
- CO 5: Students will understand the Relation of Dance with other fine arts.
- CO 6: Students will acquire Knowledge of the Folk Dance of Uttar Pradesh.
- CO 7: Students will learn the notation of Ektaal and Sooltaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaat, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit.
- CO 8: Students will be able to describe Ektaal, Sooltaal, Choutaal with the notation of their Thekas in Ekgun, Dugun, Tigun and Chaugun Layakaries and notation of Nagma in Ektaal and Sooltaal.
- CO 9: Practical demonstration of Ektall and Sooltaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaat, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit and Padhant of whole material by hand in all Taal.

CO 10: Students will be able to demonstrate Samyukta Hastas according to Abhinaya Darpan and to play theka of Ektaal on tabla.

#### **Semester-IV**

CO 1: Students will learn about Nritya, Nritya and Natya and acquire knowledge of different Gharanas of Kathak with their characteristics.

CO 2: Students will acquire detailed knowledge of Bharamari and Utpalavan Bhedas according to Abhinaya Darpan

CO 3: Students will acquire the detailed Knowledge of Odissi Dance with its historical background, style costumes and music etc.

CO 4: Students will learn about the contribution of the Dance Gurus in their respective field of specialization.

CO 5: Students will understand the relation Dance and Religion and The role of dance in Indian films.

CO 6: Students will acquire Knowledge of the Folk Dance of Himachal Pradesh.

CO 7: Students will learn the notation of Dhamar Taal and Roopak Taal with its: Tatkar in Thaah, Dugun and Chaugun Layakaries, Thaat, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavita.

CO 8: Students will be able to describe Dhamar Taal, Roopak Taal and Ada Choutaal with the notation of their Thekas in Ekgun, Dugun, Tigun and Chaugun Layakaries and notation of Nagma in DhamarTaal and Roopak Taal.

CO 9: Practical demonstration of Dhamar Taal and Roopak Taal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaat, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavita and Padhant of whole material by hand in all Taal.

CO 10: Students will be able to demonstrate Holi Leela Gat Bhava. and to play theka of Dhamar Taal and Roopak Taal on tabla.

#### **Semester-V**

CO 1: Students will acquire knowledge of Bhav, Sthai Bhav, Vibhav, Anubhav and Sanchari Bhav.

CO 2: Students will acquire detailed knowledge of Gati Bhedas and Sthanak Bhedas according to Abhinaya Darpan.

CO 3: Students will acquire the detailed Knowledge of Bharat Natyam with its historical background, style, costume and music etc.

CO 4: Students will learn about the Origin of Taal and its ten Prans

- CO 5: Students will understand the Importance of background music in Dance
- CO 6: Students will acquire Knowledge of the Folk Dance of Himachal Pradesh, Kathak and Natwari Nritya.
- CO 7: Students will learn the notation of Basant Taal and Ada – Choutaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaata, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran Kavi and pramelu.
- CO 8: Students will be able to describe Basant Taal and Ada – Choutaal with the notation of theirThekas in Ekgun, Dugun, Tigun and Chaugun Layakaries and notation of Nagma in DhamarTaal and Roopak Taal.
- CO 9: Practical demonstration of Basant Taal and Ada – Choutaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaata, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit and Padhant of whole material by hand in all Taal.
- CO 10: Students will be able to demonstrate Gat – Bhav in Radha – Krishan leela. and to play theka of Ekeharva Taal on tabla.

#### **Semester-VI**

- CO 1: Students will acquire knowledge of Abhinaya and its bhedasand Thumri in Kathak.
- CO 2: Students will acquire detailed knowledge of Guru – Shishya parampara.
- CO 3: Students will acquire the detailed Knowledge of Kuchipudi with its historical background, style, costume and music etc.
- CO 4: Students will learn about Nayak – Nayika Bhedas.
- CO 5: Students will understand the Importance Indian and Western Dance.
- CO 6: Students will acquire Knowledge of the Folk Dance of Haryana
- CO 7: Students will learn the notation of Pancham Swari and Teentaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaata, Tehai, Amad, Salami, Tora, Paran, Chakardar Paranand Kavit.
- CO 8: Students will be able to describe Pancham Swari and Teentaal with the notation of theirThekas in Ekgun, Dugun, Tigun and Chaugun Layakaries.
- CO 9: Practical demonstration of Pancham Swari and Teentaal with its: Tatkar in Ekgun, Dugun and Chaugun Layakaries, Thaata, Tehai, Amad, Salami, Tora, Paran, Chakardar Paran and Kavit and Padhant of whole material by hand in all Taal.
- CO 10: Students will be able to demonstrate Kathak Choreography in Tarana and to play theka of JhapTaal on tabla.





**HANS RAJ MAHILA MAHA VIDYALAYA**  
MAHATMA HANS RAJ MARG, JALANDHAR (PUNJAB) INDIA



**FACULTY OF**  
**COMMERCE AND MANAGEMENT**

**Program Outcomes (POs)**  
and  
**Course Outcomes (COs)**

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## **Post Graduate Department of Commerce and Management**

**Name of Programme: B.Com.**

### **Programme Outcomes**

The students will be able to

- PO 1: acquire comprehensive knowledge of Marketing, Human Resource Management, Business and Corporate Law, Economics, Finance, Accounting, Management, Tax and several other branches of Commerce that includes Investment, Insurance, and Banking.
- PO 2: develop and strengthen theoretical and applied aspects of commerce for preparing the students for higher education and research.
- PO 3: equip with professional, inter personal, presentation and entrepreneurial skills to meet the requirements of business sector.
- PO 4: enhance the analytical and decision making skills of the students which can help them in solving business problems in a dynamic environment.
- PO 5: exercise professional skills, values, team spirit, and leadership to meet the challenges of life and business.

### **Programme Specific Outcomes**

- PSO 1: Students will be able to demonstrate progressive learning of various tax issues and tax forms related to individuals as well as demonstrate knowledge in setting up a computerized set of accounting books
- PSO 2: Students will learn relevant financial accounting career skills, applying both quantitative and qualitative knowledge to their future careers in business.
- PSO 3: Learners will gain thorough systematic and subject skills within various disciplines of commerce, business, accounting, economics, finance, auditing and marketing.
- PSO 4: Learners will be able to prove proficiency with the ability to engage in competitive exams like CA, CS, ICWA and other courses.

### **Course Outcomes**

#### **Semester-I**

##### **Paper: BCG 103 Financial Accounting**

Students will be able to-

- CO 1: understand the practical and theoretical knowledge of financial accounting.
- CO 2: understand the applicability of accounting concepts, principles and conventions.
- CO 3: apply the knowledge to prepare financial statements by understanding different capital and revenue items
- CO 4: solve problems relating to final accounts of sole proprietor and various business agreements.

##### **Paper: BCG 104 Business Organisation**

Students will be able to-

- CO 1: define different forms of organization and comparison of different business forms
- CO 2: demonstrate various stock market operations, investors protection and its regulatory authorities.
- CO 3: compare the nature, effect and causes of business combinations and its importance to industrial growth.
- CO 4: explain the social responsibilities of the business and business ethics.

##### **Paper: BCG 105 Business Communication**

Students will be able to-

- CO 1: understand the concept of communication in the business environment.
- CO 2: Develop knowledge and skills in business writing.
- CO 3: apply skills for effective interpersonal communications
- CO 4: explain useful tips and strategies for clear communication and thus, assists in securing a good job coupled with carrier advancement in future.

**Paper: BCG 106 Business Statistics**

Students will be able to-

- CO 1: understand meaning of statistics, basic statistical concepts and relevance of statistics in business.
- CO 2: understand, calculate and interpret descriptive statistics such as measures of central tendency, dispersion, asymmetry, correlation, regression analysis, time series analysis and index numbers.
- CO 3: understand and apply probability theory and theoretical probability distributions in business.
- CO 4: develop understanding of various types of probability and non-probability sampling techniques and their selection for drawing sample.

**Semester-II****Paper: BCG 203 Advance Financial Accounting**

Students will be able to-

- CO 1: apply their theoretical knowledge in practical working by learning tally - account creation and data entry.
- CO 2: outline the important provisions of Partnership Act, 1932 with regard to preparation of its final accounts.
- CO 3: solve various problems regarding maintenance of partnership accounts with special regard to its reconstitution.
- CO 4: demonstrate the different methods of depreciation as a means of knowing true value of asset.
- CO 5: solve accounting problems of small business through various systems of accounting.

**Paper: BCG 204 Commercial Law**

Students will be able to-

- CO 1: understand the formation of a legally valid contract for a business.
- CO 2: develop requisite skills to understand various case studies.
- CO 3: analyze the real life case studies for practical applicability of legal rules.
- CO 4: integrate the knowledge of commercial laws in business world.

**Paper: BCG 205 Business Economics**

Students will be able to-

- CO 1: understand the concept of demand, law of demand, calculate and interpret elasticity of demand and develop knowledge regarding its significance in business, trade and government policies.
- CO 2: understand and determine consumers' equilibrium.
- CO 3: interpret and evaluate equilibrium of producers under different markets conditions.
- CO 4: identify various market structures and discuss their implications for resource allocation
- CO 5: differentiate between micro and macro concepts and objectives of economy.
- CO 6: understand concept of national income, judge its importance apply and interpret different methods of measurement of national income in different sectors.

**Paper: BCG 206 Functional Management**

Students will be able to-

- CO 1: demonstrate their conceptual skills, understanding and application of principles and functions of management.
- CO 2: develop skills and ability to work in groups to achieve organizational goals and ability to lead teams.
- CO 3: demonstrate their ability in applying the managerial concepts in real time problems.
- CO 4: make a choice to adopt management as profession in future.

**Semester-III****Paper: BCG 303 Corporate Accounting**

Students will be able to-

- CO 1: recall the basic accounting treatment of companies studied in SSC II.
- CO 2: understanding of accounting treatment of various aspects of Companies, Banking Companies and Insurance Companies.

CO 3: apply this knowledge in solving practical questions of accounting.

CO 4: analyze the accounting information of the companies.

**Paper: BCG 304 Company Law**

Students will be able to-

CO 1: identify the principles of corporate law covered in the course.

CO 2: analyze the policy issues underpinning the corporate laws covered in the course.

CO 3: access, use, interpret complex statutory material to resolve corporate law problems and issues.

CO 4: apply the critical thinking required to bring about solutions to complex corporate law problems.

**Paper: BCG 305 Financial Management**

Students will be able to-

CO 1: to remember and understand both the theoretical & practical role of financial management in business corporations.

CO 2: analyse risk within context of financial decision making.

CO 3: analyse the different sources of finance and their cost.

CO 4: evaluate different sources of finance as well as investment proposals while deciding on optimal capital structure as well as while utilizing the funds raised in the business.

**Paper: BCG 306 International Business**

Students will be able to-

CO 1: understand the basic concepts of international finance, marketing and also the various environments in which international businesses operate.

CO 2: illustrate the unique issues and challenges faced by firms involved in international activities.

CO 3: analyse the risks and opportunities dispensed for global businesses and develop practical approach to frame effective strategies and take good business decisions.

CO 4: relate the impact of legal and regulatory compliance on a firm's trade inventiveness.

**Paper: BCG 307 Business Environment**

Students will be able to-

CO 1: define and understand the various nuances of the business environment.

CO 2: understand the role of environmental factors on the conduct of business in the country.

CO 3: identify the government rules & regulations affecting the business organizations and latest amendments in the current Budgets.

CO 4: appraise the data relating to various economic Policies & economic planning of India since inception.

**Semester-IV**

**Paper: BCG 403 Goods and Service Tax**

Students will be able to-

CO 1: explain the constitutional aspects and implementation of GST in India.

CO 2: list and analyse the benefits of Goods and Service tax.

CO 3: identify the taxable event under Goods and Service tax.

CO 4: assess the liability of paying Goods and Service tax.

**Paper: BCG 404 Industrial Law**

Students will be able to-

CO 1: understand the various laws relating to industrial environment.

CO 2: develop skills to apply the knowledge of various laws relating to factory, trade unions and workers' rights in real life situations.

CO 3: interpret the important causes and impact of industrial disputes.

CO 4: compile the important provisions of the working of Factories in India as per Law.

**Paper: BCG 405 Principles and Practices of Banking and Insurance**

Students will be able to-

CO 1: have comprehensive knowledge of the Indian banking and insurance structure.

CO 2: understand the various functions, rules and regulations of central & commercial Banks; and the Insurance Act 1938, LIC Act 1956, GIC Act 1972 & IRDA Act 1999.

CO 3: apply this knowledge effectively being as bank's customer and searching out the suitable insurance policy for them.

**Paper: BCG 406 Cost Accounting**

Students will be able to-

CO 1: understand basic concepts of cost accounting

CO 2: apply knowledge to solve practical problems and take managerial decisions

CO 3: determine total cost and profit of product/service/contract costing/process costing and formulate proposals

CO 4: analyze the reasons of variance in estimated and actual cost to minimize losses and maximize profits

**Semester-V**

**Paper: BCG 503 Management Accounting**

Students will be able to-

CO 1: have knowledge about- how to infer financial statements and then make use of the same inferences to support a decision.

CO 2: relate and classify various sources of raising funds along with plans to attain profit maximization.

CO 3: find and summarize appropriate information to construct the report to be provided to different users for taking effective decision.

CO 4: show the relationship of authority and responsibility and prove that ultimate responsibility cannot be avoided.

**Paper: BCG 504 Direct Tax Law**

Students will be able to-

CO 1: understand and acquire knowledge of basic concepts of Income tax and sources of income

CO 2: apply knowledge to solve practical problems and calculate tax liability

CO 3: determine Tax incidence on the basis of residential status

CO 4: identify and comply with the relevant provisions of the Income Tax Act and do tax planning

**Paper: BCG 505 Auditing**

Students will be able to-

CO 1: summarize the auditing standards and the general procedures required in conducting an audit

CO 2: understand the knowledge about appointment, rights, duties and responsibility and liabilities of an auditor.

CO 3: demonstrates the knowledge, skills, and attitudes to help them understand the various types of audit as well as the other current developments in auditing.

CO 4: analyse the processes involved in auditing as well as various audit tests and other assurance services.

**Paper: BCG 511 Contemporary Accounting**

Students will be able to-

CO 1: explain the various contemporary issues in accounting.

CO 2: understand the practical use of accounting standards in preparation of financial statements

CO 3: define the financial reports with respect to recent trends in published accounts.

CO 4: acquire skills to research and analyse complex contemporary financial accounting issues, and formulate well-reasoned and coherent arguments and reach well considered conclusions in relation to those issues.

**Paper: BCG 512 Financial Market Operations**

Students will be able to-

CO1: define recent developments in the financial markets.

CO2: construct instruments that are operational in the money market.

CO3: demonstrate the contribution of the financial market in the economic stability and development of a country.

CO4: analyze various trends and models applicable in financial markets

**Paper: BCG 521 Banking Service Management**

Students will be able to-

CO 1: have comprehensive knowledge of the Indian Banking Structure.

CO 2: understand the various functions, various services, rules and regulations of central & commercial banks.

CO 3: apply this knowledge effectively being as bank's customer.

**Paper: BCG 522 Insurance Service Management**

Students will be able to-

CO 1: learn about the documentation procedure involved in applying for insurance.

CO 2: understand the role and code of conduct for insurance agents and surveyors.

CO 3: apply the practical training to compute premiums and bonuses.

CO 4: interpret the procedure of claim settlement.

CO 5: have a deep insight into the impact of taxation, competition and regulation on the pricing of insurance products.

**Paper: BCG 531 Computer Based Accounting**

Students will be able to:

CO 1: identify the crucial role played by computers in accounting and business.

CO 2: analyze the policy issues concerning accounting software that is being used by business entities.

CO 3: develop knowledge regarding comparison of manual & computerized accounting.

CO 4: apply techniques of accounting packages for preparation of accounting statements.

**Paper: BCG 532 E-Commerce**

Students will be able to-

CO 1: have a comprehensive understanding of the E-Commerce, current and emerging business models, and the technology and infrastructure underpinnings of the business.

CO 2: apply E-Commerce concepts to help business grow.

CO 3: make innovative use of the E-Commerce to have competitive advantage over others.

**Semester-VI**

**Paper: BCG 603 Operations Research**

Students will be able to-

CO 1: have knowledge of concepts and tools of Operations Research.

CO 2: utilize analytical thought process to help develop modeling.

CO 3: understand mathematical techniques used in various areas of research.

CO 4: apply these techniques constructively to make effective business decisions.

**Paper: BCH 604 Corporate Governance**

Students will be able to-

CO 1: understand the influence of corporate governance system on the performance of an organisation.

CO 2: discuss the moral and social responsibility dimensions of corporate governance after studying the concepts of whistleblowing, credit rating and insider trading

CO 3: compare the recommendations of various committees which depict the evolution of corporate governance.

CO 4: They will be able to critically apply understanding of corporate governance in real-world contexts and to develop the skills to build good leaders while following business ethics.

**Paper: BCG-611 Portfolio Management**

Students will be able to-

CO 1: define theoretical concept of portfolio management.

CO 2: demonstrate practical issues in the field of portfolio management

CO 3: construct efficient market hypothesis used in field of the subject.

CO 4: analyze market expectations and build strategic asset allocation.

**Paper: BCG 612 Financial Services**

Students will be able to-

CO 1: define the concept of the Indian financial system, markets, institution and financial services.

- CO 2: understand the operations, role, functioning and regulatory guidelines regarding the different financial institutions.
- CO 3: describe the various financial products, services, and strategies offered by the variety of financial services institutions.
- CO 4: explain the recent developments in plastic money, impediments to growth of these services and their future scope.

**Paper: BCG 621 Foreign Exchange Management**

Students will be able to-

- CO 1: Understand how the foreign exchange market operates
- CO 2: Examine the organisation of foreign exchange market.
- CO 3: Apply techniques that can be used to hedge foreign exchange risk
- CO 4: Analyse the foreign exchange risk and risk management strategies

**Paper: BCG 622 Risk Management and Insurance**

Students will be able to-

- CO 1: learn about the concept of risk and design a risk management program for a business organisation.
- CO 2: know about insurance contracts and its provisions, and the basic features of property-liability insurance, life and health insurance.
- CO 3: compare and contrast the role of insurance intermediaries.
- CO 4: evaluate the different retirement and annuities plan for themselves as well as for their family.

**Paper: BCG 632 E-Marketing**

- CO 1: understand the concept of E-Marketing and its various strategies,
- CO 2: They will be able to analyze e-marketing issues & challenges; and customer satisfaction in this digital age.
- CO 3: They will be able to apply this knowledge in studying the working of various e-commerce companies.
- CO 4: evaluate various pricing strategies and implementation of a successful e-marketing mix.

**Name of Programme: B.Com (Honours)**

**Course Outcomes**

**Group I Banking**

**Paper I: Banking and Financial System**

Students will be able to-

- CO 1: understand the structure of banking and financial system.
- CO 2: know the procedural compliances by bank's functionality.
- CO 3: identify the principles of lending and loan policy, basics of loan appraisal and the types of advances
- CO 4: appraise the actions of central banks for the overall development of the economy.

**Paper II: Electronic Banking and Risk Management**

Students will be able to-

- CO 1: have knowledge about various e-banking products and services.
- CO 2: use different electronic fund transfer systems and technologies.
- CO 3: analyse the various security issues to combat the e-banking frauds.
- CO 4: analyse the risk management framework as well as measure and manage various risks with different statistical techniques

**Paper III: Accounting for Bankers**

Students will be able to-

- CO 1: identify the relevance of accounting in banking sector.
- CO 2: make use of bank's accounting information which further helps them in planning their investment
- CO 3: discover various capital budgeting techniques for long period investment.

CO 4: evaluate the importance of computerised accounting in Indian banking sector

#### **Paper IV: Bank Marketing**

Students will be able to-

CO 1: relate the concept of marketing in banking sector

CO 2: identify and explain the importance of relation between loyalty and marketing of bank products

CO 3: construct the relation between favourable environment and marketing of bank product.

CO 4: examine the conceptual framework regarding marketing of financial and banking product.

#### **Group IV**

#### **Paper I: Management of International Business Operation**

Students will be able to-

CO 1: understand the nature, scope, structure and significance of International Business.

CO 2: identify the various factors of global business environment and evaluate the impact of world issues on an organization's international business opportunities.

CO 3: evaluate the impact of statutory and regulatory compliance on an organization's integrative trade initiatives.

CO 4: develop strategies to negotiate effectively within various cultural environments and to address the impact of ethics and social responsibility in international trade

#### **Paper II: India's Foreign Trade**

Students will be able to-

CO 1: identify the crucial role played by foreign trade and exchange control in India.

CO 2: analyze policy issues and factors affecting foreign investment.

CO 3: learn about regulatory framework for export and import transactions.

CO 4: understand about nature of transactions in foreign exchange market.

#### **Paper III: International Financial Management**

Students will be able to-

CO 1: learn about foreign exchange systems.

CO 2: get knowledge about calculation of foreign exchange rates.

CO 3: learn the various methods of measuring and managing country risk and political risk factors.

CO 4: get the knowledge about management and measurement of transaction exposures as well as operating exposures.

CO 5: apply risk hedging techniques like futures, options, forwards and swaps

#### **Paper IV: International Marketing**

Students will be able to-

CO 1: understand the contemporary issues in international marketing and acquire skills to suggest solutions for the same.

CO 2: define and illustrate the various strategies of entering into an international market

CO 3: make the modifications in marketing mix that a firm requires while entering the global market.

CO 4: acquire knowledge about the role and working of various international bodies and organisations like GATT, WTO, UNCTAD, IMF etc.

CO 5: analyse the foreign trade regulations as well as the problems faced by exporters in numerous aspects.

#### **Name of Programme: BBA**

#### **Programme Outcomes**

Students will be able to-

PO 1: develop the ability to understand the different areas of management such as marketing human resource , production operations and financial management.

PO 2: develop and strengthen theoretical and applied aspects of management for preparing the students for higher education and research.

PO 3: equip the students with professional, inter personal, presentation and entrepreneurial skills to administer business successfully.

- PO 4: enhance the analytical and decision making skills of the students which can help them in the application of management theories and practices to solve business problems in a dynamic environment.
- PO 5: exercise professional skills, values, team spirit, and leadership to meet the challenges of life and business.
- PO 6: To demonstrate knowledge and understanding of the major theories relating to the field of business and developing realistic solutions to business problems by evaluating various policies of the government and laws and legislations relating to same.

#### **Programme Specific Outcomes**

- PSO 1: Students can demonstrate the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.
- PSO 2: Learners will be able to understand the features and roles of businessmen, managers, consultant, which will help learners to possess knowledge and other soft skills and to react aptly when confronted with critical decision making.
- PSO 3: The students will acquire the skills in the specialized fields of marketing, industrial relations, banking & insurance and international business.
- PSO 4: Learners will acquire the skills like effective communication, decision making, problem solving in day to day business affairs

#### **Course Outcomes**

##### **Semester-I**

##### **Paper: BBA 103 Basic Accounting**

Students will be able to-

- CO 1: understand the concepts and conventions of accounting and accounting frame work.
- CO 2: demonstrate knowledge of each step in the accounting cycle.
- CO 3: apply their knowledge to prepare the financial statements of sole proprietor and company form of organisations
- CO 4: identify the difference between manual accounting and computerised accounting

##### **Paper: BBA 104 Business Organisation and Systems**

Students will be able to-

- CO 1: explain the concept of business, commerce and trade with reference the development in this field
- CO 2: understand the various factors of environment affecting the business organisations.
- CO 3: identify the different forms of business organisation working in India and find the suitable form, size to the various needs.
- CO 4: demonstrate the importance of the ethical requirements of business activities

##### **Paper: BBA 105 Managerial Economics-I**

The students will be able to-

- CO 1: analyse the basic concepts, nature and scope of managerial economics.
- CO 2: explain fundamental laws of consumption- Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility.
- CO 3: distinguish between traditional and modern theory of costs.
- CO 4: compare and contrast different markets structure, their characteristics and short and long run equilibrium.

##### **Paper: BBA 107 Business Communication**

Students will be able to-

- CO 1: relate to the various concepts and processes of business communication
- CO 2: demonstrate necessary skills to handle day-to-day managerial responsibilities
- CO 3: identify the gap between current level of communication skills and the expected industry standards
- CO 4: develop and apply appropriate communication skills across setting, purpose and audience.

## **Semester-II**

### **Paper: BBA 203 Business Laws**

Students will be able to-

- CO 1: understand the formation of a legally valid contract for a business.
- CO 2: develop requisite skills to understand various case studies.
- CO 3: analyze the real life case studies for practical applicability of legal rules.
- CO 4: integrate the knowledge of commercial laws in business world.

### **Paper: BBA 204 Principles of Management**

Students will be able to-

- CO 1: understand and acquire knowledge of management conceptual framework
- CO 2: apply knowledge to learn the application of the principles in an organization.
- CO 3: evaluate the global context for taking managerial actions of planning, organizing and controlling.
- CO 4: specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstances.

### **Paper: BBA 205 Managerial Economics-II**

The students will be able to-

- CO 1: define the concepts of Macroeconomics, National Income aggregates and compare the methods of measurement of national income.
- CO 2: apply the classical and modern principles of Macro Economics in explaining the behaviour of aggregate variables such as consumption, investment, saving, employment and money supply at national and global level.
- CO 3: analyse the problem of inflation and examine its causes and consequences.
- CO 4: elaborate the working of multiplier and formulate policy recommendations to counter business cycles.

### **Paper: BBA 206 Computer Based Accounting System**

Students will be able to-

- CO 1: understand the maintenance of groups and accounts as well as about codification and hierarchy of accounts.
- CO 2: demonstrate about various types of accounting software used by business entities.
- CO 3: understand database designing through ER model and structured query language.
- CO 4: use tally in maintenance of accounts of the firms.
- CO 5: analyse the financial statements of a firm in tally.

### **Paper: BBA 207 Fundamentals of Banking**

Students will be able to-

- CO 1: understand the concept, evolution and functionality of the banks
- CO 2: analyze the Indian banking system and its recent trends.
- CO 3: integrate processes according to the functioning of Reserve Bank of India and commercial banks in Indian banking system and
- CO 4: analyze the dimensions of banker customer relationships.

### **Paper: BBA 303 Statistics for Business**

The students will be able to-

- CO 1: understand the role, scope and functions of Statistics and demonstrate the basic statistical concepts such as data collection, classification, statistical series, tabular, diagrammatic and graphical representation of data.
- CO 2: illustrate matrix operations, determinants, minors, cofactors, inverse of a matrix, matrix method, Cramer's rule to solve system of equations and rank of a matrix.
- CO 3: use and apply the measures of central tendency, dispersion, skewness and kurtosis.
- CO 4: analyse the underlying relationships between the variables, interpret covariance and correlation coefficient and estimate regression coefficients and trend values in time series analysis.
- CO 5: construct index numbers for different purposes and test the consistency.
- CO 6: develop theoretical distributions by applying the concepts of probability.

### **Semester-III**

#### **Paper: BBA 304 Fundamentals of Human Resource Management**

Students will be able to-

- CO 1: demonstrate the role of human resource management in an organization
- CO 2: develop an overview on various functions and processes of human resource management.
- CO 3: identify the human resource needs of an organization and plan accordingly.
- CO 4: utilize the knowledge to gain competitive advantage through people

#### **Paper: BBA 305 Fundamentals of Marketing Management**

Students will be able to-

- CO 1: demonstrate the core concepts of marketing and the role of marketing in business and society.
- CO 2: identify suitable product, pricing, distribution and marketing communication strategies for a brand to achieve the Marketing objective
- CO 3: develop marketing strategies based on product, price, place and promotion objectives
- CO 4: understand intricacies of marketing and thus, help them to adopt marketing as a profession in future.

#### **Paper: BBA 306 Indian Financial System**

Students will be able to-

- CO 1: understand the components of Indian Financial System.
- CO 2: compare and contrast various instruments of money market and capital market.
- CO 3: outline the role of regulatory agencies in growth of Indian financial system
- CO 4: explain the working and eligibility criterion of various functionaries on stock exchange.

#### **Paper: BBA 307 Management Accounting**

Students will be able to-

- CO 1: understand the financial statements and then make use of the same inferences to support a decision.
- CO 2: relate and classify various sources of raising funds along with plans to attain profit maximization.
- CO 3: summarize appropriate information to construct the report to be provided to different users for taking effective decision.
- CO 4: show the relationship of authority and responsibility and prove that ultimate responsibility cannot be avoided.

### **Semester-IV**

#### **Paper: BBA 403 Financial Management**

Students will be able to-

- CO 1: relate and classify various sources of raising funds along with plans to attain profit maximization.
- CO 2: find and compare different forms of capital so that the best capital structure can be selected.
- CO 3: recall and illustrate the factors that are used to decide the dividend and plan the various investment decisions.
- CO 4: explain the capital investment decision and identify cash flows for capital budgeting project and apply various methods to analyze projects and make interpretations.

#### **Paper: BBA 404 Production and Operations Management**

Students will be able to:

- CO 1: identify the crucial role being played by production management in success of enterprises.
- CO 2: analyse policy issues and factors affecting production management of a concern.
- CO 3: recognize the importance of operations management in solution of business problems.
- CO 4: apply various techniques of production management for better decision making.

#### **Paper: BBA 405 Business Environment**

Students will be able to-

- CO 1: understand the nature of business environment and its various factors.
- CO 2: conduct an environmental scan to evaluate the impact of various issues on an organization's business opportunities.
- CO 3: discover various policy perspectives in regulating the business environment.

CO 4: identify state policies economic legislations and economic reforms laid by the government

**Paper: BBA 406 Operations Research**

Students will be able to-

CO 1: have knowledge of concepts and tools of Operations Research.

CO 2: utilize analytical thought process to help develop modeling.

CO 3: understand mathematical techniques used in various areas of research.

CO 4: apply these techniques constructively to make effective business decisions.

**Paper: BBA 407 Fundamentals of Insurance**

Students will be able to-

CO 1: have comprehensive knowledge of the Indian Insurance Structure.

CO 2: understand the various functions, rules and regulations of the Insurance Act 1938, LIC Act 1956, GIC Act 1972 & IRDA Act 1999.

CO 3: apply this knowledge effectively in searching out the suitable Insurance policy for them.

**Semester-V**

**Paper: BBA 503 Company Law**

Students will be able to-

CO 1: identify the principles of corporate law covered in the course.

CO 2: analyze the policy issues underpinning the corporate laws covered in the course.

CO 3: access, use, interpret complex statutory material to resolve corporate law problems and issues.

CO 4: apply the critical thinking required to bring about solutions to complex corporate law problems.

**Paper: BBA 504 Entrepreneurship and Small Business**

Students will be able to-

CO 1: examine the characteristics of an entrepreneur as well their role in the economic development of the country

CO 2: build insights into the management of small scale business organisations

CO 3: develop business plan and foreseeing the entry barriers to the industry

CO 4: analyse the role of government and non-government organisations in promotion of entrepreneurship

**Paper: BBA 505 Cost Accounting**

Students will be able to-

CO 1: understand basic concepts of cost accounting

CO 2: apply knowledge to solve practical problems and take managerial decisions

CO 3: determine total cost and profit of product/service/contract costing/process costing and formulate proposals

CO 4: analyse the reasons of variance in estimated and actual cost to minimize losses and maximize profits

**Paper: BBA 511 Consumer Behaviour**

Students will be able to-

CO 1: have comprehensive understanding of consumer buying behavior.

CO 2: recognize different factors affecting consumer behaviour.

CO 3: apply this knowledge in analyzing their own buying behaviour.

**Paper: BBA 512 Advertising and Sales Management**

Students will be able to-

CO 1: list various marketing concepts for comparing & contrasting the best strategy to solve the important issues that require improvement.

CO 2: select and classify the developed sources of media to build relationships with prioritized segment of customers to change the outlook towards them

CO 3: show and explain the importance of interest in categorizing the right job to determine the maximum happiness and outcome.

CO 4: experiment with online trends to make use of the same in selecting cost effective alternative.

## **Semester-VI**

### **Paper: BBA 603 Income Tax**

Students will be able to-

- CO 1: understand and acquire knowledge of basic concepts of Income tax and sources of income
- CO 2: apply knowledge to solve practical problems and calculate tax liability
- CO 3: determine Tax incidence on the basis of residential status
- CO 4: identify and comply with the relevant provisions of the Income Tax Act and do tax planning

### **Paper: BBA 604 Fundamental of Capital Markets**

Students will be able to-

- CO 1: develop an understanding and importance of financial derivatives and institutional structure of the market.
- CO 2: explain the role of capital market in Indian financial system and its regulatory environment.
- CO 3: describe the trading mechanism in the stock market
- CO 4: compare the various instruments of capital market

### **Paper: BBA 611 Service Marketing**

Students will be able to-

- CO 1: understand and acquire knowledge of evolution and conceptual framework of service marketing
- CO 2: explain the role of internet in service industry
- CO 3: determine role of personnel, distribution strategies, physical evidence, blueprinting and promotional campaigns in delivery of services.
- CO 4: identify measures for measuring service quality and fill the service gaps.

### **Paper: BBA 612 E- Marketing**

- CO 1: Students will have comprehensive knowledge of E-Marketing and its various strategies,
- CO 2: They will be able to analyze e-marketing issues & challenges; and customer satisfaction in this digital age.
- CO 3: They will be able to apply this knowledge in studying the working of various e-commerce companies.

## **Name of Programme: B.Voc (Banking and Financial Services)**

### **Program Outcomes**

Students will be able to-

- PO 1: practically understand and apply the knowledge relating to the requirements of industry by acquiring a judicious mix of professional skills in the area of banking and financial services (including international finance) along with suitable general education component catering to the areas of different branches of management, entrepreneurship, business ethics, accounting, economics etc.
- PO 2: gain knowledge regarding operations of financial markets, different avenues for investment of funds, risks associated with it and understand the techniques for their analysis and evaluation.
- PO 3: have an opportunity to serve the industry by having exit points at different levels.
- PO 4: acquire knowledge about the business environment by understanding the major policies of the government and laws and legislations (both general laws as well as relating to banking and financial services)
- PO5: develop analytical and decision making skills by gaining knowledge of different tools and techniques of analysis which can help them to solve business problems in a dynamic environment.

### **Program Specific Outcomes**

- PSO 1: Students will be able to study and understand the general as well as practical skills pertaining to the area of banking and financial services.
- PSO 2: They will be able to study the banking and financial services in a simulated environment and also undergo industrial training based on the same.
- PSO 3: They will be able to acquire the skills in the specialized fields of marketing, industrial relations, banking & insurance and international business.

PSO 4: Learners will acquire the skills like effective communication, decision making, problem solving in day to day business affairs

### Course Outcomes

#### Semester-I

##### **Paper: BVC 103 Fundamentals of Management**

Students will be able to-

- CO 1: understand and acquire knowledge of management conceptual framework
- CO 2: apply knowledge to learn the application of the principles in an organization.
- CO 3: specify how the managerial tasks of planning, organizing, and controlling can be executed in a variety of circumstances
- CO 4: develop the ability to work in teams and identify the key competencies needed to be an effective manager

##### **Paper: BVC 104 Principles and Practice of Banking**

Students will be able to-

- CO 1: demonstrate the concept, evolution and types of banks
- CO 2: analyse the role and functions performed by the banks in the economy
- CO 3: identify the role of RBI being apex body and as a regulator of all the banks
- CO 4: analyze the dimensions of banker customer relationships

##### **Paper: BVC 105 Principles and Practices of Insurance**

Students will be able to:

- CO 1: identify the crucial role played by insurance sector in Indian financial system.
- CO 2: understand the various concepts of life insurance and general insurance.
- CO 3: analyse the policy issues concerning the various types of insurance policies used by different persons in different situations.
- CO 4: simplify various risk patterns by understanding importance of various types of insurance policies.

##### **Paper: BVC 106 Indian Financial System**

Students will be able to-

- CO 1: understand the components of Indian Financial System.
- CO 2: compare and contrast various instruments of money market and capital market.
- CO 3: outline the role of SEBI in investor protection.
- CO 4: explain the working and eligibility criterion of various functionaries on stock exchange.

##### **Paper: BVC 107 Banking Operation Simulation**

Students will be able to-

- CO 1: understand the techniques of credit control and the methodology of credit creation.
- CO 2: understand the principles of lending and loan policy, basics of loan appraisal and the types of advances.
- CO 3: take part in the procedural formalities involved in opening the account and filling up different bank forms and documents like pay in slip, withdrawal forms and cheques, internet banking.
- CO 4: examine the role of different techniques of risk management.

#### Semester-II

##### **Paper: BVC 203 Managerial Economics**

The students will be able to-

- CO 1: feature out the basic concepts, nature and scope of managerial economics.
- CO 2: explain fundamental laws of consumption- Law of Diminishing Marginal Utility and Law of Equi-Marginal Utility.
- CO 3: analyse the elasticity of demand, its meaning, types, degrees, methods of measuring, factors determining elasticity of demand and its importance.
- CO 4: distinguish between traditional and modern theory of costs.
- CO 5: compare and contrast different markets structure, their characteristics and short and long run equilibrium.

##### **Paper: BVC 204 Financial Services**

Students will be able to-

- CO 1: understand the various kinds of financial services and their role in the Indian financial system.
- CO 2: explain the structure and regulation of merchant banking in India.
- CO 3: compare different types of mutual funds.
- CO 4: explain the process of dematerialization and rematerialization will be explained to the students.

**Paper: BVC 205 Legal and Regulatory Aspects of Banking**

Students will be able to-

- CO 1: understand the legal and regulatory measures affecting the working of banks in India
- CO 2: demonstrate the process of banking, products offered by them and relation with different stakeholders with reference to particular acts passed in India
- CO 3: identify the special rules to be complied by banks while rendering the services
- CO 4: relate the provisions of different acts passed in India with operations of banking sector

**Paper: BVC 206 Mutual Funds**

Students will be able to-

- CO 1: understand the role of mutual fund in Indian financial market
- CO 2: explain the regulatory and legal environment governing the working of mutual fund in India
- CO 3: categorise and compare the different mutual fund schemes
- CO 4: use different measures of risk and return to invest in mutual fund

**Semester-III**

**Paper: BVC 301 Business Statistics**

The students will be able to:

- CO 1: explain the functions, scope and limitations of statistics.
- CO 2: evaluate various types of averages – Arithmetic Mean (Simple and Weighted), Median and Mode.
- CO 3: solve and build Regression equations.
- CO 4: solve and apply both weighted and unweighted Index Numbers.
- CO 5: estimate trends using graphical method, semi average method, moving averages method and method of least squares for linear path.
- CO 6: illustrate and solve simple applications of Probability based on addition and multiplication theorem of probability.

**Paper: BVC 302 Business Laws**

Students will be able to-

- CO 1: understand the formation of a legally valid contract for a business.
- CO 2: develop requisite skills to understand various case studies.
- CO 3: explain the important provisions of Negotiable Instruments Act
- CO 4: integrate the knowledge of commercial laws in business world.

**Paper: BVC 303 Basic Accounting for Financial Manager + Tally**

Students will be able to-

- CO 1: understand the concepts and conventions of accounting and accounting frame work.
- CO 2: demonstrate knowledge of each step in the accounting cycle.
- CO 3: apply their knowledge to prepare the financial statements of sole proprietor and company form of organisations
- CO 4: apply their theoretical knowledge in practical working by learning tally - account creation and data entry.

**Paper: BVC 304 Operational Risk Management**

Students will be able to-

- CO 1: understand the governance structures, systems, procedures and cultural aspects necessary for an organization to successfully manage operational risk.
- CO 2: identify the methods to manage an organization's risk, risk optimization, management of market risk, credit risk, operational and other risk.
- CO 3: demonstrate the approaches available to banks under Basel III for the calculation of regulatory capital for operational risk.

CO 4: explain the range of financial and finance related risks faced by financial organizations.

**Paper: BVC 305 Financial Statement Analysis**

Students will be able to-

CO 1: analyze different types of financial statements.

CO 2: understand the concept of optimum credit policy and its various components.

CO 3 explain the objectives of inventory management and selective inventory control techniques such as ABC, VED, JIT to students.

CO 4: explain the concept and importance of adequate working capital.

**Paper: BVC 306 Bank Credit Management**

Students will be able to-

CO 1: identify the crucial role played by credit management in success of banking business.

CO 2: understand the various concepts of credit management used by banks and financial institutions.

CO 3: analyse the policy issues concerning the various types of credit policies used by banks for efficient management of its operations.

CO 4: simplify liquidity crises by application of various techniques of credit management.

**Semester-IV**

**Paper: BVC 401 Business Ethics and Corporate Social Responsibility**

Students will be able to-

CO 1: understand the ethical components for managerial decision making in organization.

CO 2: explain the concept of corporate social responsibility in business organization

CO 3: apply general ethical principles to particular cases or practices in business

CO 4: identify the role and importance of corporate governance

**Paper: BVC 402 Business Environment**

Students will be able to-

CO 1: analyse the Concept, Importance and Inter relationship between environment and business.

CO 2: distinguish between different Types of Environment

CO 3: analyse Nature and impact of culture on business

CO 4: explore the Economic roles of government.

CO 5: understand Economic Environment its Nature and components.

**Paper: BVC 403 Entrepreneurship Development**

Students will be able to-

CO 1: examine the characteristics of an entrepreneur as well their role in the economic development of the country

CO 2: build insights into the management of small scale business organisations

CO 3: develop business plan and foreseeing the entry barriers to the industry

CO 4: demonstrate the process of entrepreneurship and the institutional facilities available to an entrepreneur in India

**Paper: BVC 404 Investment Management**

Students will be able to-

CO 1: make use time value of money to plan their investments.

CO 2: compare the practical dimensions of risk involved in the stock market investment

CO 3: build a systematic approach for estimating the present and future worth of stock to economic industry company analysis

CO 4: evaluate the various methods adopted by technical analysts to study the stock price movement.

**BVC 405 Market Risk Management**

Students will be able to:

CO 1: identify the crucial role played by market risk management for success of investment decisions.

CO 2: analyse the policy issues and factors affecting market risk.

CO 3: understand the process that can be used to identify measure & report market risk.

CO 4: recognize the importance of market risk management including measurement and key controls.

**Paper: BVC 406 Financial Market Operations**

Students will be able to-

- CO 1: explain the functioning of Indian financial market.
- CO 2: illustrate the recent developments in the Indian financial system.
- CO 3: identify how an investor goes about buying and selling the stocks.
- CO 4: discover the major stock exchanges and their trading pattern
- CO 5: determine the role of SEBI as regulator in the Indian financial market.

**Semester-V****Paper: BVC 501 Financial Management**

Students will be able to-

- CO 1: define both the theoretical & practical role of financial management in business corporations to the students
- CO 2: identify the importance of various decision making areas of financial management by understanding importance of risk within context of financial decision making.
- CO 3: choose an appropriate capital structure by analysing the different sources of finance and their cost.
- CO 4: outline the different aspects of working capital management in the business.

**Paper: BVC 502 Operations Management**

Students will be able to-

- CO 1: understand the concept of Operations Management and Productivity.
- CO 2: identify the alternate managerial choices to reach the optimal solutions
- CO 3: solve and analyze the problems using different techniques.
- CO 4: develop suitable material handling principles and practices in the operations.

**Paper: BVC 503 Organisational Behaviour**

Students will be able to-

- CO 1: understanding of human behaviour in the workplace from an individual, group, and organizational perspective.
- CO 2: evaluate personality types, perception and learning process on human behaviour
- CO 3: recognize the application of motivational theories in practical terms
- CO 4: evaluate the appropriateness of various leadership styles and conflict management strategies used in organizations

**Paper: 504 Security Analysis**

Students will be able to-

- CO 1: define the term investment tied in with discussion of applicable techniques.
- CO 2: understand the various strategies followed by investment practitioners
- CO 3: demonstrate various valuation models used in market.
- CO 4: Identify, formulate and solve investment problems.

**Paper: BVC 505 Treasury Management**

Students will be able to:

- CO 1: identify the crucial role played by treasury manager in cash management of a concern.
- CO 2: analyse the policy issues concerning the various treasury policies of a concern.
- CO 3: recognize the importance of treasury management in solution of business problems.
- CO 4: apply the various tools & techniques of treasury management in effective decision making.

**Paper: BVC 506 E-Banking**

Students will be able to-

- CO 1: understand the various types of e banking and compare traditional banking with e banking.
- CO 2: examine the working of different electronic fund transfer system such as NEFT, RTGS and SWIFT.
- CO 3: have thorough understanding of the regulatory framework of RBI group in internet banking and risk and security aspects of e banking.
- CO 4: outline impact of information technology on banks.

CO 5: identify the concept of disaster management in e-banking and information system audit

### **Semester-VI**

#### **Paper: BVC 601 Human Resource Management**

Students will be able to:

- CO 1: identify the crucial role played by proper management of human resources which is integral for growth of an organisation.
- CO 2: analyse the policy issues & factors concerning human resources of a concern.
- CO 3: recognize the various techniques used for overall development of human resources.
- CO 4: apply various tools & techniques for effective decision making.

#### **Paper: BVC 602 Marketing of Financial Services**

Students will be able to-

- CO 1: define, explain and illustrate some of the frameworks and approaches that are helpful in marketing financial services
- CO 2: discuss to position value propositions, products and brands in customers' minds.
- CO 3: develop new products (goods and services) that add value to consumers and firms.
- CO 4: identify the factors affecting the pricing decision of financial products.

#### **Paper: BVC 603 Financial Risk Management**

Students will be able to-

- CO 1: identify the pivotal role played by financial risk associated with investment of funds & tools for management of risk.
- CO 2: analyse the practical aspects about management of financial risk & identify the best avenues for investment of surplus funds.
- CO 3: learn about various financial risk associated with investment of funds & tools for management of risk.
- CO 4: have the understanding of trading process of various instruments.

#### **Paper: BVC 604 International Financial Management**

Students will be able to-

- CO 1: understand different components of foreign exchange market.
- CO 2: evaluate different theories of exchange rate determination.
- CO 3: outline the parity conditions in international trade.
- CO 4: analyse various types of exposures in international trade.

#### **Paper: BVC 605 International Banking**

Students will be able to-

- CO 1: demonstrates how international banking operations are being done.
- CO 2: list the role of international financial institutions for promoting international trade.
- CO 3: elaborate the practical relevance to deal in international financial market.
- CO 4: apply critical thinking skills to Complex international banking issues

#### **Paper: BVC 606 Portfolio Management**

Students will be able to-

- CO 1: define major portfolio management concepts for making investments in various securities
- CO 2: compare the different investment instruments available to them for taking investment decisions.
- CO 3: build the knowledge of various equity and bond portfolio management strategies to revise the portfolio
- CO 4: apply techniques adopted to minimise the risk

**Name of Programme: M.Com**  
**Programme Outcomes**

Students will be able to-

- PO 1: apply the knowledge of conventional as well as contemporary issues in the field of accounting, finance, human resource management, marketing, banking and insurance, tax planning, business environment to solve complex business problems.
- PO 2: identify, formulate, review literature and substantiate the decision making process through modeling and data analysis in the field of research.
- PO 3: demonstrate knowledge and understanding of the major theories relating to the field of commerce and business and developing realistic solutions to business problems by evaluating various policies of the government and laws and legislations relating to same.
- PO 4: understand, examine, and evaluate the impact of latest technological developments in the field of commerce.
- PO 5: create, select, and apply the appropriate techniques for evaluating the economic viability of business enterprises.
- PO 6: develop and enhance the entrepreneurial and employability skills of the students in the field of teaching, research, consultancy, accountancy, and corporate sector.

**Programme Specific Outcomes**

- PSO1: Students will get an extreme and rigorous base for teaching, research and allied business administration which prepares them for research and teaching.
- PSO2: Students can enhance their communication and presentation skills aimed at helping them to develop independent logical thinking and facilitate personality development
- PSO3: The students will acquire the skills in the specialized fields of marketing, accounting and business studies.
- PSO4: Learners will be able to understand the principles of accounting in detail with special focus on application oriented accounting methods.

**Course Outcomes**

**Semester-I**

**Paper: MC-101 Managerial Economics**

The students will be able to-

- CO 1: understand and determine consumers' equilibrium through cardinal or ordinal utility analysis.
- CO 2: analyse and evaluate equilibrium of producers under different markets conditions.
- CO 3: identify various market structures and discuss their implications for resource allocation
- CO 4: evaluate various factors responsible for rise in consumption, national income and apply different methods of measurement of national income in various sectors.
- CO 5: identify causes of inflation and policy measures needed to curb it.

**Paper: MC-102 Statistical Analysis for Business**

Students will be able to-

- CO 1: understand and analyse process of collection data, and their sources.
- CO 2: develop understanding and justification for choice of various types of probability and non-probability sampling techniques, and the importance of randomization.
- CO 3: understand and apply probability theory and theoretical probability distributions in business and research.
- CO 4: design questionnaire, conduct pilot survey and pre testing of questionnaire.
- CO 5: use sample statistics to test the hypothesis regarding population and estimate the population parameters and to make judgments about the population especially in business context.
- CO 6: select appropriate statistical techniques for summarizing, displaying, comparing, analysing and interpreting business data.

**Paper: Management Principles and Organization Behaviour MC 103**

Students will be able to-

- CO 1: imbibe conceptual knowledge of management and organization behaviour for analyzing the opportunities and challenges
- CO 2: analyze the complexities pertaining to leadership styles and motivation techniques associated with management of individual behaviour in the organization.
- CO 3: recognize, differentiate and assess for an individual, the concept of values, attitudes, personality, emotions and emotional intelligence.
- CO 4: demonstrate how the organizational behaviour enables them to synthesize related information and evaluate options for the most logical and optimal solution such that they would be able to predict and control human behaviour.

**Paper: Business Environment MC 104**

Students will be able to-

- CO1: classify the internal as well as external environment affecting any business organization.
- CO2: identify various govt. rules & regulations and Policies relating to business.
- CO3: draw inferences about the latest amendments in the current Budgets.
- CO4: appraise the data relating to various economic policies & economic Planning of India since inception.
- CO5: propose the limitations of various laws and suggestions for the improvement of the policies framed by our govt.

**Paper: Management Accounting and Control System MC 105**

Students will be able to-

- CO 1: obtain knowledge and understanding of models and methods relating to reporting, communication, decision making and accountability in the management control area.
- CO 2: evaluate the various management control systems and management accounting practices
- CO 3: analyse effective application of subject knowledge to diagnose and solve organizational problems and develop optimal managerial decisions.
- CO4: to examine the performance on the basis of evaluation parameters of enterprise in terms of expenses, control systems and pricing

**Semester-II**

**Paper: Corporate Financial Accounting and Auditing MC 201**

Students will be able to-

- CO 1: understand corporate accounting in conformity with the provisions of Companies Act and Accounting as per Indian Accounting Standards.
- CO2: identify the conceptual aspect of corporate accounting.
- CO 3: to evaluate the nature, purpose and scope of an audit and the legal, regulatory and ethical framework for auditing.
- CO 4: identify and apply the procedures required to evaluate control risk, including communication of the weaknesses, impacts and professional recommendations to those charged with governance and management

**Paper: Financial Management MC 202**

Students will be able to-

- CO1: define the various sources from which funds can be raised in a business and the ways to use these funds in an optimum way.
- CO2: explain concept of financial planning so as to become good financial Managers.
- CO3: construct framework of various projects which may help them in their future career.
- CO4: do cost-benefit analysis of each project, evaluation of the proposals & to take good decision – making on financial matters.

**Paper: Research Methodology MC 203**

Students will be able to-

- CO 1: critically assess, select and design appropriate research problem, research design and research process to achieve research objective.
- CO 2: assess critically various methods like literature study, case study, structured surveys, in depth interviews, focus group interviews.
- CO 3: compare, evaluate and design various types of measurement and scaling techniques.
- CO 4: analyse and apply the process of collection, screening, transformation and analysis of data in research.
- CO 5: calculate, present, and discuss descriptive and inferential statistics.
- CO 6: understand, evaluate, apply and test multivariate analysis techniques such as regression analysis, factor analysis, discriminant and logistic analysis.

**Paper: Marketing Management MC 204**

Students will be able to-

- CO1: demonstrates the need, importance and process of marketing planning and control.
- CO2: identify core concepts of marketing and the role of marketing in business and society.
- CO3: develop marketing strategies based on product, price, place and promotion objectives.
- CO4: design creative solutions to marketing problems.

**Paper: Human Resource Management MC 205**

Students will be able to:

- CO1: understand the concept of human resource management and its relevance in organizations.
- CO2: develop necessary skills set for application of various HR issues.
- CO3: to analyze the strategic issues and strategies required to recruit, select and develop manpower resources.
- CO4: to integrate the knowledge of HR concepts to take correct business decisions

**Semester-III****Paper: Banking and Insurance Services MC 301**

Students will be able to-

- CO 1: appraise the structure of banking system.
- CO 2: evaluate the innovations in banking.
- CO 3: evaluate the procedural formalities related to getting loan.
- CO 4: elaborate the legal provisions applicable to Insurance sector.
- CO 5: explain the calculation of premium of different insurance plans.

**Paper: Security Analysis and Portfolio Management MC 311**

Students will be able to-

- CO1: define the term investment tied in with discussion of applicable techniques.
- CO2: demonstrate various valuation models used in market.
- CO3: construct different approaches to portfolio concepts.
- CO4: analyze the concept of Capital market theory and associated models.

**Paper: Contemporary Accounting MC 312**

Students will be able to-

- CO1: examine the effect of contemporary issues in accounting,
- CO2: acquire skills to research and analyse complex contemporary financial accounting issues, and formulate well-reasoned and coherent arguments and reach well considered conclusions in relation to those issues.
- CO3: critically analyse a selected contemporary issue in financial accounting and to communicate effectively in writing.

**Paper: Consumer Behaviour MC 351**

Students will be able to-

- CO1: define the conception of consumer behaviour and reveal its importance in the context of marketing.
- CO2: identify factors that influence consumer behaviour.
- CO3: examine the consumer decision-making process and
- CO4: determine the positioning strategy according to consumer characteristics and behaviour and correlate the marketing strategies as per behavior patterns.

**Paper: Retail Management MC 352**

Students will be able to-

- CO 1: recall about the model of Retail Sector and make use of the same in discovering and combining to attain new business opportunities.
- CO 2: experiment with online trends to make use of the same in selecting cost effective alternative.
- CO 3: to organize the inputs in an appropriate setup to take part in the market and gain competitive edge over others.
- CO 4: to list the various pricing options to summarize and build a business plan that marks towards maximizing of customer base.

**Semester-IV**

**Paper: International Accounting MC 401**

Students will be able to-

- CO 1: explain the concept of international accounting, analyze and assess its peculiarities and importance from the perspective of the processes of globalization and integration.
- CO 2: identify and understand differences of national accounting systems and reasons of such differences.
- CO 3: explain, analyze and assess theoretical and practical aspects of accounting harmonization and convergence.
- CO 4: study and assess content of International Financial Reporting Standards (IFRS and peculiarities of alternative accounting and reporting methods.

**Paper: E-Commerce MC 402**

Students will be able to-

- CO 1: appraise the goals of e commerce.
- CO 2: evaluate the working of various e business models of e commerce.
- CO 3: choose from various methods of online payment.
- CO 4: examine the security and legal aspects of e commerce
- CO 5: appraise emerging trends in e business

**Paper: International Financial Management MC 411**

Students will be able to-

- CO 1: understand the different kinds of monetary systems.
- CO 2: evaluate different theories of exchange rate determination.
- CO 3: understand the parity conditions in international trade.
- CO 4: analyze various types of exposures in international trade

**Paper: Financial Markets and Financial Services MC 412**

Students will be able to-

- CO1: relate the working of financial institutions and markets both individually as an interlinked system.
- CO2: demonstrate functioning and need for regulation of different types of financial markets and the implications of the same on society.
- CO3: identify pivotal role of banking in a financial system and the reasons for it being among the most tightly regulated industries in the world.
- CO4: acquire analytical skills in the money and capital market in the context of raising medium and long term funds.

**Paper: Corporate Tax Law and Planning MC 413**

Students will be able to:

- CO1: identify the difference between tax planning, tax avoidance, tax evasion.
- CO2: apply various approaches and ways to minimize corporate tax liability within legal framework while taking advantage of deductions, exemptions, rebates and concessions provided under Income Tax Act.
- CO3: evaluate various management decisions from tax point of view.
- CO4: analyze tax issues relating to business restructuring practices.

**Name of Programme: Post Graduation Diploma in Business Management**

**Program Outcomes**

- PO1: To enable the students to appraise and inspect the functioning of local and global business environment and society.
- PO2: To enable the students to analyse the various branches of management such as marketing management, human resources management, production planning and control.
- PO3: To make the students well versed with the business environment and the various laws related to the business.
- PO4: To enhance the computer programming skills of the students.

**Programme Specific Outcomes**

- PSO1: Students will be able to have an understanding of economic, legal and social environment of business which can help them to identify potential business opportunities for entrepreneurial purpose.
- PSO2: Student can work in diverse teams in different roles under dynamic business environment by understanding organizational behavior and can take up challenging leadership positions.
- PSO3: Students can develop effective oral and written communication especially in business applications, with the use of appropriate technology (business presentations, digital communication, social network platforms and so on).

**Course Outcomes**

**Semester-I**

**Paper: Management and Organisational Behaviour PGDBM 101**

Students will be able to-

- CO 1: demonstrate the knowledge and understanding of concepts of management and organizational behavior.
- CO 2: apply relevant contemporary theories, concepts and models in order to analyze organizational environments, conflicts and issues.
- CO 3: analyse the complexities pertaining to leadership styles and motivation techniques associated with the management of individual behaviour in the organisation.
- CO 4: recognize, differentiate and assess for an individual, the concept of values, attitudes, personality, emotions and emotional intelligence.

**Paper: Business Economics and Environment PGDBM 102**

Students will be able to-

- CO 1: understand tools and techniques of managerial economics to enable them to appreciate its relevance.
- CO 2: develop an economic way of thinking in dealing with practical business problems of companies in different industries.
- CO 3: define the nature, scope and structure of business environment
- CO 4: analyse the influence of various environmental factors on business operations.
- CO 5: estimate legal frame work and legal issues in business environment.

**Paper: Financial Accounting PGDBM 103**

Students will be able to-

- CO 1: outline the practical and theoretical knowledge of financial accounting.
- CO 2: understand the applicability of accounting concepts, principles and conventions.
- CO 3: apply knowledge to prepare final accounts of various type organisations.
- CO 4: define the needs of the various users of accounting data and demonstrate the ability to communicate such data effectively.

**Paper: Marketing Management PGDBM 104**

Students will be able to-

- CO 1: acquire an understanding of fundamental concepts of Marketing.
- CO 2: demonstrate effective understanding of relevant functional areas of marketing management and its application.
- CO 3: develop an insight into basic marketing mix issues, effectively segment a market, target and position a product.
- CO 4: apply analytical skills in identification and resolution of problems pertaining to marketing management.

**Paper: Human Resource Management PGDBM 105**

Students will be able to-

- CO 1: understand the management of human resources and challenges being faced by human resource department in an organisation.
- CO 2: apply the various job analysis tools and techniques to cater to the organizations HR needs.
- CO 3: develop, implement and evaluate employee orientation, training, development and evaluation programs.
- CO 4: assess the concept of human resource management and their effective management in today's organization.

**Semester-II**

**Paper: Production Planning and Control PGDBM 201**

Students will be able to-

- CO 1: demonstrate the concept of production planning and control and its functions.
- CO 2: understand the importance and function of inventory and to be able to apply selected techniques for its control and management
- CO 3: apply the principles and techniques for planning and control of the production and service systems to optimize/make best use of resources.
- CO 4: forecast in the manufacturing and service sectors using selected quantitative and qualitative techniques.

**Paper: Management and Cost Accounting PGDBM 202**

Students will be able to-

- CO 1: understand the basic concepts of cost accounting and management accounting.
- CO 2: identify, use and interpret the results of various techniques of costing and management accounting appropriate to different activities.
- CO 3: apply the various tools from management accounting and cost accounting to facilitate the decision making.
- CO 4: develop analytical abilities to enable them to face the business situations.

**Paper: Business and Labour Law PGDBM 203**

Students will be able to-

- CO 1: explain the concept of general business law issues to help the students to become more informed sensitive and effective business leaders.
- CO 2: illustrate the fundamental legal issues pertaining to the business world to enhance their ability to manage businesses effectively.
- CO 3: demonstrate the development and the judicial setup of labour laws.

CO 4: assess the laws relating to Industrial Relations, Social Security and Working conditions and to integrate the knowledge of labour law in general HRD practice.

**Paper: Advertising and Sales Management PGDBM 204**

Students will be able to-

CO 1: outline basic concepts of advertising and sales management.

CO 2: identify and make decisions regarding the most feasible advertising appeal and media mix.

CO 3: build Advertising Programme and measure advertising effectiveness.

CO 4: analyse the role of professional sales people and sales management.

CO 5: analyse, interpret and assess the strategic issues and decisions in advertising and sales management.



**HANS RAJ MAHILA MAHA VIDYALAYA**  
MAHATMA HANS RAJ MARG, JALANDHAR (PUNJAB) INDIA



**FACULTY OF**  
**COMPUTER SCIENCE AND IT**

**Program Outcomes (POs)**  
*and*  
**Course Outcomes (COs)**

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## **Post Graduate Department of Computer Science and Information Technology**

### **Name of Programme: BCA/B.Sc. (IT)**

#### **Programme Outcomes**

- PO 1: This programme inculcates the basic understanding of Computer and Computer Programming Languages in students so that they can have complete knowledge about the system and its inner working details.
- PO 2: This programme aware the students about the high use of Computers in various fields and increasing number of Jobs in this field.
- PO 3: This programme make the students well versed with the computing environment and the various concepts, topics and subjects related to this field.
- PO 4: This Programme enables the students to have the complete understanding of various branches of Computer and Technology such as Computer Graphics, Operating Systems and Data Structures,

#### **Programme Specific Outcomes**

- PSO 1: This Programme specifically provides better job opportunities to the students and professional knowledge in the field of Programming Languages like C, C++ and Java etc.
- PSO 2: This programme provides complete insight details of the technical subjects of this field like Computer Architecture, Computational Problem Solving using Python, Digital Electronics and Discrete Mathematics. All these technical subjects will help them to grab a Job Opportunity and work in an efficient way in their respective fields.
- PSO 3: The present era of technology is highly demanding the employees with thorough practical training in their required practical approach. This Programme enables the students to solve the real world problems practically and enrich their skills in research and jobs.
- PSO 4: The programme specifically provides in depth knowledge of computer to students so that they can build their carrier in this field and take subsequent advantages from the programme course work.

### **Name of Programme: BCA**

#### **Course Outcomes**

##### **Semester-I**

##### **Paper: I Introduction to Programming-C**

- CO 1: This paper demonstrates programming skills to the students who are beginning their career in various Computer Programming Languages.
- CO 2: C Programming acts as the base of programming languages which will formulate the interest of students in programming field.
- CO 3: The concept of C programming language act as outline to all advanced computer programming languages .
- CO 4: This language is being accepted as universal programming language that elaborate the understanding of programming language in students.
- CO 5: This paper is specifically elaborate the multitude of applications, including advanced scientific systems and operating systems

##### **Paper: II Introduction to Computers and Information Technology**

- CO 1: This paper categorize the fundamental information about computer and its working.
- CO 2: Students discover the fundamental concept of computers with their present level of knowledge about computers.
- CO 3: This paper simplify Microsoft Office programs which enable the students to create professional and academic documents.
- CO 4: Students elaborate various accounting related operations in MS Excel and presentation skills by using MS PowerPoint which makes them able to work in field of office automation and desktop publishing as well.

##### **Paper: III Applied and Discrete Mathematics**

- CO 1: This paper demonstrates the mathematical fundamentals topics to students.
- CO 2: Boolean algebra is demonstrated through this course structure, so that students can prepare themselves for further understanding of topics related to other subjects of programme.
- CO 3: This summarizes the concepts to the students in many competitive exams that act as a base for reasoning, quantitative techniques and graph theory as well.

## **Semester-II**

### **Paper: I Introduction to Programming-C++**

- CO 1: This paper illustrates the concepts of C programming language and illustrates the concept of object oriented programming languages so that students can learn about the real time problem solving techniques.
- CO 2: Specialized course work can be used for developing different applications, games, animations, web browser, database software, compilers etc., giving students a lot of opportunities in IT Industries as well.
- CO 3: Expansion of this paper is being used in system programming and embedded systems for the establishment of Computer Aided Designs and Computer Aided Manufacturing purposes also.
- CO 4: This Course rephrase the level of Logical and Analytical Thinking in Students so that they can give more emphasis on real world problem solving techniques and methods.
- CO 5: C++ inculcates all the required concepts, methodologies and structure oriented guidance in Students which motivates them to be a Good Programmer in future.

### **Paper: II Principles of Digital Electronics**

- CO 1: This paper allows students to analyze the internal circuitry of the processor and memory in detail explaining about process creation, performance of various calculations, number system, number conversions and K- Mapping techniques.
- CO 2: It categorize the mathematical foundation going inside the system for the bits transfer inside the processor, converting sum of product forms into product of sum forms, generating the read-write cycles and memory writing timing diagrams.
- CO 3: Digital Electronics makes students summarize about the internal mechanism of Arithmetic Logical Unit inside the processor performing various calculations and manipulations.
- CO 4: The motive of this paper is to make hardware live projects by the students.
- CO 5: Students can pursue their future in hardware engineering by having complete learning of electronics.
- CO 6: This programme will demonstrate the complete learning of electricity and computer system handling in students.

### **Paper: III Numerical Methods & Statistical Techniques**

- CO 1: This paper evaluate the learning insights of concept of statistical analysis of the data to the students so that they can effectively and efficiently store the data inside the systems .
- CO 2: In the field of computing, this paper will recommend the students to research and experiment about the statistical details of the data and perform mathematical calculations of the data as well.
- CO 3: This gives students complete elaboration to calculate various statistical calculations on data like calculating Mean, Median, Mode, Kurtosis, Moments and Regression.
- CO 4: This paper extends the critical and analytical strategies in students so that students can pursue their carrier in research and development field.

## **Semester-III**

### **Paper: I Computer Architecture**

- CO 1: This paper demonstrates the way the hardware components operate and how they are connected together to form the computer system
- CO 2: This demonstrates the system components, circuit design, logical design, structure of instruction, computer arithmetic, processor control, assembly programming and methods of performance enhancement.
- CO 3: This paper is especially designed for the students to learn hardware details so that they can work in the Field of Hardware Engineering and be able to develop Hardware Live Projects also.

### **Paper: II Database Management System**

- CO 1: This paper is very significant for the graduate students as it delivers details of database systems and its design.
- CO 2: It constructs big role in all types of industry/institutions because all kind of necessary data is to be stored in database.
- CO 3: This paper also organizes the design and implementation of databases and generates opportunity for students to become data managers.
- CO 4: It provides opportunity for future development and research in the field of database techniques like data ware housing and data mining as these are the basic needs of all types of business now and in future.

**Paper: III Computational Problem Solving & Statistical Techniques**

- CO 1: This paper is specially designed for providing demonstration of programming to students.
- CO 2: Going from the basics to complete detail of the programming concept, this paper enables students to apply their own logics in computer system.
- CO 3: It is being widely used in various companies and MNCs, therefore this will help students to get survey for their training projects after placements.
- CO 4: Students can build up their own software projects by using the syntaxes and semantics of this programme.
- CO 5: The basic foundation of this particular subject will raise the interest of students in other high level programming languages to accomplish the need of becoming a successful Software Developer.

**Semester-IV****Paper: I Data Structures & File Processing**

- CO 1: This paper is one of the main and technical paper of BCA course after which students become able to discover appropriate data structures as applied to specify problem definition.
- CO 2: Students can compare about application of various data structure like stacks, queues, tree, graph, linked list etc. related to different operations.
- CO 3: This paper is highly recommended to learn and implement logics in computer science.
- CO 4: It also illustrates the various concepts related to data storage in computers.
- CO5: Students learn to analyze and compare algorithms for efficiency.

**Paper: II Information System**

- CO 1: This paper carries importance because information system management act as distinguisher for all industries/institutions by the use of information technology.
- CO 2: This paper is best suitable for all the students who want to build their carrier in the system analyst, system designer and system manager as these are special jobs for new system development and design.
- CO 3: This paper is very much recommended in various levels of business like TPS, MIS, DSS, and ESS.
- CO 4: Students can get good jobs according to their interest and develop themselves in higher management positions.
- CO 5: This paper is important for development of new techniques in business development.

**Paper: III Internet Application**

- CO 1: This paper provides the demonstration of various concepts related to internet where students will learn about the connection establishment, configuring the network, trouble shoot the network etc.
- CO 2: Students learn about the various measures being used for securing the network along with the help of internet protocols and increase in the use various Security Firewalls
- CO 3: Paper gives suitable information to students in order to get maximized advantages from the network by implementing an accurate type of Topology and Connecting computer system in proper order.
- CO 4: Students can pursue their carrier in the field of network security and network coordination which is presently in high demand throughout the Industry.

**Paper: IV System Software**

- CO 1: This paper demonstrates complete concepts to the students about the process generation inside the internal architecture of the systems and helps them to understand how the processing is being done inside the system.
- CO 2: Detailed insights about the Loader, Linker, Assembler and Compiler are developed and are demonstrated to the students
- CO 3: Study of various phases of the Compiler makes students more enthusiastic to learn about the internal process working of the system so that they can do specialization in the particular course for higher education also.
- CO 4: Students can compare the concept of macros, multi-threading and multiple process orientation techniques through this course work

**Semester-V****Paper: I Computer Networks**

- CO 1: This paper inculcates the complete formulation of networking in students which is the most essential and advantageous in the present scenario of internet and networking.

- CO 2: Complete understanding of the specified paper provides students with the information of various network topologies, network protocols, network essentials and network controlling.
- CO 3: This Course will help students to get proper information about many network devices and compare their uses so that students can use them in real world also.
- CO 4: Students will thoroughly elaborate the transmission media and compare different LAN, MAN and WAN topologies.
- CO 5: Studying the detailed information about the internet protocols will increase the ability in students to work in the real networking development techniques.

**Paper: II Web Technologies**

- CO 1: This paper is highly recommended for the provision of demonstration to the students about website development and software development which will highly increase their opportunities to work in industries.
- CO 2: This course is the combination of many server side and client side programming languages like CSS, Java Script, Java Servlets, ASP.net and PHP for the successful establishment of Website or Software.
- CO 3: Students will get through the internal knowledge of back-end and front-end processes using which they will be able to design their own websites or software.
- CO 4: This paper illustrates information about the data base connectivity along with the given front end website or software so that the students can learn about the data transfer procedures from front-end to back-end and vice-versa.

**Paper: III Operating System**

- CO 1: This paper demonstrates about the importance of computer system resources and the role of operating system in their management policies to get a better understanding about the concept of various Process Management Techniques under different operating systems available.
- CO 2: The paper gives detailed description about the process and functions of operating system in order to schedule manage and control the processes going inside the system.
- CO 3: The study of operating system helps students to analyse the memory management and its allocation policies which is the prime factor of consideration in every operating system,
- CO 4: This course helps students to identify use and formulate the storage management policies with respect to different storage management technologies of operating systems like Windows, Linux and UNIX.

**Paper: IV JAVA Programming Language**

- CO 1: JAVA is the popular for website and Software Development and this course formulates a basic core and advanced both types of technical information about JAVA Language.
- CO 2: Students get to learn about the basic concepts of object oriented programming and basic as well as advance Java Programming constructs.
- CO 3: This programme enables students to implement the constructs and structure of the Java Programming Language in the successful creation of Java Applets and Java Servlets.
- CO 4: This programme is highly recommended for students in order to pursue career in software development in various MNCs in India and Abroad as well.
- CO 5: The Specialization of this will increase the opportunities for students to get jobs in the field of programming, website and software development, software testing etc.

**Semester-VI**

**Paper: I Computer Graphics**

- CO 1: This paper demonstrates the detailed knowledge of Computer Screen and Audio Visual Aids to Students.
- CO 2: Students will get to know about the details of Image Resolution, Pixels, Bitmap and Pixel Map which helps them to understand the process of Image Processing.
- CO 3: Computer Graphics is a kind of Programme that enables students to understand the working of CRT, LCD and LED Displays so that they can design the screen graphics according to it.
- CO 4: This helps students to get through the techniques of creating many Graphical Scenes and Scenes with Motion also which greatly helps them to create different live projects and work under various MNCs.

**Paper: II Software Engineering**

- CO 1: Software engineering calls upon interdisciplinary skills like critical thinking, cost analysis & project management—skills that can be enhanced in a master's program in computer science, computer engineering, information's science or software engineering.
- CO 2: This paper will help students to take part in software engineering with a focus on new technologies and areas of application, such as cyber security, big data, or mobile application development etc.
- CO 3: This paper will develop a comprehensive solution of programming, software architecture, and software testing which is in high demand in various MNCs and in vast IT Sector.

**Paper: IV Project**

- CO 1: The project will enable students able to identify the requirements for the real world problems and correlating them which will make them able to develop software solutions for them.
- CO 2: Project Modules make students learn logically and analytically so that they can pursue their carrier in the field of Software Development in different MNCs and industries.
- CO 3: The paper inculcates the important software developing skills in students to make them a good Software Developer in order to make projects according to the need of customers and companies.
- CO 4: This paper motivates students to work in teams and manage the conduct of the research study in near future.
- CO 5: Students can develop Projects as Websites and Software in various different languages like JAVA, ASP.net, PHP and Android also.

**Name of Programme: B.Sc. (IT)****Course Outcomes****Semester-I****Paper I- Fundamentals of Computers**

- CO 1: This paper demonstrates fundamental information about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.
- CO 2: Students become able to bridge the fundamental concept of computers with their present level of knowledge about computers.
- CO 3: This paper includes Microsoft Office programs which is being utilize by students to create professional and academic documents.
- CO 4: Students explore various accounting related operations in MS Excel and presentation skills using MS PowerPoint which makes them able to work in field of Office Automation and Desktop Publishing as well.

**Paper: II Introduction to Programming-C**

- CO 1: This paper demonstrates programming skills to the students who are beginning their course work in various computer programming languages.
- CO 2: C Programming acts as the base of programming languages which will thoroughly justify the interest of students in programming field.
- CO 3: All advanced computer programming languages are belonging to the base concept of C programming and learning the basic concept of this paper, will formulates base for the students in advance languages also.
- CO 4: This language is being accepted as universal programming language that elaborate the understanding of programming language in students.
- CO 5: This paper is specifically being composed for the multitude of applications, including advanced scientific systems and operating systems

**Paper: III Applied & Discrete Mathematics**

- CO 1: This paper demonstrates the mathematical fundamentals topics to students.
- CO 2: The Complete knowledge of Boolean Algebra is demonstrated through this course structure, so that students can prepare themselves for further understanding of topics related to other subjects of programme.
- CO 3: This summarize the concepts to the students in many competitive exams that act as a base for reasoning, quantitative techniques and graph theory as well.

## **Semester-II**

### **Paper: I Principles of Digital Electronics**

- CO 1: This paper allows students to analyze the internal circuitry of the processor and memory in detail explaining about process creation, performance of various calculations, number system, number conversions and K- Mapping techniques.
- CO 2: It categorize the mathematical foundation going inside the system for the bits transfer inside the processor, converting sum of product forms into product of sum forms, generating the read-write cycles and memory writing timing diagrams.
- CO 3: Digital Electronics makes students summarize about the internal mechanism of Arithmetic Logical Unit inside the processor performing various calculations and manipulations.
- CO 4: This paper will motivate students to make their own hardware live projects.
- CO 5: Students can pursue their future in hardware engineering by having complete knowledge of electronics.
- CO 6: This programme will demonstrate the complete knowledge of electricity and computer system handling in students.

### **Paper: II Introduction to Programming-C++**

- CO 1: This paper illustrates the concepts of C programming language and illustrates the concept of object oriented programming languages so that students can learn about the real time problem solving techniques.
- CO 2: Specialized course work can be used for developing different applications, games, animations, web browser, database software, compilers etc., giving students a lot of opportunities in IT Industries as well.
- CO 3: Expansion of this paper is being used in system programming and embedded systems for the establishment of Computer Aided Designs and Computer Aided Manufacturing purposes also.
- CO 4: This Course rephrase the level of Logical and Analytical Thinking in Students so that they can give more emphasis on real world problem solving techniques and methods.
- CO 5: C++ inculcates all the required concepts, knowledgeable methodologies and structure oriented guidance in Students which motivates them to be a Good Programmer in future.

### **Paper: III Numerical Methods & Statistical Techniques**

- CO 1: This Paper provide the learning insights of Concept of Statistical Analysis of the Data to the students so that they can effectively and efficiently store the data inside the systems where it will be having a low cost and timing access easily.
- CO 2: In the field of Computing, this paperwork will motivate the students to research and experiment about the statistical details of the data and perform mathematical calculations of the data as well.
- CO 3: This Paper formulates complete knowledge to calculate various statistical calculation on Data like Calculating Mean, Median, Mode, Kurtosis, Moments and Regression.
- CO 4: This paperwork increases the critical and analytical strategies in students so that students can pursue their carrier in Research and Development Field.

## **Semester-III**

### **Paper: I Introduction to Python**

- CO 1: This paper is specially designed for explaining the programming concepts to students.
- CO 2: The students apply their own logics in computer system by evaluating complete detail of the programming concept
- CO 3: The complete demonstration of this programme will help students to get through their training projects after placements in MNCs.
- CO 4: Students can build up their own Software Projects by using the syntaxes and semantics of this programme.
- CO 5: The basic theory of this particular paper will raise the interest of students in other high level programming languages to accomplish the need of becoming a successful Software Developer.

### **Paper: II Data Structure**

- CO 1: This paper demonstrates a technical paper of BSc. IT course after which students can select appropriate data structures to specify problem definition.
- CO 2: Students learn to categorize various data structure like stacks, queues, tree, graph, linked list etc. related to different operations.
- CO 3: This paper is highly necessary to learn and implement logics in computer science.
- CO 4: It also includes the various concepts related to data storage in computers.

CO 5: Students prepare criteria to analyse and compare algorithms for efficiency.

**Paper: III System Analysis & Design**

CO 1: This paper illustrates the analyses and designing procedures of a system so that students can go through inside details.

CO 2: Students can build their career as System Analyser and System Handlers in various companies and IT industry.

CO 3: This paper summarizes the concepts of various constructs and structures useful in analysing the system and designs.

**Semester-IV**

**Paper: I Database Management System**

CO 1: This paper is very significant for the graduate students as it delivers detail understanding of database systems and its design.

CO 2: It constructs big role in all types of industry/institutions because all kind of necessary data is to be stored in database.

CO 3: This paper also organizes the design and implementation of databases and generates opportunity for students to become data managers.

CO 4: It provides opportunity for future development and research in the field of database techniques like data ware housing and data mining as these are the basic needs of all types of business now and in future.

**Paper: II Internet Applications**

CO 1: This paper demonstrates various concepts related to Internet where students will learn about the Connection Establishment, configuring the network, trouble shoot the network etc.

CO 2: Students learn about the various measures being used for securing the network along with the help of Internet Protocols and increase in the use various Security Firewalls

CO 3: Paper illustrates suitable information to students in order to get maximized advantages from the network by implementing an accurate type of Topology and Connecting Computer System in proper Order.

CO 4: Students can pursue their carrier in the field of Network Security and Network Coordination which is presently in high demand throughout the Industry.

**Paper: III JAVA & Web Designing**

CO 1: JAVA is the popular for website and Software Development and this course give formulates basic core and advanced both types of technical information about JAVA Language.

CO 2: Students get to learn about the basic concepts of object oriented programming and basic as well as advance Java Programming constructs.

CO 3: This programme enables students to implement the constructs and structure of the Java Programming Language in the successful creation of Java Applets and Java Servlets.

CO 4: This programme is highly recommended for students in order to pursue career in software development in various MNCs in India and Abroad as well.

CO 5: The Specialization of this will maximize the opportunities for students to get jobs in the field of programming, website and software development, software testing etc.

**Paper: IV Web technology**

CO 1: This paper is highly recommended for the provision of demonstration to the students about website development and software development which will highly increase their opportunities to work in industries.

CO 2: This course is the combination of many server side and client side programming languages like CSS, Java Script, Java Servlets, ASP.net and PHP for the successful establishment of Website or Software.

CO 3: Students will get through the internal knowledge of back-end and front-end processes using which they will be able to design their own websites or software.

CO 4: This paper illustrates information about the data base connectivity along with the given front end website or software so that the students can learn about the data transfer procedures form front-end to back-end and vice-versa.

**Semester-V**

**Paper: I Computer Networks**

CO 1: This paper explains the importance of networking in students which is the most essential and advantageous in the present scenario of internet and networking.

- CO 2: Complete survey of the specified paper provides students with the information of various network topologies, network protocols, network essentials and network controlling.
- CO 3: This Course will help students evaluates proper information about many network devices and compare their uses so that students can use them in real world also.
- CO 4: Students will thoroughly elaborate the transmission media and compare different LAN, MAN and WAN topologies.
- CO 5: Studying the detailed information about the internet protocols will increase the ability in students to work in the real networking development techniques

**Paper: II Operating System**

- CO 1: This paper demonstrates about the importance of computer system resources and the role of operating system in their management policies to get a better understanding about the concept of various Process Management Techniques under different operating systems available.
- CO 2: The paper gives detailed elaboration about the process and functions of operating system in order to schedule manage and control the processes going inside the system.
- CO 3: The study of operating system helps students to analyze the memory management and its allocation policies which is the prime factor of consideration in every operating system,
- CO 4: This course helps students to identify use and evaluate the storage management policies with respect to different storage management technologies of operating systems like Windows, Linux and UNIX.

**Paper: III E-Business**

- CO 1: This paper is one of the strong theoretical concepts regarding the online business.
- CO 2: This paper illustrates the clear concept regarding traditional and online business.
- CO 3: This paper helps illustrates the basics of the E-Business and techniques to handle business digitally in order to have productive outcome from the business.
- CO 4: This paper demonstrates students about the online payment and online banking systems.

**Semester-VI**

**Paper: I Computer Graphics**

- CO 1: This paper demonstrates the detailed concepts of Computer Screen and Audio Visual Aids to Students.
- CO 2: Students will get to know about the details of Image Resolution, Pixels, Bitmap and Pixel Map which helps them to understand the process of Image Processing.
- CO 3: Computer Graphics is a kind of Programme that enables students to understand the working of CRT, LCD and LED Displays so that they can design the screen graphics according to it.
- CO 4: This helps students to get through the techniques of creating many Graphical Scenes and Scenes with Motion also which greatly helps them to create different live projects and work under various MNCs.

**Paper: III Project**

- CO 1: This paper demonstrates the detailed explanation of Computer Screen and Audio Visual Aids to Students.
- CO 2: Students will get to know about the details of Image Resolution, Pixels, Bitmap and Pixel Map which helps them to understand the process of Image Processing.
- CO 3: Computer Graphics is a kind of Programme that enables students to learn the working of CRT, LCD and LED Displays so that they can design the screen graphics according to it.
- CO 4: This helps students to get through the techniques of creating many Graphical Scenes and Scenes with Motion also which greatly helps them to create different live projects and work under various MNCs.

**Name of Programme: M.Sc. (Computer Science)/M.Sc. (Information Technology)**

**Programme Outcomes**

- PO 1: This programme will provide the ability to students to communicate well and to understand the concepts and designs of computer effectively and professionally.
- PO 2: This programme will enable the students to apply the knowledge of computing in research and education field to produce effective designs and solutions for specific problems.
- PO 3: This programme will inculcate the ability of identify, analyze and synthesize scholarly literature relating to the field of computer science and IT.
- PO 4: This programme will be effective to combine the understanding of the use of software development tools, IDEs, various software system and modern computing platforms.

### **Programme Specific Outcomes**

- PSO 1: This programme will specifically enrich the students with the detail knowledge to apply standard software engineering practices and strategies in real time software project development using open source programming environment or commercial environment to deliver quality product for the organizational process.
- PSO 2: This programme inculcate the abilities in students specifically to design and develop computer programs/computer based systems in the areas related to algorithms, networking, web design, cloud computing, IOT and data analytics of varying complexity.
- PSO 3: This programme will make the students able to learn and work in this competitive filed according to the present scenarios of MNCs and organizations so that students can have better carrier opportunities.
- PSO 4: This programme will acquaint students with the contemporary trends in industrial and research setting and thereby providing innovative novel solutions to existing problems.

**Name of Programme: M.Sc. (Computer Science)**

### **Course Outcomes**

#### **Semester-I**

#### **Paper: MCS-101 Advanced Data Structure**

- CO 1: This paper demonstrates the algorithm design and analysis and it also provide the students lot of opportunities in the IT industries. .
- CO 2: This paper demonstrates means for management of large dataset such as databases or internet indexing services by allowing the data use and processing on a software system.
- CO 3: Many reputed companies like Amazon, Microsoft hire students on the basis of their practical knowledge in the data structures.

#### **Paper: MCS-102 Advanced Computer Architecture**

- CO 1: The study of computer architecture and organization focuses on the interface between hardware and software, and emphasizes the structure and behaviour of the system that provides hardware details of the system to the students.
- CO 2: This paper inculcates the hardware information of processor in students.
- CO 3: To develop good software, it is very important to learn the computer system as a whole and this paper demonstrates complete concepts about the inner working of computer system.

#### **Paper: MCS-103 Network Design & Performance Analysis**

- CO 1: This paper illustrates students with the detail networking concepts being highly used in modern time's technologies and it also provides shared access to customer and product databases in a very less time.
- CO 2: Network protocol analysis is a network sniffer to capture data for further analysis and understanding the technical means for necessary packets.
- CO 3: Best demonstration of networking concepts make students more confident about the business startups in field of professional networking development.
- CO 4: This paper will enable students to get best placements as Networking Professionals and Network Developers in various companies.

#### **Paper: MCS-104 Discrete Structures**

- CO 1: Discrete Structures demonstrates the students to study areas such as set theory, logic, relations, graph theory and analysis of algorithms.
- CO 2: Modeling with discrete mathematics is an extremely important problem solving skill in which the students perform combinatorial analysis to solve counting problems and analyze algorithms.
- CO 3: This paper is a collection of techniques and algorithms relevant to all sorts of things that students often need to do programming.

#### **Paper: MCS-105 Soft Computing**

- CO 1: This paper demonstrates the basic knowledge of probability, fuzzy logic and neural networks that allows students to handle problems with imprecise and incomplete data.
- CO 2: The paper inculcates the fuzzy logic toolbox and covers a wider range of operating conditions, more readily customizable in natural language terms.
- CO 4: This paper provides illustration of various membership functions of fuzzy logic and use of fuzzy and neural for various real world problems.
- CO 5: This paper also demonstrates the various types of neural networks and their algorithms.

## **Semester-II**

### **Paper: MCS-201 Theory of Computation**

- CO 1: Students understand the mathematical laws governing efficient computation and apply this understanding to address problems in other parts of computer science.
- CO 2: This paper demonstrates students about the elementary ways in which a computer can be made to think. It provides good problem solving skills and behind logic of any compiler.
- CO 3: In theory of computation students will learn abstract machines, or model of computation, which will be defined mathematically.

### **Paper: MCS-203 Image Processing**

- CO 1: This paper will provide students useful and essential skills and experience to make career as creative professionals such as graphic designers, gallery managers, art curators, commissioning editors and art directors etc.
- CO 2: Students will formulate detailed functions of image processing software so that students can learn about restoration, manipulation and development of various imaging techniques.
- CO 3: This paper demonstrates the development of the layout and production design of newspapers, magazines, corporate reports, journals and other publications.
- CO 4: The advanced features of image processing are being used to develop motion picture and motivate students to work in television industry.

### **Paper: MCS-203 Design & Analysis of Algorithm**

- CO 1: A Software programmer is responsible for designing, installing, testing and maintaining of software systems. A Software Programmer has to review current systems, present ideas for system improvements, work with analysts, product specifications and write the program codes.
- CO 2: Software Engineers instruct a computer to perform the desired function.
- CO 3: A Software Developer has to work in industries like software publishers, gaming companies and government organizations.
- CO 4: Technical writers are the technical communicators who prepare instruction manuals, journal articles and other documents to communicate complex and technical information more easily.

### **Paper: MCS-204 Cloud Computing**

- CO 1: It provides a deep knowledge to students about virtualization. Cloud environment gives the business the ability to communicate and share more easily outside of the traditional methods.
- CO 2: This subject demonstrates students about the different models used in cloud for service provided.
- CO 3: The paper enables the students to learn the use of internet and cloud in various organizations.
- CO 4: Moving to cloud computing may reduce the cost of managing and maintaining your IT systems. Students came to know about the energy efficiency in cloud.

### **Paper: MCS-205 Distributed Database System**

- CO 1: This paper is highly specialized that elaborates the future design and implementation in the field of networking.
- CO 2: This paper demonstrates the advance development in the field of networking, storing and fetching of information.
- CO 3: This helps in illustrating the specialized networking techniques which ensure the processing of large information systems without any failures.
- CO 4: Students learn about remote network and server processing in which data is never placed in server but data is available to user as and when required.
- CO 5: This paper is having huge scope in large networks, data warehousing and data mining. Students' gets very good option for becoming good network administrator.

## **Semester-III**

### **Paper: MCS-301 Advanced Software Engineering**

- CO 1: The Advanced Software Engineering is a newly redesigned course that enables students to extend their knowledge and gain valuable experience in software engineering as it applies to a number of new and important areas of IT and computing.
- CO 2: Software engineers may choose to become experts in a single programming language or type of development.
- CO 3: Students can work as web developer, software engineer, Mobile development, Technical stack (e.g., Python, Ruby) etc with the complete knowledge of this subject.

**Paper: MCS-302 System Software**

- CO 1: This paper demonstrates the students about the process generation inside the internal architecture of the systems and helps them to understand how the processing is being done inside the system.
- CO 2: Detailed illustration of Loader, Linker, Assembler and Compiler is given to the students through this paper through which they can determine what the actual working is being performed inside the system when we initiate a command.
- CO 3: Study of various phases of the Compiler makes students more enthusiastic to learn about the internal process working of the system so that they can do specialization in the particular course for higher education.
- CO 4: Students get to learn about the concept of Macros, Multi- Threading and Multiple Process Orientation techniques through this course work.

**Paper: MCS-303 Data Mining and Warehousing**

- CO 1: This paper demonstrates how data is integrated across enterprises and industries
- CO 2: This paper helps students in solving what-if analysis and various mining techniques to handle the business scenarios.
- CO 3: This paper work inculcates the capability of decision making on current and historical data and its implementation.
- CO 4: This paper makes it easier to learn the students how to manage and control businesses and perform mining on the required data.

**Paper: MCS-304 Concept of Core and Advanced JAVA**

- CO 1: This paper is one of the specialized Programme in M.Sc., which provides the detail knowledge of Java Programming Language.
- CO 2: Students get to learn about the basic concepts of object oriented programming and basic as well as advance Java Programming constructs.
- CO 3: This paper enables students to implement applications in Java & Java Applets.
- CO 4: This paper is highly recommended for students in order to pursue career in software development.
- CO 5: Students can get many job opportunities and use this language as a tool in research.

**Paper: MCS-305 Network Programming**

- CO 1: Network programming write software programs or scripts that aid in network analysis, such as diagnostics or monitoring utilities.
- CO 2: This paper demonstrates students to integrate new software technologies into an existing network environment or to build a new environment.
- CO 3: Network technicians often work the help-desk services to repair or upgrade computers. Technicians need to be familiar with the different operating systems such as Microsoft, Novell, and UNIX, as well as the basics of computer networking.

**Semester-IV****Paper: MCS-401 Advanced Web Technologies**

- CO 1: This subject provides combination of many languages which are useful for students to develop web sites. ASP .NET significantly reduces the amount of code required for building large and complex applications which can increase overall development speed and reduce development costs.
- CO 2: ASP.NET is an open-source server-side web application framework designed for web development to produce dynamic web pages and by implementing CSS students came to know about formatting.
- CO 3: This paper demonstrates students to get through the inner functioning details of Asp.Net framework. Asp.Net framework is language independent, means students can choose any programming language which best suited to you application.
- CO 4: By database connectivity students came to know how the internal functionality of a web site is connected with backend.

**Paper: MCS-402 Microprocessor and Its Application**

- CO 1: A microprocessor is normally capable of many functions, such as word processing, calculation, and communication via Internet or telephone and this helps students to understand the detailed view of microprocessor about their functionality and their properties.

CO 2: Students can easily extend their knowledge of writing assembly code, for the x86 assembly language thereafter. And students can understand how a machine interprets instructions at low level.

CO 3: This paper demonstrates how a processor at the lower level receives input from the keyboards and the mice. And students can learn how and why memory segmentation in a process came into existence.

CO 5: This also allows students to learn about the real life applications of the microprocessor.

**Paper: MCS-403 Object Oriented Modeling, Analysis and Design**

CO 1: OOAD is often used in the area of object oriented programming (OOP). OOP aims to produce software that is efficiently written with few instances of duplicated code.

CO 2: Object-oriented analysis and design (OOAD) is a technological approach to analyse, design a software system or business by using Object Oriented (OO) concept.

CO 3: An OOAD provides learning of principles of relational, hierarchical and object-oriented databases

CO 4: OOAD allows the students to learn current trends in data management, such as data mining and business analytics.

**Paper: MCS-405P Project**

CO 1: The Project will make Students able to identify the requirements for the real world problems and correlating them which will make them able to develop software solutions for them.

CO 2: Project Modules make students learn logically and analytically so that they can pursue their carrier in the field of Software Development in different MNCs and Industries.

CO 3: This paper inculcates the important software developing skills in students to make them a good Software Developer in order to make projects according to the need of customers and companies.

CO 4: This paper motivates students to work in teams and manage the conduct of the research study in near future.

CO 5: Students can develop projects as websites and software in various different languages like JAVA, ASP.net, PHP and Android also.

**Name of Programme: M.Sc. (Information Technology)**

**Course Outcomes**

**Semester-I**

**Paper: MIT-101 Analysis and Design of Embedded System**

CO 1: Embedded System is designed to function with minimal or no human interference. This course explains embedded system concepts and architecture of embedded systems.

CO 2: This paper also explains the architecture of PIC, AVR and DSP microcontrollers.

CO 3: Students can learn different types of operating systems and their services used required for designing embedded systems.

CO 4: This paper illustrates the design issues and elements for an embedded systems and tools for development of embedded systems.

**Paper: MIT-102 Distributed Computing**

CO 1: This paper is highly specialized in M.Sc. (IT) which elaborates the future design and implementation in the field of networking.

CO 2: This paper explains advance development in the field of networking, storing and fetching of information.

CO 3: This helps specialized networking techniques which ensure the processing of large information systems without any failures.

CO 4: Students learn about remote network and server processing in which data is never placed in server but data is available to user as and when required.

CO 5: This programme is having huge value in large networks, data warehousing and data mining. Student's gets very good option for becoming good network administrator.

**Paper: MIT-103 Advanced Computer Organization and Architecture**

CO 1: The study of computer architecture and organization focuses on the interface between hardware and software, and emphasizes the structure and behavior of the system that provides hardware details of the system to the students.

CO 2: This paper explains the hardware concepts of processor in students and it is important that computer students need a basic illustration of computer system itself in order to rectify the problems.

CO 3: There are a fundamental relationship between hardware and the many aspects of programming and software components in computer systems.

**Paper: MIT-104 Network Operating System**

CO 1: This paper is one of the highly specialized programme in M.Sc., which provides the detail knowledge of Network Operating System specifically Microsoft Windows Server.

CO 2: Students get to learn about the various concepts related to Network Operating System like User/Group Management, Disk Quotas, Server Setup (WEB Server, DHCP, DNS etc.) in Windows and Linux.

CO 3: This paper enables students to create and manage highly efficient networks using Microsoft Server product.

CO 4: This paper is highly recommended for students as it gives them an insight into comparing Windows Server products and Linux Server Solution in order to implement network solutions in organizations.

CO 5: Students can get many job opportunities related to Network Administrator in various industries/organizations.

**Paper: MIT-105 Computational Problem Solving Using Python**

CO 1: This paper is specially designed for demonstrating concepts of programming to students.

CO 2: Going from the basics to complete detail of the programming concept, this programme enables students to apply their own logics in computer system.

CO 3: This paper is being widely used in various companies and MNCs. This programme will help students to get through their training projects after placements.

CO 4: Students can build up their own software projects by using the syntaxes and semantics of this programme.

CO 5: The basic foundation of this particular programme will raise the interest of students in other high level programming languages to accomplish the need of becoming a successful Software Developer

**Semester-II**

**Paper: MIT-201 Mobile Computing**

CO 1: This paper demonstrates the different wireless communication System.

CO 2: Through this subject student come to know about the mobile radio Propagations and how a channel is allocated to each subscriber.

CO 3: The GSM system for mobile Computing is also taught to students.

CO 4: A complete description of SMS (Short Message Service) and its architecture is given to students through this subject.

**Paper: MIT-202 Distributed Databases**

CO 1: This paper is highly specialized in M.Sc. (IT) which elaborates the future design and implementation in the field of networking.

CO 2: This paper provides advance development in the field of networking, storing and fetching of information.

CO 3: This helps in learning specialized networking techniques which ensure the processing of large information systems without any failures.

CO 4: Students learn about remote network and server processing in which data is never placed in server but data is available to user as and when required.

CO 5: This paper demonstrates large networks, data warehousing and data mining. Students' gets very good option for becoming good network administrator.

**Paper: MIT-203 Image Processing**

CO 1: This paper will explain the students useful and essential skills and experience to make career in creative professionals such as graphic designers, gallery managers, art curators, commissioning editors and art directors etc.

CO 2: This paper demonstrates the students to get detailed functions of image processing software so that students can learn about restoration, manipulation and development of various Imaging techniques.

CO 3: This paper concludes the layout and production design of newspapers, magazines, corporate reports, journals and other publications.

CO 4: The advanced features of image processing are being used to develop motion picture and motivate students to work in television industry.

**Paper: MIT-204 Fuzzy Systems**

CO 1: This paper demonstrates the basic knowledge of probability, fuzzy logic and neural networks that allows students to handle problems with imprecise and incomplete data.

CO 2: The paper explains the fuzzy logic toolbox and covers a wider range of operating conditions, more readily customizable in natural language terms.

CO 4: This paper provides demonstration of various membership functions of fuzzy logic and use of fuzzy and neural for various real world problems.

CO 5: This paper also demonstrates the various types of neural networks and their algorithms.

**Paper: MIT-205 Network Design and Performance Analysis**

CO 1: Developing networking skills almost immediately places and to make a career in virtually any sector. All the industrial sectors like the financial services, transport, manufacturing, education, technology, Government, healthcare, hospitality, and retail and so on experience shortage of skilled networking specialists.

CO 2: Students can make a mark immediately in the field you desire. The Government sectors have considerable value for networking technology. The Defence and Intelligence services need networking specialists regularly.

CO 3: The technology is such that you can choose to start your own business as well. Networking skills can help you connect to other businesses thereby helping you to market your business and services efficiently.

**Semester-III**

**Paper: MIT-301 Network Protocols**

CO 1: This paper demonstrates how information is transmitted accurately and unambiguously across the systems.

CO 2: It inculcates students about the overview of creating IP addresses and their configurations

CO 3: This paper illustrates about different networking topologies, media, systems and their management

CO 4: Students can use different protocols to ensure integrity and security of communication of underlying network.

CO 5: This paper also helps in setting up procedures for sending and receiving messages, acknowledgement of receipt, congestion avoidance, error correction etc.

**Paper: MIT-302 Advanced Web Technologies**

CO 1: ASP.net supports multiple programming languages like C#, visual basic dot net, J#, C++ and service-oriented architectures.

CO 2: Student having proficiency in on programming languages can build one module of large application and can be used simultaneously with modules develop by other students having good hand in other programming language.

CO 3: ASP.net provide is reliable and flexibility. Student can develop applications for different devices like laptop, smart-phones; pocket PCs and so on using single language.

CO 4: ASP.NET drastically reduces the amount of code required to build large applications.

CO 5: Students can easily develop software using Wizards in Dot net framework.

CO6: Students can get job easily related to software development

**Paper: MIT-303 Linux Administration**

CO 1: Learning Linux Provides Good Job Opportunities to the students in IT sector.

CO 2: Students chooses To Write Efficient, Effective Scripts with Documentation.

CO 3: As It Is Available Free of Cost and Can Easily Run on Older and Cheaper Computers It provides Substantial Financial Savings.

CO 4: It Provides High Security. Using Linux means avoiding viruses and malware.

CO 5: Improves Problem Solving Skills of the students.

**Paper: MIT-304 System Simulation**

CO 1: This paper is really very efficient one in M.Sc. and provide students with great insight of newly systems and their simulations.

CO 2: This paper maximizes the interest of students in the creation of newly computerized systems by first making their simulations.

CO 3: The students will elaborate their work with various MNCs, firms and organization helping in the manufacturing of new systems.

**Paper: MIT-305 Microprocessor and Its Application**

CO 1: A microprocessor is normally capable of many functions, such as word processing, calculation, and communication via Internet or telephone and this helps students to understand the detailed view of microprocessor about their functionality and their properties.

CO 2: Students can easily write assembly code, for the x86 assembly language.

CO 3: This paper demonstrates how a processor at the lower level receives input from the keyboards and the mice. Students can learn how and why memory segmentation in a process came into existence.

CO 5: This motivates students to learn about the real life applications of the microprocessor.

**Semester-IV**

**Paper: MIT-401 Advanced Java Technology**

CO 1: This paper is one of the specialized programme in M.Sc., which provides the detail knowledge of Java Programming Language.

CO 2: Students get to learn about the concepts of object oriented programming and Java Programming constructs.

CO 3: This paper enables students to implement commercial applications in Java & Java Applets.

CO 4: This paper is highly recommended for students in order to pursue career in software development.

CO 5: Students can get many job opportunities and it can also act as a tool in research in some specialized fields.

**Paper: MIT-402 Network Security**

CO 1: This paper is highly specialized in M.Sc. (IT) which elaborates the various components involved in network security.

CO 2: This paper organizes students to learn basic and advance concepts of most important component i.e. personal level firewall and gateway level firewall.

CO 3: Students are able to apply security concepts, security threats, security services and mechanisms to counter them.

CO 4: This paper demonstrates advance methods in designing networks from security point of view.

CO 5: This helps in choosing specialized networking security device UTM (Unified Threat Management) from a number of available devices in the market.

CO6: This paper classifies large scope in industry and research.

**Paper: MIT-403 Artificial Neural Network**

CO 1: This paper is highly specialized in M.Sc. (IT) which elaborates the future design and implementation in the field of networking.

CO 2: It evaluates the present day requirement of Pattern recognition, Character recognition.

CO 3: It closely resembles the human brain networking including learning, logistics, recognitions and retaining information.

CO 4: Now a day this programme is having great significance in all fields where specialization like human is required.

CO 5: Students can create many research and job opportunity after pursuing this specialized programme.

**Paper: MIT-405P Project**

CO 1: The Project will make Students able to identify the requirements for the real world problems and correlating them which will make them able to develop software solutions for them.

CO 2: Project Modules motivate the students to learn logically and analytically so that they can pursue their carrier in the field of Software Development in different MNCs and Industries.

CO 3: This paper illustrates the important in students to make them a good Software Developer in order to make projects according to the need of customers and companies.

CO 4: This paper motivates students to work in teams and manage the conduct of the research study in near future.

CO 5: Students can make projects as websites and software in various different languages like JAVA, ASP.net, PHP and Android also.

## **Name of Programme: Post Graduate Diploma in Computer Applications**

### **Programme Outcomes**

- PO 1: This one year programme formulates the development of computing and practical skills in students to enhance their introductory knowledge of using the systems efficiently.
- PO 2: The students from various degree programme of other fields can construct thorough advantages from this programme and use their computer practical knowledge along with their degree course.
- PO 3: The main objective of this programme is to demonstrate students with basic knowledge of Computer, PC Computing, Data Base Management System and Internet.
- PO 4: This programme will enable the students to work in environment where systems are being highly used and they can use their skills to ensure the better productivity.

### **Programme Specific Outcomes**

- PSO 1: This programme specifically prepares the students for this competitive world **where** computers are playing a vital role and it is necessary for all the employees to have thorough knowledge of computers.
- PSO 2: Along with the basic concepts of Computer, this programme provides students with the practical knowledge of MS- Office, PC Computing, Oracle and HTML also.
- PSO 3: This programme will specifically help the students to grab jobs in IT Sector and make themselves ICT enabled to work in various Organizations, Companies, Banks and MNCs.

### **Course Outcomes**

#### **Semester-I**

#### **Paper: I PC Computing-I (MS-Office)**

- CO 1: This paper is the base subject for giving the basic fundamental concept of application software to the students.
- CO 2: The motive of this subject is to inculcate the basics of computer and MS-Offices to students so that students can pursue their carrier in the field of office automation and desktop publishing.
- CO 3: This paper create effective documents, presentation slides and Excel Workbooks in students so that students can use their caliber in the field of banks, corporate sectors etc.

#### **Paper: II PC Computing-II (Professional DTP)**

- CO 1: This paper provides fundamental information about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.
- CO 2: Students become able to discover the fundamental concept of computers with their present level of learning about computers.
- CO 3: This paper develops Microsoft Office programs which enable the students to create professional and academic documents.
- CO 4: Students also learn about various accounting related operations in MS Excel and presentation skills using MS PowerPoint.

#### **Paper: III Fundamentals of Computer and OS**

- CO 1: This paper formulates information about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.
- CO 2: Students are able to discover the fundamental concept of computers with their present level of learning about computers.
- CO 3: This paper includes Microsoft Office programs which enable the students to create professional and academic documents.
- CO 4: Students also learn about various accounting related operations in MS Excel and presentation skills using MS PowerPoint which makes them able to work in field of Office Automation and Desktop Publishing as well.

#### **Paper: IV Database Management System**

- CO 1: This paper is recommended for the graduate students as it delivers details of database systems and its design.
- CO 2: It is builds big role in all types of industry/institutions because all kind of necessary data is to be stored in database.
- CO 3: This paper also delivers the design and implementation of databases and generates opportunity for students to become data managers, Data base administrators and get jobs in any kind of business house.

CO 4: It elaborates opportunity for future development and research in the field of database techniques like data ware housing and data mining as these are the basic needs of all types of business now and in future.

## **Semester-II**

### **Paper: I Network Concepts and Management**

CO 1: This paper illustrates Networking in students which is the most essential and advantageous in the present scenario of Internet and Networking.

CO 2: Complete demonstration of the specified paper provides students with the information of Various Network Topologies, Network Protocols, Network Essentials and Network Controlling.

CO 3: This paper will motivate students to get proper information about many Network Devices and their Uses so that students can use them in Real World also.

CO 4: Students will formulate knowledge about the transmission media and to realize and compare different LAN, MAN and WAN Topologies.

CO 5: Studying the detailed information about the Internet Protocols will increase the ability in students to work in the real networking development techniques.

### **Paper: II Programming in C**

CO 1: This paper demonstrates programming skills to the students who are beginning their course work in various Computer Programming Languages.

CO 2: C Programming acts as the base of Programming Languages which will maximize interest of students in Programming Field.

CO 3: All Advanced Computer Programming Languages are belonging to the base concept of C Programming and Learning the basic concept of this course, will motivate students in Advance Languages also.

CO 4: This Language is being accepted as Universal Programming Language; therefore the concept of this language will formulate the procedures of Programming Language in Students.

CO 5: This paper explains multitude of applications, including advanced scientific systems and operating systems.

### **Paper: III Introduction to Scripting Language, Web Designing & Uses of Internet**

CO 1: This paper enables students to develop Website and Software which will highly increase their opportunities to work in industries.

CO 2: This paper is the combination of many Sever Side and Client Side Programming Languages like CSS, Java Script, Java Servlets, ASP.net and PHP and is recommended for the successful establishment of Website or Software.

CO 3: Students will determine the internal knowledge of Back- End and Front- End Processes which further help them to design their own Websites or Software.

CO 4: This paper develops the information about the Data base Connectivity along with the given Front End website or software so that the students can learn about the Data Transfer Procedures forms Front-End to Back-End and Vice-Versa.

### **Paper: IV Multimedia Systems**

CO 1: This paper is used to become graphic designers and by having knowledge of this subject, they have the desired skills in Drawing, Lay outing, Typography, Lettering, Diagramming, and Photography.

CO 2: This subject demonstrates the layout and production design of newspapers, magazines, corporate reports, journals and other publications.

CO 3: Students can also create marketing brochures for services and products, promotional displays packaging, design distinctive logos for businesses and products.

## **Name of Programme: Diploma in Computer Applications**

### **Programme Outcomes**

PO 1: This programme summarizes an introductory level of knowledge in computer field so that they can pursue higher studies after higher secondary classes.

PO 2: This one year programme will develop the basic insights of various application software which are being used in various fields, offices and companies.

PO 3: This programme rephrases basic working of computer systems

PO 4: This programme provides beneficial outcomes to the students for preparing for competitive exams and constructs a job in educational and governmental institutions.

### **Programme Specific Outcomes**

- PSO 1: This programme specifically organizes plans for the students to pursue their carrier in computer field and prepare students for effective understanding of the system.
- PSO 2: This programme maximizes the computing as well as practical skills in order to make them understand the working of computer and applications of computer in specific fields.
- PSO 3: This programme enables the students to develop their interest in various application and systems software along with programming skills so that students can take the subject for their further study in order to work in this field.

### **Course Outcomes**

#### **Semester-I**

##### **Paper: I Information Technology and Operating System**

- CO 1: This paper provides fundamental demonstration about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.
- CO 2: Students become able to design the fundamental concept of computers with their present level of knowledge about computers.
- CO 3: The study of Operating System helps students to analyze the memory management and its allocation policies which is the prime factor of consideration in every Operating System,
- CO 4: This paper demonstrates students to identify use and evaluate the storage management policies with respect to different storage management technologies of Operating Systems like Windows, Linux and UNIX.

##### **Paper: II PC Computing-I**

- CO 1: This paper elaborates fundamental information about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.
- CO 2: Students become able to design the fundamental concept of computers with their present level of knowledge about computers.
- CO 3: This paper demonstrates Microsoft Office programs which enable the students to create professional and academic documents.
- CO 4: Students also learn about various accounting related operations in MS Excel and presentation skills using MS PowerPoint which makes them able to work in field of Office Automation and Desktop Publishing as well.

#### **Semester-II**

##### **Paper: I Database Management System**

- CO 1: This paper is very significant for the graduate students as it delivers detail study of database systems and its design.
- CO 2: It is having big role in all types of industry/institutions because all kind of necessary data is to be stored in database.
- CO 3: This paper also delivers the design and implementation of databases and constructs opportunity for students to become data managers, Data base administrators and get jobs in any kind of business house.
- CO 4: It discovers opportunities for future development and research in the field of database techniques like data ware housing and data mining as these are the basic needs of all types of business now and in future.

##### **Paper: II PC Computing-II**

- CO 1: This paper is specifically designed about MS-Access to students and it provides analyzes about the Database Establishment and Connection.
- CO 2: MS-Access is being used in various big organizations, industries and MNCs for constructing data simpler and much efficient.
- CO 3: Students get to learn about the process of creating Tables and making the concept of Database handling more presentable and understanding for the Software Developers as well.

### **Course Outcomes**

**Name of Programme: B.A. /B.Sc. (Computer Science)/B.Sc. (Economics)**

#### **Computer Science**

##### **Semester-I**

##### **Paper: Computer Fundamental & PC Software**

- CO 1: This paper provides fundamental criteria about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.

- CO 2: After completing this paper, students become able to formulate the fundamental concept of computers with their present level of knowledge about computers.
- CO 3: This paper explains Microsoft Office programs which enable the students to create professional and academic documents.
- CO 4: Students also learn about various accounting related operations in MS Excel and presentation skills using MS PowerPoint which makes them able to work in field of Office Automation and Desktop Publishing as well.

### **Semester-II**

#### **Paper: Programming Using C**

- CO 1: This paper summarizes basic knowledge of programming skills to the students who are beginning their course work in various Computer Programming Languages.
- CO 2: C Programming translates the base of Programming Languages which will thoroughly increase the interest of students in Programming Field.
- CO 3: All Advanced Computer Programming Languages are belonging to the base concept of C Programming and Learning the basic concept of this course, will help students in Advance Languages also.
- CO 4: This Language is being accepted as Universal Programming Language; therefore the concept of this language will simplify thorough learning of procedures of Programming Language in Students.

### **Semester-III**

#### **Paper: Computer Oriented Numerical and Statistical Methods**

- CO 1: This paper provide the learning insights of Concept of Statistical Analysis of the Data to the students so that they can effectively and efficiently store the data inside the systems where it will be having a low cost and timing access easily.
- CO 2: In the field of Computing, this course work will help the students to research and experiment about the statistical details of the data and perform mathematical calculations of the data as well.
- CO 3: This paper demonstrates complete means to calculate various statistical calculations on Data like Calculating Mean, Median, Mode, Kurtosis, Moments and Regression.
- CO 4: This paper work maximizes the critical and analytical strategies in students so that students can pursue their carrier in Research and Development Field.

### **Semester-IV**

#### **Paper: Data Structures & Programming Language Using C++**

- CO 1: This paper is one of the main and technical paper after which students become able to select appropriate data structures as applied to specify problem definition.
- CO 2: Students learn about application of various data structure like stacks, queues, tree, graph, linked list etc. related to different operations.
- CO 3: This paper is highly important to learn and implement logics in computer science.
- CO 4: It also includes the various concepts related to data storage in computers.
- CO 5: Students learn to analyze and formulate algorithms for efficiency.

### **Semester-V**

#### **Paper: Data Base Management System & Oracle**

- CO 1: This paper is very significant for the graduate students as it delivers detail conclusion of database systems and its design.
- CO 2: It elaborates types of industry/institutions because all kind of necessary data is to be stored in database.
- CO 3: This paper also delivers the design and implementation of databases and generates opportunity for students to become data managers, Data base administrators and get jobs in any kind of business house.
- CO 4: It develops opportunity for future development and research in the field of database techniques like data ware housing and data mining as these are the basic needs of all types of business now and in future.

### **Semester-VI**

#### **Paper: Information Technology**

- CO 1: This paper provides the deep estimate to students about Information Technology and Networking so that students can learn the basic concepts of Internet and Computer Networks.
- CO 2: This paper constructs complete illustration of Protocols, Topologies and Latest Technologies with the advancements in the field of Networking.

CO 3: This paper provides the demonstration of cables, connections, connectors and all the required technologies for Networking like IEEE, TCP/IP etc.

**Name of Programme: B.A. Computer Application (Vocational)**

**Course Outcomes**

**Semester-I**

**Paper: Computer Fundamental & Pc Software**

- CO1: This paper develops fundamental information about computer and its working. A number of devices that can be attached with a machine now a day are also discussed.
- CO2: After constructing this paper, students become able to bridge the fundamental concept of computers with their present level of knowledge about computers.
- CO3: This paper builds Microsoft Office programs which enable the students to create professional and academic documents.
- CO4: Students also learn about various accounting related operations in MS Excel and presentation skills using MS PowerPoint which makes them able to work in field of Office Automation and Desktop Publishing as well.

**Semester-II**

**Paper: Programming Using C**

- CO1: This paper explains the basic insight of programming skills to the students who are beginning their course work in various Computer Programming Languages.
- CO2: C Programming acts as the base of Programming Languages which will maximize interest of students in Programming Field.
- CO3: All Advanced Computer Programming Languages are belonging to the base concept of C Programming and Learning the basic concept of this course, will help students in Advance Languages also.
- CO4: This Language is being accepted as Universal Programming Language; therefore the concept of this language will formulate thorough learning about procedures of Programming Language in Students.
- CO5: This Paper Work illustrates multitude of applications, including advanced scientific systems and operating systems

**Semester-III**

**Paper: Operating System**

- CO1: This Paper Work explains and describes about the important computer system resources and the role of operating system in their management policies.
- CO2: The paper analyzes detailed description about the process and functions of Operating System in order to schedule, manage and control the processes going inside the system.
- CO3: The study of Operating System helps students to analyze the memory management and its allocation policies which is the prime factor of consideration in every Operating System,
- CO4: This paper demonstrates students to identify use and evaluate the storage management policies with respect to different storage management technologies of Operating Systems like Windows, Linux and UNIX.

**Semester-IV**

**Paper: Relational Data Base Management Systems & Oracle**

- CO1: This paper is very significant for the graduate students as it delivers detail conclusion of database systems and its design.
- CO2: It is having big role in all types of industry/institutions because all kind of necessary data is to be stored in database.
- CO3: This paper also delivers the design and implementation of databases and generates opportunity for students to become data managers, Data base administrators and get jobs in any kind of business house.
- CO4: It provides opportunity for future development and research in the field of database techniques like data ware housing and data mining as these are the basic needs of all types of business now and in future.

**Semester-V**

**Paper: Internet and Web Designing**

- CO1: This paper demonstrates various concepts related to Internet where students will learn about the Connection Establishment, configuring the network, trouble shoot the network etc.
- CO2: Students learn about the various measures being used for securing the network along with the help

of Internet Protocols and increase in the use various Security Firewalls

CO3: Paper gives suitable information to students in order to get maximized advantages from the network by implementing an accurate type of Topology and Connecting Computer System in proper Order.

CO4: Students can pursue their carrier in the field of Network Security and Network Coordination which is presently in high demand throughout the Industry.

#### **Semester-VI**

##### **Paper: Business Data Processing**

CO 1: This paper is specially designed for the final year students in order to maximize information of basic need of Computer in different companies and organizations so that students can work accordingly.

CO 2: Business Data Processing explains the Latest terms and technologies being used in companies so that students can work under the Live Software of Payroll Systems, Enterprise Software, and Data Warehousing Software etc.

CO 3: This paper demonstrates the students about the working of Developer 2000 Software which is being used in Companies and Organizations for the handling of Employee Data.





# HANS RAJ MAHILA MAHA VIDYALAYA

MAHATMA HANS RAJ MARG, JALANDHAR (PUNJAB) INDIA



## FACULTY OF SCIENCES

# Program Outcomes (POs) and Course Outcomes (COs)

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## Post Graduate Department of Botany

Name of Programme: B.Sc. Medical

### Programme Outcomes

- PO 1 Critical Thinking:** The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.
- PO 2 Lifelong learning:** Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO 3 Logical experimentation:** The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO 4 Creative thinking:** They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO 5 Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO 6 Scientific aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO 7 Self reliant:** To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

### Programme Specific Outcomes

#### Botany

- PSO 1: Acquaintance with microbiological world:** Students are familiarized with different classifications of microorganisms (algae, fungi, bacteria, and viruses) present across the globe to make them understand and appreciate history, morphology and distinguishing features of different types of microorganisms present on our planet thus opening the field of various career options in Microbiology.
- PSO 2: Familiarization with lower plants:** Students understand about the morphology, biology and importance of bryophytes and pteridophytes and comprehend the role of lower plants in evolution and succession of life.
- PSO 3: Identification of relationship between structure and function:** Detailed structural and functional study of nucleus, cell membrane, cell wall and various other organelles which includes mitochondria, golgi body, endoplasmic reticulum, peroxisomes and vacuoles helps students realize the relationship between structure and function.
- PSO 4: Comprehension of patterns of inheritance:** To explain the students about the genetic inheritance and genetic variations, detailed study on DNA and understand the concept of cell division including mitosis and meiosis.
- PSO 5: Grasping the concept of plant systems and organs:** The main objective of this programme is to familiarize students regarding the basic plan of plant, branching pattern, diversity of life forms of flowering plants.
- PSO 6: Analyzing the components of different plant parts:** The main objective of this programme is to familiarize students regarding detailed study of root system, various means of vegetative reproduction and sexual reproduction in flowering plants.
- PSO 7: Conception of history and trends of plant classification:** The main objective of this programme is to familiarize students regarding history, morphological and taxonomical distinguishing features of different classes of angiosperms and gymnosperms.
- PSO 8: Learning the trends in biologically important families:** The main objective of this programme is to familiarize students regarding angiosperm taxonomy, botanical nomenclature, diversity

of flowering plants in families.

PSO 9: **Expanding perceptive how plants function at various at various physiological processes:** To explain the students about the various life supporting processes in plants and enlighten students towards the basics of biochemistry and biotechnological studies.

PSO 10: **Interpret various physiological processes in relation to plants:** To explain the students about the detailed study of various physiological processes in plants life supporting processes in plants.

PSO 11: **Understand and analyse plants in relation to environment and its various components:** detailed study of interactions between plants and environment which includes anatomical and physiological responses of plants to various environmental factors.

PSO 12: **Gain knowledge about various plants of economic use:** Understand the concept of sources and importance of different plants in our life

## Course Outcomes

### Semester I

#### Paper I A : Diversity of Microbes

CO 1: This course will facilitate students to **classify** various genera of Algae according to general characters and economic importance.

CO 2: To facilitate students to **demonstrate** different characteristics features of various classes of microorganisms under Bacteria and viruses and also **illustrate** their life cycle and economic importance.

CO 3: Students will be able to **summarize** different characteristics features of various classes of Mastigomycotina, Zygomycotina and Ascomycotina

CO4: Students will be able to **perform** practicals to demonstrate characteristic features of Basidiomycotina and Deuteromycotina

CO 5: Students will be able to **identify** various characteristic features of Lichens.

#### Paper IB Diversity of cryptogams

CO 1: Student can **make** micropreparation of the material of Pteridophyta and bryophytes and identified anatomically.

CO 2: Student can **collect** few species from locality and identify morphologically during collection of material in the local visit.

CO 3: Students can **summarize** characters, distribution, classification and regeneration in Bryophytes

CO4: Students can **outline** how the stele evolution occurs in Pteridophytes and also familiar with the work done by Indian pteridologist.

CO 5: Students can **catalog** Pteridophytic classes and the morphological and anatomical characters of genus included in the different Pteridophytic orders

### Semester II

#### Paper IA Cell biology

CO 1: The students will be able to **categorize** level of structural organization and function of Nucleus.

CO 2: The students will be able to **explain** extra nuclear Genome.

CO 3: The students will be able to **enlist** various levels of Chromosome Organization

CO4: The students will be able to **summarize** various chromosome alterations.

CO 5: This course will help students in **distinguishing** between cell wall and cell membrane

### Semester II

#### Paper IB Genetics

CO 1: The students will be able to **identify** fine structure of DNA, the Genetic Material

CO 2: The students will be able to **summarize** Genetic regulation of Cell division

CO 3: The students will be able to **outline** the Regulation of Genetic expression

CO4: The students will be able to **illustrate** the genetic variation.

CO 5: This course will be able to **compare** DNA damage and repair structure.

### **Semester- III**

#### **Paper: A Structure, Development and Reproduction in Flowering Plants- I**

CO 1: The students will be able **to compare** diversity and branching in flowering plants

CO 2: The students will be able **to interpret** the shoot system and various tissues present in it.

CO 3: The students will be able to students to **illustrate** structure of wood and their variation in various environment conditions

CO4: The students will be able to **identify** the various adaptations of leaves in relation to photosynthesis.

#### **Paper B: Structure, Development and Reproduction in Flowering Plants–II**

CO 1: The students will be able **to relate** function and mechanism of root system in plants

CO 2: The students will be able to **experiment with** vegetative reproduction and structure of flower.

CO 3: The students will be able **to compare** the role and structure of male and female gametophyte

CO4: The students will be able **to analyze** the mechanism of double fertilization and seed.

### **Semester-IV**

#### **Paper: IV A Diversity of Seed Plants and their Systematics- I**

CO 1: Students will be able to **identify** the seed plants

CO 2: Students will be able **to classify** gymnosperms according to their features.

CO 3: Students will be able **to examine** geological time scale and fossilization

CO4: The students will be able students to **classify** the gymnosperms on the basis of morphology of vegetative and reproductive parts

#### **Paper: IV B Diversity of Seed Plants and their Systematics–II**

CO 1: Students will be able to **classify** some angiosperms.

CO 2: They will be able to **interpret** different components of various classification systems.

CO 3: They will be able to **dissect** flowers.

CO4: The students will be able to **extrapolate** the information about Diversity of flowering plants as illustrated by members of the different families.

### **Semester-V**

#### **Paper: V A Plant Physiology**

CO 1: The student will be able to **compare** plant-water relations.

CO 2: The students will be able to **compile** deficiency diseases in plants.

CO 3: The students will be able to **apply** concepts of transport of organic substances in plants.

CO4: The students will be able to **draw relationships** between Photosynthesis, Photorespiration and CAM

#### **Paper: V B Biochemistry and Biotechnology**

CO 1: The students will be able **to simplify** the concepts of enzymology.

CO 2: The students will be able to **prepare model** of Respiration process in plants.

CO 3: The students will be able to **contrast** different steps in Nitrogen and Lipid Metabolism.

CO 4: This course will help students **to recognize** basic aspects of biotechnology.

### **Semester–VI**

#### **Paper: VI A Ecology**

CO 1: The students will be able to **develop correlation** between Plants and different Components of environment.

CO 2: The students will be able to **draw relationship between** Community and population Ecology.

CO 3: This course will help students to **analyze** different biotic and abiotic components of ecosystem.

CO 4: This course will **appraise** students about Bio geographical Regions and Vegetation types of India.

### **Paper: VI B Economic Botany**

- CO 1: The students will be able **to compile** different food plants.
- CO 2: The students will be able **to examine various** source of fibres and vegetable oils.
- CO 3: The students will be able **to classify** different source of spices.
- CO 4: The students will be able **to elaborate upon the** importance of different medicinal plants.
- CO 5: This course will help the students to **evaluate the importance** of different sources of beverages and rubber in our life.

### **Name of Programme: M.Sc. Botany**

#### **Program Outcomes**

- PO 1: This programme brings together the graduates who wish to enhance their skills and gives them an opportunity to develop their careers in a particular direction.
- PO 2: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO 3: The programme tends to expertise students in practical work and experiments based on the same so that they can analyze the data effectively.
- PO 4: The students will be able to exhibit the capability to study the social and ethical aspects as well as cognizance of ethical facets of research and development work.
- PO 5: The masters of science programme provides the candidate with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, entrepreneurship or public administration etc.

#### **Program Specific Outcomes**

- PSO 1: Broad understanding of plant world: Students will able to establish relationship between various categories of plants starting from primitive ones to advance plants.
- PSO 2: Deep knowledge of morphology, anatomy, physiology and biochemistry of plants: Students will be able to differentiate different classes of plants like algae, fungi, bryophytes, pteridophytes, gymnosperms and angiosperms on the basis of their morphology and anatomy.
- PSO 3: Advance techniques: students will able to interpret data related to plants on the basis of advance techniques of plant biochemistry, plant molecular biology, plant tissue culture and microbiology etc.
- PSO 4: Understanding of data generated through modern biological experiments and their analysis using bioinformatics tools.
- PSO 5: Research and Inquiry: Students will be able to conduct basic research in botany and other allied subjects, publish and present their findings at conferences, seminars, scientific journals, lectures meetings.

### **Course outcomes**

#### **Semester- I**

#### **Paper: BOT C512 Fungi and Plant Pathology**

- CO 1: To **classify** members of Gymnomycota and Mastigomycota and Amastigomycota.
- CO 2: To **evaluate** Principles and methods for the prevention and control for plant diseases.
- CO 3: The students will able to **dissect** plant material and identify diseases.
- CO 4: The students will able to **interpret** the role of sex hormones and mycorizal association in fungi.

#### **Paper: BOT C514 Plant Physiology**

- CO 1: The students will be able to **determine** Plant-Water Relation and energy thermodynamics in plants.
- CO 2: The students will be able to **compare** steps in nitrogen and sulphur metabolism in plants.
- CO 3: The students will be able **to elaborate** signal transduction in plants
- CO 4: The students will be able **to compare** nitrate assimilation and carbon metabolism.
- CO 5: This course will help students **to deduct** Synthesis and function of glutathione.

**Paper: BOT C516 Theoretical Biology**

- CO 1: This course will assist students **to compare** know linear, power and periodic function.
- CO 2: This course will assist students **to distinguish between** Exponential and Logarithmic Functions.
- CO 3: The students will be able **to solve** integration and probability problems.
- CO 4: They will be able to **solve** problems based on Differentiation and Integration:

**Paper: BOT C517 Genetics and Evolution**

- CO 1: The students **will develop** strong fundamental basics on fine structure, Properties and replication of genetic material.
- CO 2: The students will be able **to elaborate** Genetic regulation of cell cycle, genetic Transposable Genetic Elements.
- CO 3: The students will be able **to interpret** Regulation of Gene Expression in Prokaryotes.
- CO 4: The students will be able **to draw relationship between** about Paleontology and Evolutionary History.

**Paper: BOT C518 Phycology**

- CO 1: The students **will** be able **to classify** algae on the basis of Organization of thallus, structure of algal cell.
- CO 2: The students **will** be able **to compare** algae on the food reserves, reproductive diversity, and life history patterns in Chlorophyta and Charophyta.
- CO 3: **Identify** the external morphology, internal structure and reproduction of different types of algae and bryophytes
- CO 4: This course will help students **analyze** possible economic importance of algae.

**Paper: BOTC 519 Computer Applications and Bioinformatics**

- CO 1: To **Create** Worksheet and Working with Formulae.
- CO 2: To **develop** projects on MS Power Point
- CO 3: To **apply** concept of Bioinformatics in Botany
- CO 5: To **understand** Nucleic acid and protein databases.

**Paper: BOT C522 Diversity and Biology of Gymnosperms**

- CO 1: **Distinguish** between habitat and habit, structure and complexity in various Gymnosperms.
- CO 2: To be able to **compare** different orders of Gymnosperms.
- CO 3: To **interpret** evolutionary tendencies in Gymnosperm.
- CO 4: To **evaluate various** aspects of cytology in Gymnosperms.

**Semester-II**

**Paper: BOT C523 General Microbiology**

- CO 1: To **apply** basic methodology in study of microorganism.
- CO 2: They will **correspond** nomenclature and classification of plant viruses.
- CO 3: To **relate** uses of microorganism in Environment and Industry
- CO 5: To **develop** simple SOP for control of Microorganisms in lab

**Paper: BOT C524 Cell Biology**

- CO 1: To be able to **grade** cells according to basic level of structural organization of cell.
- CO 2: The **correlate** structural organization and function of Intracellular Organelles.
- CO3: To **differentiate** between organization of Genes and Chromosomes.
- CO 4: To **explain** cell division and cell cycle.
- CO 5: To **evaluate** different components of cell communication.

**Paper: BOT C527 Bryology**

- CO 1: To **differentiate** between Bryophytes on basis of their habitat and habit, structure and complexity.
- CO 2: They will know **comparative** account of gametophytes and sporophytes in Bryophytes.

CO 3: To **elaborate** evolutionary tendencies in Evolution of gametophyte and sporogonium in liverworts and mosses.

CO 4: To **contrast** Means of spore dispersal.

CO 5: To **comprehend** different characteristics of bryophytes.

**Paper: BOT C 528 Pteridology**

CO 1: **Comprehend** different theories in origin of Pteridophytes.

CO 2: **Evaluation of** general characters and classification of pteridophytes.

CO 3: **Compare** account of different orders of Pteridophytes.

CO 4: **Contrast** different kind of vegetative reproduction in Pteridophytes.

CO 5: **Appraisal** about uses of Ferns in phytoremediation.

**Paper: BOT C529 Ecological Modelling and Forest Ecology**

CO 1: To be able to **draw** population growth graph and factors affecting growth.

CO 2: To **infer** correlative interaction between Two Species.

CO 3: To **correlate** association analysis and community classification.

CO 4: To **show relationship** between production and energy flow in ecology.

**Semester-III**

**Paper: BOT C612 Developmental Botany**

CO 1: To **compare** different kind of pollination methods in angiosperms.

CO 2: **Depict** different steps of fertilization.

CO3: **Dissect** different kind of endosperm and embryo formation.

CO 4: **Demonstrate** different aspects of Embryology & Taxonomy:

**Paper: BOT C613 Plant Molecular Biology**

CO 1: **Exhibit** DNA and RNA structure.

CO 2: **Depict** different steps and tools in Recombinant DNA technology.

CO 3: **Conduct practical** on various molecular biology techniques.

CO 4: **Correlate** between Genomics and proteomics.

CO 5: **Interpret** different Roles of Recombinant DNA technology.

**Paper: BOT C614 Plant Breeding and IPR**

CO 1: **Distinguish** between Primary and secondary centers of diversity.

CO 2: **Differentiate** between different breeding systems of crop species.

CO 3: **Illustrate** breeding methods for disease resistance crops production.

CO 4: **Describe** different kinds of mutations and their role in crop production.

**Paper: BOT C615 Plant Biochemistry**

CO 1: **Elaborate** Plant-Cellular chemistry.

CO 2: **Illustrate** carbohydrates metabolism in plants.

CO 3: **Exemplify** Lipid Metabolism in plants

CO 4: **Construct** various graphs related to Enzyme kinetics.

**Paper: BOT C616 Applied Botany**

CO 1: **Classify** food plants according to history, source and nature..

CO 2: **Categorise** recognize different kind of forest products and their sources.

CO 3: **Develop** plant products.

CO 4: **Identify** fibre yielding plants.

**Paper: BOT C617 Plant Morphogenesis**

CO 1: **Draw Correlation** between Physiology and genetics of Plant Morphogenesis.

CO 2: **Correspond** symmetry and differentiation in plant tissue culture.

CO 3: **Depict** regeneration and different kind of tissue mixture used.

CO 4: **Illustrate** Abnormal Growth of organs.

CO 5: **Identify** different morphogenetic factors.

## Semester-IV

### Paper: BOT C621 Plant Anatomy

CO 1: **Correlate** between shoot and root system in plants.

CO 2: **Illustrate** Nodal and Floral anatomy.

CO 3: **Characterize** histology of wood.

CO 4: **Portray** Functional anatomy, fruit and Seed anatomy.

CO 5: **Render** different kind of Laticifers and Lenticels tissues.

### Paper: BOT C622 Structure and Metabolism of Plant Hormones

CO 1: **Interpret** general features of Plant Hormones, their analysis, and quantitation.

CO 2: **Compile** information about Auxins and Gibberlins.

CO 3: **Compile** information Cytokinins, Ethylene and Abscic acid.

CO 4: **Arrange** and use information about Jasmonates and other Defense-Related Compounds.

CO 5: **Understand** Microbial Synthesis of Plant Hormones.

### Paper: BOT C623 Plant Tissue Culture and Biotechnology

CO 1: To **illustrate** Cytogenetics and differentiation in cell and tissue culture.

CO 2: To **perform experiments** based on artificial seeds production.

CO 3: To **exemplify** transgenic plants.

CO 4: To **demonstrate** cell culture and secondary metabolites production.

CO 5: To **apply** Cryobiology of plant cell cultures.

### Paper: BOT C624 Analytical Techniques

CO 1: **To develop** the skills to understand the theory and practice of bio analytical techniques.

CO 2: **Compile** scientific understanding of analytical techniques and detail interpretation of results

CO 3: **Classify** of chromatographic techniques and their principles

CO 4: **To develop the skills** to select analytical technique for case study

CO 5: To **design** experiments and understand the instrumentation

### Paper: BOT C626 Diversity and Biology of Angiosperms

CO 1: To **develop** historical perspective of plant classification.

CO 2: **To compile** principles of plant nomenclature and different classification system.

CO 3: To be able to **categorize** plants according to taxonomic principles

CO 4: To be able to **ascertain** different Taxonomic tools

CO 5: To be able to **correlate** plants distribution according to phytogeography regions of the world and India.

### Paper: BOT C725 Immunology (Optional Paper)

CO 1: To **comprehend** the Immune System.

CO 2: The course will allow students to **demonstrate** Antigens and Antigen Recognition.

CO 3: To **illustrate** Antibodies and their properties.

CO 4: To **expedite** different cells and tissues of Immunity.

**Post Graduate Department of Bioinformatics**  
**Name of Programme: B.Sc. Medical/Non-Medical with Bioinformatics**

- PO1: Critical Thinking:** The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.
- PO2: Lifelong learning:** Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO3: Logical experimentation:** The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO4: Creative thinking:** They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO5: Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO6: Scientific aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO7: Self-reliant:** To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

**Course Outcomes**

**Semester-I**

**Paper: Fundamentals of Computers, Molecular Biology & r-DNA technology**

- CO 1:** Students will be able to use MS Excel, MS Word and MS PowerPoint
- CO 2:** Students will understand the processes of replication, transcription & translation in molecular biology
- CO 3:** Students will be able to demonstrate molecular mechanism(s) behind a biological process and its expression?
- CO 4:** Students will be able to identify various tools used for cloning

**Semester-II**

**Paper: Basic Mathematics, Biostatistics, DBMS**

- CO 1:** Students will be able to classify various DBMS
- CO 2:** Students will be skilled to design and create a database
- CO 3:** Students will be able to apply basic statistics to data
- CO 4:** Students will gain basic knowledge of mathematical functions including trigonometric, differential
- CO 5:** Students will be confident in dealing with multi-dimensional data using matrices, different operations on matrices

**Semester-II**

**Paper: Introduction to Biological Databases**

- CO 1:** Students will be able to classify various Bioinformatics databases
- CO 2:** Students will be able to experiment with biological data mining using various databases
- CO 3:** Students will be able to know various database retrieval and deposition systems work
- CO 4:** Students will differentiate between various formats of biological data and know which format is suitable for a particular application.

## Semester-IV

### Paper: Computer Programming in C++ and Perl

- CO 1:** Students will be able to differentiate between C++ and PERL and know the effectiveness of PERL in handling biological data
- CO 2:** Students will be able to retrieve a specific data from a large text files of different formats
- CO 3:** Students will be able to select, install and use various BIOPERL Libraries for analysis of biological data
- CO 4:** Students will be able to write simple programs to analyze molecular sequence data

## Semester-V

### Paper: Computational Methods for Sequence Analysis

- CO 1:** Students will know how to compare DNA/Protein sequences
- CO 2:** Students will be able to classify proteins based on their structural features
- CO 3:** Students will be able to identify various signals from raw data which can be used to create prediction models using Machine Learning algorithms
- CO 4:** Students will be trained to predict secondary structure of proteins
- CO 5:** Learners will be able to choose right methods for evolutionary analysis based on the underlying data

## Semester-VI

### Paper: Structural Biology and Molecular Modelling

- CO 1:** Students will understand the basic concepts of molecular modeling
- CO 2:** Students will be able to apply concepts of molecular modelling to represent chemical information on computers and concept of force field
- CO 3:** Students can use computers to study molecular interactions
- CO 4:** Students will be able to choose a strategy for computer aided drug design

## Name of Programme: M. Sc. Bioinformatics

### Program Outcomes

- PO 1: This programme brings together the graduates who wish to enhance their skills and gives them an opportunity to develop their careers in a particular direction.
- PO 2: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO 3: The programme tends to expertise students in practical work and experiments based on the same so that they can analyse the data effectively.
- PO 4: The students will be able to exhibit the capability to study the social and ethical aspects as well as cognizance of ethical facets of research and development work.
- PO 5: The masters of Science programme provides the candidate with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, entrepreneurship or public administration etc.

### Programme Specific Objective

- PSO 1: **Broad understanding of Biology:** Students will interpret relationships among living things. They can also analyse and solve biological problems from the molecular to ecosystem level using basic biological concepts, grounded in foundational theories.
- PSO 2: **Deep knowledge of various types of biological data:** Students will be able to specifically access, retrieve, store and manipulate data from various databases.
- PSO 3: **Data Analytics:** Students will be able to devise a strategy and develop efficient algorithms to extract biological knowledge from complex and challenging dataset.
- PSO 4: **Computer Programming:** Students will develop new software's applications or improve on current applications that facilitate biological data analysis

PSO 5: **Research and Inquiry:** Students will be able to conduct basic bioinformatics research, publish and present their findings at conferences, seminars, scientific journals, lectures meetings.

## **Course Outcomes**

### **Semester-I**

#### **Paper: BI-511 Basic Concepts in Biology**

**CO 1:** Students will be able to classify different types of living cells and biomolecules and their functions

**CO 2:** Students will be able to sketch various organelles

**CO 3:** Students will be able to demonstrate how a biological process is invoked in response to some stimuli?

**CO 4:** Students will be able to distinguish between various biological processes

#### **Paper: BI-512 Database Management and Data Mining**

**CO 1:** Students will be able to classify various DBMS

**CO 2:** Students Will be able to model a database using ER diagram

**CO 3:** Learners will be able to evaluate various data mining strategies

**CO 4:** Students will be skilled to design and create a database

#### **Paper: BI-512 Basic Biostatistic**

**CO 1:** Students will be able to apply basic statistics to data

**CO 2:** Students can construct various types of Graphs

**CO 3:** Students will be able to apply principles of probability to analyze biological data

**CO 4:** Students will be able to use advance statistics such as Correlation regression, hypothesis testing

#### **Paper: BI-514 Computer Fundamentals, Networking, Web Technology and Basics of C Programming Language**

**CO 1:** Students will be able to use MS Excel, MS Word and MS PowerPoint

**CO 2:** Students will be able to utilize internet to for data search, retrieval and communication

**CO 3:** Students will be able to create an HTML document

**CO 4:** Students will be able to write a C Program

#### **Paper: BI-515 Introduction to Bioinformatics & Biological Databases**

**CO 1:** Students will be able to distinguish between various types of biological data

**CO 2:** Students will be able to experiment with biological data mining using various databases

**CO 3:** Students will be able to classify various Bioinformatics databases

**CO 4:** Students will be able to know various database retrieval and deposition systems work

**CO 5:** Students will differentiate between various formats of biological data and know which format is suitable for a particular application.

#### **Paper: BI-516 Practicals Based on Database Management & Computer Fundamentals Web Technology and Basics of C Programming Language**

**CO 1:** Students will be able to use Linux and DOS commands on their own data

**CO 2:** Students will be skilled to design and create a database and perform various operations

**CO 3:** Students will be able to install Linux and Windows on their computers

**CO 4:** Students will be able to create an HTML document

**CO 5:** Students will be able to write a C Programs

#### **Paper: BI- 517 Practical's Based on Biological Databases**

**CO 1:** Students will be gain ability to explore data for different types of research work

- CO 2:** Students will know the tricks to access specific sequence and structural data from various biological databases
- CO 3:** Students will be confident to search and install a variety of Open Source tools to analyze biological data
- CO 4:** Students will be able to know various database retrieval and deposition systems work
- CO 5:** Students will differentiate between various formats of biological data and know which format is suitable for a particular application

### **Semester-II**

#### **Paper: BI-521 Concepts in Molecular Biology & r-DNA Technology**

- CO 1:** Students will understand the processes of replication, transcription & translation in molecular biology
- CO 2:** Students will be able to make a comparison between Eukaryotic and Prokaryotic Molecular mechanisms
- CO 3:** Students will be able to demonstrate molecular mechanism(s) behind a biological process and its expression?
- CO 4:** Students will be able to identify various tools used for cloning

#### **Paper: BI-522 Programming in PERL for Bioinformatics**

- CO 1:** Students will know the importance and effectiveness of PERL in handling biological data as compared to other programming languages
- CO 2:** Students will be able to retrieve a specific data from a large text files of different formats
- CO 3:** Students will be able to select, install and use various BIOPERL Libraries for analysis of biological data
- CO 4:** Students will be able to write programs to analyze biological data

#### **Paper: BI-523 Basic Mathematics**

- CO 1:** Students will gain basic knowledge of mathematical functions including trigonometric, differential
- CO 2:** Students will be confident in dealing with multi-dimensional data using matrices, different operations on matrices
- CO 3:** Students will be able to apply the concepts of Differentiation and Integration for dealing with biological data

#### **Paper: BI-524 Computational Methods for Sequence Analysis**

- CO 1:** Students will be able to use with various software and databases used in analysis of sequence and structural data
- CO 2:** Students will be able to differentiate among different algorithms used to analyze sequence data
- CO 3:** Students will be able to identify various signals from raw data which can be used to create gene prediction models
- CO 4:** Students will be able to model a pipeline to analyze biological data using various algorithms
- CO 5:** Learners will be able to choose right methods for evolutionary analysis based on the underlying data

#### **Paper: BI-525 Structural Biology and Bioinformatics**

- CO 1:** Students will be able to classify various molecular structure determination methods
- CO 2:** Students will be able to apply protein classification methods
- CO 3:** Students can distinguish between various protein secondary structure prediction algorithms
- CO 4:** Students will be able to predict three dimensional model from a protein sequence

#### **Paper: BI-526 Practical based on BI-522 (PERL and Bioperl)**

- CO 1: Students will be able to apply logical thinking
- CO 2: Students will be able to retrieve a specific data from a large text files of different formats
- CO 3: Students will be able to select, install and use various BIOPERL Libraries for analysis of biological data
- CO 4: Students will be able to write programs to analyze biological data
- CO 5: Students will be able to write programs to access remote as well as local databases

**Paper: BI-527 Practical's Based on Structural Biology and Bioinformatics**

- CO 1: Students will be able to use with various software and databases used in analysis of sequence and structural data
- CO 2: Students can analyze protein structures using various Molecular graphics packages
- CO 3: Students will be able to retrieve protein structures and classify them
- CO 4: Students will be skilled in modelling 3D structure of proteins

**Semester-III**

**Paper: BI-631 Genomics and Proteomics**

- CO 1: Students will be skilled to analyze genomic data to mine its various components
- CO 2: Students will be able to distinguish various genome mapping techniques
- CO 3: Students can demonstrate the use of various software tools/web servers for comparing genomes
- CO 4: Students will be skilled in creating protein-protein interaction maps using various tools
- CO 5: Students will be able to classify various proteomics techniques and their applications

**Paper: BI-632 Advanced Algorithms for Computational Biology**

- CO 1: Students will interpret about the concept of computer algorithms
- CO 2: Students will be able to distinguish between different algorithms such as divide and rule, genetic algorithms, machine learning etc.
- CO 4: Students will be able to choose right algorithm for a specific type of data

**Paper: BI-633 System Biology and Metabolic Pathway Eng.**

- CO 1: Students know various principles of Systems Biology
- CO 2: Students will be acquainted with different protein-protein interaction and pathway databases
- CO 3: Students will be able to examine various types of biological switches to control gene expression
- CO 4: Students will be able to model a biological system

**Paper: BI-634 Molecular Modeling and Computer Aided Drug Design**

- CO 1: Students will be able to apply concepts of molecular modelling to represent chemical information on computers and concept of force field
- CO 2: Students will be able to use of molecular modeling to discover and design new molecules
- CO 3: Students will be able to differentiate among various molecular descriptors
- CO 4: Students can be able to decide the statistical model to be used to represent a QSAR
- CO 5: Students will be able to identify diversity of drug targets and biological relevance
- CO 6: Students will be able to choose a strategy for computer aided drug design

**Paper: BI-635 Introduction to Data Analysis using R Programming**

- CO 1: Students will know the importance and effectiveness of R language in analysis of biological data as compared to other platforms
- CO 2: Students will be able to use various R objects to handle specific type of data

- CO 3: Students can be able to read big data from local as well as remote locations
- CO 4: Students can be able to statistically analyze biological data
- CO 5: Students can be able to decide the type of graphics to visualize and analyze a particular type of data
- CO 6: Students will be able to write R scripts

**Paper: BI-636 Practical's Based on BI-633 and BI-634 (System Biology and Metabolic Pathway Engineering and Molecular Modeling and Computer Aided Drug Design)**

- CO 1: Learners will be able to perform Molecular Docking and Molecular Dynamics Simulations and analyze its results
- CO 2: Students will be efficient in searching metabolic pathway databases
- CO 3: Students will be able to interpret a protein-protein interaction network
- CO 4: Learners will be able to develop a QSAR model for the given data
- CO 5: Students will be able to develop a Computer Aided Drug Discovery pipeline

**Paper: Practical's based on Practicals based on BI-631 & 635 (Genomics and Proteomics and R)**

- CO 1: Students can demonstrate the use of various software tools/web servers for comparing genomes
- CO 2: Students will be skilled in creating protein-protein interaction maps using various tools
- CO 3: Students can be able to statistically analyze biological data and build pipelines and R scripts for analysis
- CO 4: Students can be able to decide the type of graphics to visualize and analyze a particular type of data

**Seminar on Emerging Trends in Bioinformatics**

- CO 1: Students will be able to survey latest research articles and research areas to choose the topic of their Seminar
- CO 2: Students will be learn to present their ideas in form of a PowerPoint presentation

**Paper: Industrial / Institutional Visit**

- CO 1: Students will get opportunity to interview scientists on their research areas
- CO 2: Students will get opportunity to discover real life applications of various concepts

**Semester-IV**

**Paper: BI-640 Major Research Project**

- CO 1: Students will learn Data mining
- CO 2: Student will know to analyze and interpret results
- CO 3: Students will be able to decide working on a specific problem, defend and explain the outcomes
- CO 4: Students will be able to design a research hypothesis and plan its implementation

**Add-on Certificate**

- CO 1: Students will be able to experiment with various application of Bioinformatics
- CO 2: Students will be able to classify various Bioinformatics databases
- CO 3: Students will be able to know various database retrieval and deposition systems work
- CO 4: Students will differentiate between various formats of biological data and know which format is suitable for a particular application.

**Add-on Diploma**

- CO 1: Students will be able to analyze biological data at sequence as well as structure level
- CO 2: Students will be able to model a protein structure from its sequence
- CO 3: Students will be able to choose right parameters for data mining for example Homology search using Blast
- CO 4: Students will be able to distinguish between various statistical prediction models

**Add-on Advanced Diploma**

- CO 1:** Students will be able skilled to model a protein and study its interactions with other molecules
- CO 2:** Students will apply various strategies of computer aided drug design
- CO 3:** Students will be able to write computer program in PERL
- CO 4:** Students will be able to choose right methods for evolutionary analysis based on the underlying data

## Post Graduate Department of Physics

Name of Programme: B.Sc. (Non-Medical)/ (Computer Science)

### Programme Outcomes

- PO 1 Critical Thinking:** The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.
- PO 2 Lifelong learning:** Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO 3 Logical experimentation:** The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO 4 Creative thinking:** They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO 5 Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO 6 Scientific aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO 7 Self reliant:** To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

### Program Specific Outcomes

#### Physics

- PSO 1: To comprehensively study about simple harmonic motion and different types of oscillators. To understand the basic concepts of wave motion and its propagation through different media.
- PSO 2: To understand the basic laws of symmetry of space and time. Also, to study the system under central forces.
- PSO 3: To study the concepts of General theory of relativity and special theory of relativity and to implement them to study various phenomena.
- PSO 4: To assimilate the concept of Electric and Magnetic fields and their applications.
- PSO 5: To study the basis of Statistical and Quantum mechanics and their applications to various physical processes.
- PSO 6: To study the applications of Interference and diffraction of light.
- PSO 7: To understand the basic concepts of atomic and molecular spectra and to apply them to study spectra of one electron and many electron atoms as well as Raman Spectroscopy.
- PSO 8: To give a brief introduction of different types of Laser, their working and applications.
- PSO 9: To introduce the concept of crystal lattice and lattice dynamics
- PSO 10: To understand basic electronic devices and their applications in different electronic circuits.

### Course Outcomes

#### Semester-I

#### Paper: Mechanics

- CO 1: Students will be able to classify different coordinate systems and apply the knowledge to find various physical quantities in different co-ordinate system
- CO 2: Students will be able to reduce two body problem into one body problem using concept of reduced mass.
- CO 3: Students will be able to understand motion of a body under central forces and apply the concept to Planetary motion.
- CO 4: Students understand the concept of inertial/ non-inertial frames apply the concept to explain some phenomenon in daily life.

CO 5: Students will understand elastic collisions in lab and C.M systems and will apply the concept to understand Rutherford scattering.

CO 6: Students will appreciate the concept of precession and its applications as elementary gyroscope.

### **Paper: Electricity and Magnetism**

CO 1: Students will recall the basic ideas of vector calculus and will be able to apply it to vector fields.

CO 2: Students will understand the concept and evaluate Electric field and potential difference due to different types of distribution of charges.

CO 3: Students will be transform the Electric and magnetic fields and related quantities in different inertial fields.

CO 4: Students will understand and apply the concept of electrical images to find electric field.

CO 5: Students will be able to classify the materials on the basis of their magnetic properties and their behaviour in the magnetic field.

### **Semester-II**

#### **Paper: Relativity and Electromagnetism**

CO 1: Students will be able to understand the special theory of relativity.

CO 2: Students will understand the concept of Minkowski space and four vector formulism

CO 3: Students will learn about Hall effect and its applications.

CO 4: Students will understand the concept of coupling of electrical circuits and their applications

CO 5: Students will know about the fundamentals of E.M Waves and response of different media to E.M Waves.

#### **Paper: Vibrations and Waves**

CO 1: Students will recall the concept of simple Harmonic Motion and compare free, damped and forced oscillators.

CO 2: Students will be able to apply the concept of damped and forced oscillators to electrical devices.

CO 3: Students will be able to evaluate the normal mode of oscillations for coupled oscillators.

CO 4: Students will understand and will be able to apply the concept of impedance matching for propagation of wave through different media.

CO 5: Students will understand the basic theory of Electromagnetic waves and their propagation through free space and some medium

### **Semester-III**

#### **Paper: Statistical Physics**

CO 1: Students will understand about the basic laws of statistical physics and its scope.

CO 2: Students will be able to explain the Concept of microstate, macrostate and Phase space.

CO 3: Students will compare the basic approaches of Maxwell Boltzmann, Bose Einstein and Fermi Dirac statistics.

CO 4: Students will learn about the concept of entropy and its application to explain various natural phenomena.

CO 5: Students will develop Maxwell Thermodynamics relations and their applications in different processes.

#### **Paper: Optics and Lasers**

CO 1: Students will learn about interference of light by division of amplitude and wave front.

CO 2: Students will apply the concept of interference of light in non-reflecting thin films and optical devices.

CO 3: Students will understand concept of polarization and apply it to produce and analyze polarized light

CO 4: Students will be explain about construction and application of Nicol prism, Quarter and Half wave plate.

CO 5: Students will understand the fundamentals of Laser and learn about various processes involved in LASER action

CO 6: They will learn the principle, Construction and working of different lasers: Ruby laser, Nd:YAG laser, He-Ne and Carbon dioxide laser.

#### **Semester-IV**

##### **Paper: Quantum Mechanics**

CO 1: Students will understand about the formalism of Wave mechanics, Normalization and Probability interpretation of wave function.

CO 2: They will explain the concept of wave particle duality.

CO 3: The students will illustrate the applications of Uncertainty principle.

CO 4: Students will define the fundamental postulates of wave mechanics.

##### **Paper: Atomic and Molecular Spectra**

CO 1: Students will understand the one electron atomic spectra, and explain their fine structure

CO2: Students will learn concept of Vector model of atom.

CO 3: Students will understand the concept of LS, JJ Coupling schemes. Lande's-g factor will be introduced to them.

CO4: Students will explain spectra of many electron systems e.g. of Helium and Alkaline Earth Spectra.

CO5: Students will learn about Production of X-rays and their Spectra.

CO6: Students will learn about Rotational, Vibrational, electronic energy levels and spectra of molecules.

#### **Semester-V**

##### **Paper: Condensed Matter Physics**

CO 1: Students will understand about the basics of crystal structure and symmetries operation in two and three dimensional crystals.

CO 2: Experimental methods for crystal structure studies will be demonstrated to the students.

CO 3: Students will be able to understand various reciprocal lattice, construction of Brillouin Zone in Two and three dimensions.

CO 4: Concept of Phonons will be explained to the students. Moreover, they will be able to calculate the density of modes of vibrations.

CO 5: Students will understand about the basic concepts of band theory and compare between conductors, semi-conductors and insulator using Kronig-Penny model.

##### **Paper: Nuclear Physics**

CO 1: Students will recall about the constituents of nucleus and various properties of nucleus.

CO 2: Students will classify various modes of decay of radioactive nuclides and the laws governing the radioactive decay.

CO 3: Students will compare between different types of nuclear reactions, their reaction cross section and conservation laws followed by them.

CO 4: They will be explained different Nuclear models- Liquid drop model and shell model.

#### **Semester-VI**

##### **Paper: Electronics**

CO 1: Students will find about the junction diodes and their applications.

CO 2: Students will explain about different transistors and the characteristics of their different configurations.

CO 3: Students will construct h parameters and outline their use for amplifier analysis.

CO 4: They will understand the concept of feedback and use of negative feedback in amplifiers.

CO 5: They will understand Barkhausen condition for sustained oscillations as well as construction and working of different types of oscillators.

##### **Paper: Radiation and Particle Physics**

CO 1: Students will list various types of accelerators used for accelerating the charge particles.

CO 2: They will understand Large Hadron Collider, which is world's largest accelerator.

- CO 3: Different modes of interaction of heavy charge particle with matter will be compared. They will learn how the incident particle losses its energy when it enter into the matter.
- CO 4: Students will explain Bethe-Bloch formula which tells about the energy loss per unit length when a charged particle enters into the matter.

### **Name of Programme: M.Sc. (Physics)**

#### **Programme outcomes**

- PO1: **Lifelong learning:** To develop a conceptual understanding of principles and importance of Physics and various components of analytical techniques.
- PO2: **Critical thinking:** To develop the aptitude of critically analyzing with application of Physical and Chemical sciences.
- PO3: **Creative thinking:** To create, select and apply appropriate techniques, resources and modern technology in a multidisciplinary way.
- PO4: **Develop Research Aptitude:** To develop problem-solving skills and to encourage them to carry out innovative research projects thereby making them to use knowledge creation in depth.
- PO5: **Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO6: **Scientific Aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO7: **Self-reliant and responsible citizens:** To make the students knowledgeable and disciplined with good moral values. Also to make them capable of applying their acquired knowledge to work on their own hence make themselves self-reliant and self-sufficient.

### **Course Outcomes**

#### **Sem-I**

#### **Paper: Electronics**

- CO 1: Students will be able to explain the construction, working and applications of Power electronic devices (like MOSFET, SCR,UJT) and also to evaluate their characteristic parameters.
- CO 2: Students will be able to classify different types of multi-vibrators and evaluate the transistor parameters for different applications.
- CO 3: Students will be able to appraise the uses of operational amplifiers for different applications.
- CO 4: Students will be able to categorize electronic analog computational circuits.
- CO 5: Students will be able to design logic circuits using Boolean expressions.
- CO 6: Students will be able to simplify logic circuits using K-Maps.
- CO 7: Students will be able to explain the working of encoder/ decoder, Multiplexer/de-multiplexer, parity generator and design the circuits for different applications
- CO 8: Students will be able to summarize the construction, working and applications of sequential circuits (flip-flops, Registers, Up/Down counters, AD/DA Convertors.)

#### **Paper: Mathematical Physics**

- CO 1: Students will apply Fourier decomposition to Wave theory.
- CO 2: Students will make use of Frobenius method to solve differential equations.
- CO 3: Students will solve Sturm Liouville problem.
- CO 4: Students will construct Generating functions for Bessel, Legendre function.
- CO 5: Students will calculate the real integrals.
- CO 6: Students will learn Lorentz series and apply it to various functions.
- CO 7: Students will define three dimensional rotation group and SU(2).

#### **Paper: Classical Mechanics**

- CO 1: Students will apply Lagrange equations of motion to solve various physical problems.
- CO 2: Students will be able to derive Lagrange equations from Hamilton's principle.

- CO 3: Students will understand variational principle and construct Hamilton's equations for different physical systems
- CO 4: Students will be able to reduce two body central force problem to one body problem
- CO 4: Students will be able to apply the concept of central force field to planetary motion and Rutherford scattering
- CO 5: Students will be able to find inertia tensor and find their eigen values and principal axis transformations
- CO 6: Students will develop infinitesimal canonical transformations and conservation theorems.

**Paper: Computational Techniques**

- CO 1: Students will learn the basics of MATLAB and will be able to work with arrays, creating and printing plots.
- CO 2: Students will be able to work with interacting computation techniques and array operations.
- CO 3: Students will be able to do programming in MATLAB.
- CO 4: Students will be able to do interpolation of functions or graphs using different methods.
- CO 5: Students will be able to learn and apply different methods for numerical differentiation and integration (like Monte- Carlo Method, Euler's method, Modified Euler's method, Runge-Kutta Method).
- CO 6: Students will be able to find the approx. the roots of algebraic equations using Bisection Method, Regula-Falsi Method, Newton-Raphson method.
- CO 7: Students will be able to find the solutions of simultaneous linear algebraic equations using Gauss elimination method, Gauss-Jordon method, Matrix inversion.

**Paper: Electronics Lab**

- CO 1: Students will be able to assemble the circuit of DIAC, TRIAC, SCR, UJT and MOSFET to study their characteristics and applications.
- CO 2: Students will be able to assemble bi-stable, mono-stable and a-stable, multi-vibrators and study their outputs
- CO 3: Students will be able to design scalar, summer, differentiator and integrator circuits using operational amplifier
- CO 4: Students will be able to construct various logic circuits from discrete electronic elements.
- CO 5: Students will be able to explain various components of Encoder/Decoder
- CO 6: Students will be able to demonstrate the working of half adder and full adder.
- CO 7: Students will be able to explain the components and working of Arithmetic and logic unit.
- CO 8: Students will be able to demonstrate different operations of shift registers.

**Paper: Computer Lab**

- CO 1: Students will be able to use MATLAB programming for finding the roots of equations using Bisection Method, Newton- Raphson Method and Secant Method.
- CO 2: Students will be able to use MATLAB programing for integrating the functions using Trapezoidal rule, Simpson 1/3, Simpson 3/8 rule and Gaussian Quadrature rule
- CO 3: Students will be able to find solutions of differential equations using MATLAB programming.
- CO 4: Students will be able to apply MATLAB programming to interpolate the graph /functions using Forward interpolation, Backward interpolation and Lagrange's interpolation.
- CO 5: Students will be able to apply MATLAB programming to physical problems like Chaotic Dynamics, logistic map, One dimensional Schrodinger Equation, Time period calculation for a potential, Luminous intensity of a perfectly black body vs. temperature.

**M.Sc. Sem-II**

**Paper: Quantum Mechanics – I**

- CO 1: Students will be introduced the concept of linear vector space, ket-bra space and their operations
- CO 2: Students will be introduced to the concept of representation of the commutation relations in different dimensions.

- CO 3: Students will study time evolution operator, Schrodinger equation and special role of the Hamiltonian operator
- CO 4: Students will solve Eigen value problem for  $L^2$ , spherical harmonics. Three dim harmonic oscillator, three dim potential well and the hydrogen atom
- CO 5: Students will be Introduced to the concept of representation of the commutation relations in different dimensions.
- CO 6: Students will be find Eigen vectors and eigen functions of  $J^2$  and  $J_z$ . C.G. coefficients
- CO 7: Students will to solve Schrodinger equation for physical systems like Simple harmonic oscillator, potential barrier, potential well etc

**Paper: Electrodynamics-I**

- CO 1: Students will calculate Green's function for the image charge problem in the case of a sphere
- CO 2: Students will solve Boundary value problems in dielectrics.
- CO 3: Students will determine Magnetic moment, force and torque on a magnetic dipole in an external field
- CO 4: Students will understand the Time varying fields and derive Maxwell's equations
- CO 5: Students will understand Lorentz Gauge, Coulomb's Gauge and gauge transformations
- CO 6: Students will appreciate Poynting theorem and derive conservation laws..
- CO 7: Students will be able to recall the concept of polarization and different methods of polarization.
- CO 8: Students will study propagation of waves in dispersive medium and conductive medium.

**Paper: Atomic and Molecular Spectroscopy**

- CO 1: Students will learn the concept of Space quantization of orbital, spin and total angular momenta and vector model for one and two valence electron atom.
- CO 2: Students will be able to learn and rephrase the Spectroscopic notations for L-S and J-J couplings; Spectra of alkali and alkaline earth metals
- CO 3: Students will learn to apply Selection and Intensity rules for doublets and triplets in one electron atoms
- CO 4: Students will be able to understand the various factors of broadening of spectral lines.
- CO 5: Students will be able to understand the fundamentals of splitting of spectral lines due to presence of external magnetic field and electric field.
- CO 6: Students will be able to learn the basics of Microwave spectrum of polyatomic molecules and Raman spectra of molecules
- CO 7: Students will be able to learn the outline of technique and instrumentation involved in Fourier transform spectroscopy.
- CO 8: Students will be able to determine the structure of molecules using Raman and Infraed spectroscopy.

**Paper: Condensed Matter Physics**

- CO 1: Students will learn different theories of lattice specific heat of solids.
- CO 2: Students will be able to explain the propagation of Elastic waves in cubic crystals and calculate Elastic constants of cubic crystals.
- CO 3: Students will be able to identify different point defects, line defects, dislocations and colour centres in crystal structure.
- CO 4: Students will be able to explain different theories responsible for electrical conduction in solids
- CO 5: Students will be able to evaluate electronic and ionic polarizability.
- CO 6: Students will be able to classify different ferroelectric crystals and explain thermodynamics of ferroelectric transitions.

**Paper: Condensed Matter Physics Lab**

- CO 1: Students will be able to calculate Hall coefficient of semiconductor materials.
- CO 2: Students will be able to evaluate the band gap of semiconductor
- CO 3: Students will be able to calculate magnetic susceptibility of the materials

- CO 4: Students will be able to use ESR Spectrometer to find g-factor
- CO 5: Students will be able to make use of four probe method to calculate band gap.
- CO 6: Students will be able to evaluate the magnetic parameters by examining the hysteresis loop.
- CO 7: Students will be able to evaluate the the di-electric constant.
- CO 8: Students will be able to evaluate the parameters and characteristics of Photo-voltaic cell

**Paper: Spectroscopy Lab**

- CO 1: Students will be able to estimate the wavelength of light using Fabry Perot interferometer and Michelson's interferometer.
- CO 2: Students will be able to calibrate constant deviation spectrophotometer and calculate the unknown wavelength of light.
- CO3: Students will be able to determine the grating element of the diffraction grating using He-Ne laser light.
- CO 4: Students will be able to demonstrate the existence of Bohr's energy levels with Frank-Hertz experiment.
- CO 5: Students will be able to demonstrate normal Zeeman Effect and determine the charge to mass ratio ( $e/m$ ) of an electron.
- CO 6: Students will be able to determine the velocity of ultrasonic waves in a liquid using ultrasonic interferometer

**M.Sc . Sem –III**

**Paper: Quantum Mechanics-II**

- CO 1: Students will understand the concept of first and second order Perturbation Theory for non-degenerate and degenerate systems.
- CO 2: Students will be able to understand first order time dependent perturbation theory calculate transition probability per unit time for harmonic perturbation.
- CO 3: Students will understand the concept of Born Approximation and apply it to square well potential
- CO 4: Students will be able to derive Klein Gordon Equation and Dirac equation and find their solutions.
- CO 5: Students will be able to understand the Parity operator and its action on states.
- CO 6: Students will be introduced to identical particles in Quantum Mechanics.
- CO 7: Students will understand symmetrisation postulates and their application to 2-electron systems.

**PAPER: Electrodynamics –II**

- CO1: Students will be able to learn and apply the concept of wave guides to find modes of propagation in cylindrical and rectangular wave guides.
- CO2: Students will be able to calculate energy flow and attenuation in wave guides.
- CO3: Students will be learn about resonance cavities and their quality factor
- CO4: Students will be able to recall the concept and relations of special theory of relativity.
- CO5: Students will be able to understand the structure of space-time, four scalars, four vectors and tensors.
- CO6: Students will be able to understand the formulation of relativistic mechanics and relativistic electrodynamics
- CO7: Students will be able to calculate the field of radiations produced by oscillating charges, dipole and quadrupole.
- CO8: Students will learn the principal and working of centre fed antenna.
- CO9: Students will be able to calculate the angular distribution of radiation emitted by an accelerated charge and power radiated by it.

**Paper: Nuclear Physics**

- CO 1: Students will be able to understand theories to explain nuclear forces
- CO 2: Students will be introduced to the concept of exchange forces and tensor forces.
- CO 3: Students will understand Iso-spin formalism - Charge independence and charge symmetry of nuclear forces

- CO 4: Students will be distinguish between various nuclear drop models- Shell model, Collective model, Nilsson Model.
- CO 5: Students will understand theories of beta decay, Gamma Decay and neutrino decay
- CO 6: Students will be able to apply the concept of parity violation to study allowed and forbidden states.
- CO 7: Students will learn about Direct and compound nuclear reaction mechanisms and formation of compound nucleus.
- CO 8: Students will be able to apply the concept of cross sections in terms of partial wave amplitudes to resonance scattering.

**Paper: Statistical Mechanics**

- CO 1: Students will be able to appreciate the contact between Statics and thermodynamics
- CO 2: Students will understand the concept of phase space of classical systems, Liouville's theorem and its consequences
- CO 3: Students will be able to differentiate between Micro Canonical, Canonical and Grand Canonical Ensemble.
- CO 4: Students will be calculate density matrix in Phase space and Quantum States and apply to solves various Physical problems
- CO 5: Students will be able to apply concepts and thermo-dynamical behaviour of an ideal gas to distinguish between the gases of Photons and Phonons
- CO 6: Students will be able to appreciate concepts of Equilibrium of White dwarf
- CO 7: Students will understand the thermo-dynamical behaviour of an ideal Fermi gas, electron gas in metals

**Paper: Condensed Matter Lab**

- CO 1: Students will be able to determine Stefan's constant using Boltzmann's Law
- CO 2: Students will be able to calculate Curie temperature of ferrites
- CO 3: Students will study the depletion capacitance and its variation with reverse bias in a p-n junction
- CO 4: Student will study the optical Band gap using UV-Visible spectrophotometer
- CO 5: Students will be able to determine the energy loss in the ferrites at room temperature
- CO 6: Students will be able to determine the lattice dynamics and dispersion relation for the monatomic and diatomic lattices
- CO 7: Students will be able to find thermo-luminescence of f-centres in Alkali Halide Crystals

**Paper: Nuclear Physics Lab**

- CO 1: Students will study the characteristics of a G.M. Counter.
- CO 2: Students will be able to determine the Dead time of a G.M. Counter
- CO 3: They will investigate the statistics of radioactive measurements.
- CO 4: Students will study absorptions of Beta Particles in Matter
- CO 5: Students will study Poisson Distribution and Gaussian Distribution using GM Counter.
- CO 6: Students will be able to study absorption of gamma rays in matter and analyse Pulse-height of Gamma ray spectra

**M.Sc. Sem –IV**

**Paper: Particle Physics**

- CO1: The student will have an exposure on elementary particles their classification, properties. Also student will learn how to determine mass, life time, decay mode, spin and parity of elementary particles.
- CO2: The student will learn different experimental evidence how to produce neutrinos as well as their detection also the fundamental of antiparticle and their resonance.
- CO3: The students will be able to understand different types of symmetry and conservation laws to understand basic properties of elementary particles.

- CO4: The time reversal invariance violation of CP along with CPT theorem will be taught to the students with specific emphasis on quark model and SU types symmetry.
- CO5: The student will learn different types of weak interactions and theories of beta decay.
- CO6: Student will be able to experimentally test classical fermi theory, non-conservation of parity in beta decay lepton, polarization and Cabibbo's theory.
- CO7: The students will learn the most fundamental aspect of particle physics such as gauge theory along with field equation for different spin.
- CO8: The student will be able to understand the interaction between the fundamental particle and field through Feynman rules. At the end broken symmetry and standard model of particle will be taught.

**Paper: Condensed Matter Physics –II**

- CO 1: Students will be able to classify the different magnetic substances.
- CO 2: Students will be able to explain different theories of Paramagnetism and Diamagnetism
- CO 3: Students will be able to explain the behaviour of ferromagnetic, paramagnetic and diamagnetic materials using domain theory.
- CO 4: Students will apply the concept of quantization of spin waves to study Thermal excitations of magnons, Neutron Magnetic Scattering.
- CO 5: Students will understand the phenomenon of Superconductivity and distinguish between type I and Type –II superconductors
- CO 6: Students will derive London Equation and understand the concept of penetration depth.
- CO 7: Students will calculate BCS States using BCS theory
- CO 8: Students will learn concept of direct and indirect band gap, Exciton absorption, Free carrier absorption, Absorption process involving impurities

**Paper: Physics of Material**

- CO-1: Students will understand the basics of Vacuum Technology.
- CO2: Students will learn about the basic principle, construction and working of various types of vacuum pumps and gauges.
- CO3: Students will learn about the growth processes in thin films and the Influence of nature of substrate and growth parameters.
- CO4: Students will learn about various thin film deposition techniques and Thin film thickness measurement techniques.
- CO5: Students will learn about different types of polymers, their characteristics, applications and processing techniques.
- CO6: Students will be able to classify liquid crystals, nanophase materials and ceramics.
- CO7: Students will learn various techniques used for synthesis of different types of liquid Crystals, ceramics and nano-phase materials.
- CO8: Students will be able to understand the basic principle, construction and working of characterisation techniques like XRD, TEM, SEM, LEED, AFM.

**Paper: Nanotechnology**

- CO1: Student will be able to understand the fundamental of nanoscience and nanotechnology.
- CO2: The student will be able to understand the different approaches and techniques for the fabrication of nanoparticle. The physical, chemical methods will be taught.
- CO 3: Students will be able to understand different basic principles underlying the characterization techniques to study structural, thermal and optical properties of materials
- CO 4: Student will learn special nanomaterials such as carbon nanotubes, fullerene and their different types of properties.
- CO 5: Student will learn the various application of carbon nanotube in various field. The method for the fabrication of carbon nanotube, fullerene and Graphene will be taught.

- CO 6: Student will learn nano and micro electro-mechanical system along with their application in sensors and biosensors field, microfluids, MEMS and NEMS
- CO 7: Students will understand the fundamental of semiconductor nanoparticles along with their optical and fluorescence properties and their application in LED and solar cell.

## Post Graduate Department of Chemistry

Name of Programme: B.Sc. (Medical)/ (Non-Medical)/ (Computer Science)

### Programme Outcomes

- PO 1 Critical Thinking:** The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.
- PO 2 Lifelong learning:** Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO 3 Logical experimentation:** The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO 4 Creative thinking:** They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO 5 Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO 6 Scientific aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO 7 Self-reliant:** To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

### Programme Specific Outcomes

#### Chemistry

The Programme enables the students

- PSO 1: To understand concepts, basic facts and laws in chemistry.
- PSO 2: Different aspects of chemistry develop interest in the study of chemistry as a discipline.
- PSO 3: Programme develops skills to solve subject related problems.
- PSO 4: Programme enables the students to know the role of chemistry in daily life and effect of chemicals on nature and society.
- PSO 5: To develop ability to apply the principles of chemistry.
- PSO 6: To develop skills in safe handling of chemicals and apparatus.
- PSO 7: To develop skills to know the working of instruments and their further applications in research projects.
- PSO 8: Waste water management, sustainability, green house emission and green chemistry experiments impart knowledge regarding environmental protection.
- PSO 9: Programme imparts basic and fundamental knowledge to the students to continue higher studies, to prepare for various competitive examinations and to pursue a research career or to serve industries like – glass, cement textile, soap and detergents, paper, pharmaceuticals and food industry.
- PSO 10: This programme enables the students to go for forensic studies also

#### Course Outcomes

Name of Programme: B.Sc. (Medical)/ (Non-Medical)/ (Computer Science)

After the completion of each course, students will able to attain following information:

#### SEM-I

##### Inorganic Chemistry-

CO1: Illustrate Quantum mechanical approach to Atomic Structure, Periodic Properties, General characteristics of all the elements, their compounds with structure and preparation methods, chemical bonding,

CO2: How to predict the geometries of different compounds

CO3: Explain concepts of ionic solids and weak interactions

### **Organic Chemistry-**

CO1: Understanding of nomenclature and classification of organic compounds and

CO2: Illustrate concepts of Organic chemistry like – Reaction Mechanism, intermediates and attacking reagents etc.

CO3: Discuss preparation and properties of different functional Groups like Hydrocarbons, haloalkanes and Aromatic compounds.

### **CHEMISTRY**

#### **(PRACTICAL)**

CO1: Course develops the skills to determine Physical constants like Melting points and Boiling points.

CO2: Develop skills for separation and identification of ions

CO3: Learn apparatus handling and chemical hazards

### **SEM-II**

#### **CHEMISTRY (INORGANIC CHEMISTRY–II)**

CO1: Understanding concepts of acids and bases.

CO2: Explain s/p/d-block elements

CO3: Understanding of structure and properties of compounds of s/p/d-block

#### **Physical chemistry-**

CO1: This course enables the students to explain about the various states of matter (Colloids, Gaseous, Liquid and solutions)

CO2: Illustrate solutions and colligative properties.

CO3: Discuss types of colloids and their properties and applications

### **CHEMISTRY**

#### **(PRACTICAL)**

CO1: Develops skill of Crystallization.

CO2: Students learn and perform experiments related to physical chemistry i.e. Surface tension, viscosity, Chemical kinetics and Thermodynamics.

CO3: Apparatus handling

### **SEM-III**

#### **Organic Chemistry**

CO1: Explain modern aspects of stereochemistry

CO2: Illustrate synthesis and properties of some important class of organic compounds with mechanism.

CO3: Explain organometallic and Heterocyclic compounds

#### **Physical chemistry**

Students get acquainted with the knowledge of –

CO1: Application of mathematical tools for chemistry

CO2: Explain basic concepts and Laws of Thermodynamics, Distribution Law, Chemical and Phase Equilibria

CO3: Solving numerical problems of above topics

### **CHEMISTRY (PRACTICAL)**

Students are exposed to the skill development for –

CO1: Techniques of Thin Layer Chromatography

CO2: Quantitative estimations of Different ionic species using different branches of Volumetric and Gravimetric Analysis

CO3: Apparatus handling and data analysis to reach appropriate conclusion

#### **SEM IV**

##### **Inorganic Chemistry-**

CO1: Explain advanced theories on coordination chemistry, structure, bonding and stereochemistry of important coordination compounds.

CO2: Discuss redox behavior of Elements.

CO3.Explain Non-Aqueous solvents.

- Chemistry of Lanthanides and actinides.
- Bioinorganic Chemistry.

##### **ORGANIC CHEMISTRY–B**

CO1: Discuss aspects of stereochemistry

CO2: Explain important class of Organic compounds with mechanism.

CO3: Discuss organometallic compounds and their applications in organic synthesis.

##### **CHEMISTRY (PRACTICAL)**

CO1: Qualitative Analysis of Organic Compounds with Synthesis of their derivatives and physical constant determinations

CO2: Apparatus Handling

CO3: Knowledge of chemical hazard.

#### **SEM-V**

##### **INORGANIC CHEMISTRY–A**

CO1: Illustrate crystal field splitting in coordination complexes, their Stability, colour and magnetic properties and use of Magnetic moments for Interpretation of their structures.

CO2: Explain Electronic Transitions, Selection Rules and Term Symbols.

CO3: Explain basic concepts of Organometallic chemistry.

##### **Physical chemistry-B**

CO1: Explain Various Forms of electrochemical cells, conductance and related laws.

CO2: Explain Nuclear reactions

CO3: Discuss Physical aspects of various branches of Spectroscopy.

##### **CHEMISTRY (PRACTICAL)**

CO1: Develop skills for preparation of transition metal complexes

CO2: Skills Conductometric titrations and Refractive Index measurement

CO3: Instrument handling

#### **SEM-VI**

##### **ORGANIC CHEMISTRY– A**

Students are Introduced to –

CO1: Discuss Different spectroscopic methods of Analysis which includes UV, IR & NMR techniques.

CO2: Solving problems based on spectroscopy

CO3: Illustrate basic concepts of Carbohydrates, Polymers, Organosulphur compounds , Amino acids, Proteins , RNA and DNA.

##### **PHYSICAL CHEMISTRY–B**

CO1: Explain basic concepts of Quantum Mechanics

CO2: Explain solid states

CO3: Illustrate basic concepts of Photochemistry

### **Chemistry Practical**

- CO1: Develop skills for synthesis of Organic compounds
- CO2: Column chromatography as separation technique for mixture of compounds
- CO3: Learn Apparatus and Chemical handling

### **Name of program: B.Sc. (Biotechnology)**

After the completion of each course, students will able to attain following information:

#### **SEM-I**

##### **BT-3 Inorganic Chemistry-**

- CO1: Discuss Coordination compounds, co-ordination number, stereochemistry and isomerism
- CO2: Discuss theories like VBT, CFT, high spin and low spin complexes
- CO3: MOT explaining the bonding in these compounds.

##### **BT-4 Organic Chemistry**

- CO1: Illustrates Stereochemistry of compounds
- CO2: Illustrates Isomerism i.e. Conformational , Geometrical and Enantiomerism , Sequence rules for E , Z or S, Specification to the compounds,
- CO3: Explain structures, nomenclature, preparation methods and properties with mechanism of different Functional groups.

### **Chemistry Practical**

##### **BT-3 Inorganic Chemistry-A**

- CO1: Develop skills for volumetric titrations.
- CO2: Develop skills for complexometric titrations
- CO3: Apparatus handling and data analysis

##### **BT-4 Organic Chemistry-A**

- CO1: Develop skill for identification of organic compounds and their derivation
- CO2: Apparatus and Chemical Handling
- CO3: Understanding of chemical hazard

#### **SEM II**

##### **BT - 3 Inorganic Chemistry-B**

- CO1: Discuss Ligands, chelators, biochemical ligands their binding with alkali, alkaline earth metals and transition metals
- CO2: Illustrates Stability of metal complexes
- CO3: Explain role of metal ions in living systems.

##### **BT - 4 Organic Chemistry-B**

- CO1: Illustrates conversion of functional groups into each other
- CO2: Discuss various reaction Mechanisms
- CO3: Explain acid-base catalysis and nucleophilic addition reactions

##### **BT-3 Inorganic Chemistry-B (Practical)**

- CO1: Develop skills for Acid radical analysis
- CO2: Develop skills for Basic radical analysis
- CO3: Apparatus and chemical handling

##### **Organic Chemistry (Practical)**

- CO1: Skill development for identification of organic compounds (Aromatic hydrocarbons, aldehydes, ketones, carbohydrates)
- CO2: Apparatus handling
- CO3: Chemical handling

### **SEM III**

#### **Physical Chemistry-A**

- CO1: Illustrates chemical thermodynamics, solutions, various types of solutions, colligative properties, Von't Hoff factor,  
CO2: Explain phase equilibria, various phase diagrams.  
CO3: Solving Numerical problems

#### **Physical Chemistry – A Practical**

- CO1: Develop skills to measure various physical properties like surface tension, viscosity etc.  
CO2: Develop skills for acid base titrations, percentage composition of solution using pH meter.  
CO3: Instrument handling

### **Sem-IV**

#### **Physical Chemistry – B**

- CO1: Discuss electrochemical cells their types, Nernst Equation.  
CO2: Illustrates chemical kinetics and rate order Equations.  
CO3: Solving numerical problems based on above concepts.

#### **Physical Chemistry – B Practical**

- CO1: Develop skills for measurement of various physical properties  
CO2: Instrument handling and operation  
CO3: Data analysis to conclude results

### **SEM V**

#### **BT-7 Physical, Organic & Inorganic Aspects of Spectroscopy-A**

- CO1: Explain UV visible spectroscopy  
CO2: Explain Infrared Spectroscopy  
CO3: Problem on structure elucidation of newly synthesized compounds using spectroscopy.

#### **Physical, Organic & Inorganic Aspects of Spectroscopy-A (Practical)**

- CO1: Develop skills for synthesis and electronic spectral studies of transition metal complexes.  
CO2: Record and Compare UV-Vis and IR spectra of reactants and products, transition metal complexes etc.  
CO3: Instrument operation, handling and data interpretation.

### **SEM-VI**

#### **BT-7 Physical, Organic & Inorganic Aspects of Spectroscopy-B**

- CO1: Illustrate Nuclear, Magnetic Resonance Spectroscopy  
CO2: Illustrate Mass spectrometry  
CO3: Solving problems on structure elucidation of organic compounds using NMR and mass spectrometry.

#### **BT-7 Physical, Organic & Inorganic Aspects of Spectroscopy-B Practical**

- CO1: To record NMR spectra of organic compounds  
CO2: Perform column chromatography  
CO3: Instrument operation, handling and data interpretation.

### **Name of Programme: M.Sc. (Chemistry)**

#### **Program Outcomes**

- PO 1: This programme brings together the graduates who wish to enhance their skills and gives them an opportunity to develop their careers in a particular direction.  
PO 2: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.  
PO 3: The programme tends to expertise students in practical work and experiments based on the same so that they can analyze the data effectively.

PO 4: The students will be able to exhibit the capability to study the social and ethical aspects as well as cognizance of ethical facets of research and development work.

PO 5: The masters of science programme provides the candidate with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, entrepreneurship or public administration etc.

### **Programme Specific Outcomes**

After the completion of program, students will have the following expertise:

PSO 1: Instrument handling.

PSO 2: Synthesis, separation and analysis of compounds employing laboratory and analytical techniques.

PSO 3: Analytical approach and problem solving skills by combining the different branches of chemistry.

PSO 4: Profound knowledge for the competitive exams and research in chemical sciences.

PSO 5: Efficient to work in chemical/pharmaceutical industries.

### **Course Outcomes**

It assesses the knowledge and abilities inculcated in the students by the end of subject teaching. Students will gain an understanding of:

#### **Sem-I**

##### **Course I**

##### **Ligand Field Theory**

CO1: Application of symmetry elements/operations to identify the symmetry of point group of different molecules

CO2: Application of Crystal Field Theory to understand the electronic spectra and magnetic properties/colour of coordination complexes

CO3: Enable to differentiate between different isomers of transition metal complexes on the basis of crystal field theory.

CO4: Application of basic background knowledge of LFT and CFT to draw conclusions from chemically related data for transition metal complexes

#### **COURSE II**

##### **Organic Reaction Mechanism- I**

CO1: Predict the reaction mechanisms, rate of reaction by interpreting the given data

CO2: Predict the end products and stereochemistry of final products of a new reaction

CO3: Discuss the reaction mechanism of a given reaction

CO4: Learn reaction types and parameters to apply in the laboratory methods.

#### **COURSE III**

##### **Physical Chemistry – Thermodynamics**

CO1: Apply mathematical tools to determine thermodynamic properties.

CO2: Use of models for greater understanding of phenomena of thermodynamics

CO3: Solve subject related numeric problems.

#### **COURSE IV**

##### **SPECTROSCOPY – A: Techniques in Structure Elucidation of Organic Compounds**

CO1: Illustrates spectroscopic techniques (NMR, IR, UV-VIS) and Mass spectrometry

CO2: Application of spectroscopic techniques (NMR, IR, UV-VIS) and Mass spectrometry for structure elucidation of compounds

CO3: Interpretation of data and draw the conclusion.

CO4: Enable to solve the combined structural problems of organic compounds

##### **Course –V**

### **Computer for Chemists**

CO1: Learn about various applications of computers in chemistry.

CO2: Develop skills in Programs in C- Language.

CO3: Develop programs for calculation of mean, median and Mode; Calculation Of Bohr Orbit and many more.

### **COURSE - VI**

#### **INORGANIC CHEMISTRY (PRACTICAL)**

##### **(Quantitative Analysis) Quantitative Analysis-**

CO1: learn and perform different types of titrations

CO2: Perform estimation of different metals

CO3: Interpretation of experimental data and results

CO4: Apparatus handling

### **COURSE-VII**

#### **ORGANIC CHEMISTRY (PRACTICAL)**

CO1: Carry out multistep and important organic reactions. Correlate results with the theoretical understanding.

CO2: Perform thin layer chromatography.

CO3: Perform purification, characterization and Identification of organic compounds using various techniques.

CO4: Apparatus and Chemical Handling

### **Sem-II**

#### **Course – VIII**

#### **ORGANOMETALLICS CHEMISTRY**

CO1: Apply knowledge of structure and bonding to correlate the reactivity and stability of complexes.

CO2: Learn application of Organometallic complexes in catalysis

CO3: Learn modern method to characterize the complexes

### **COURSE-IX**

#### **Organic Reaction Mechanism - II**

CO1: Predict reaction mechanisms in chemical reactions

CO2: Predict the end products of chemical reaction

CO3: Learn to depict possible no. of products in a reaction

### **COURSE-X**

#### **Physical Chemistry – Quantum Chemistry**

CO1: Application of mathematical methods in quantum chemistry

CO2: Applications of quantum postulates to particle in a box.

CO3: Applications of approximation methods to atoms

CO4: Learn chemical bonding quantum mechanically

### **Course-XI**

#### **REACTION MECHANISMS AND METAL CLUSTERS**

CO1: Explain reaction mechanism of transition metal complexes

CO2: Explain electron transfer reaction

CO3: Discuss classification of metal clusters

CO4: Understanding of metal-ligand equilibria in solution

### **Course-XII**

#### **SPECTROSCOPY – B: Techniques for Structure Elucidation of Inorganic Compounds**

- CO1: Apply vibrational, rotational, Electronic, ESR, NQR, Mossbauer Spectroscopy techniques to inorganic compounds  
CO2: Determination of point groups of small and medium sized molecules  
CO3: Solve structural problems of inorganic compounds.  
CO4: Analysis of Spectral data

### **COURSE-XIII**

#### **MATHEMATICS FOR CHEMISTS**

(For Medical Students)

- CO1: Solve various problems of Trigonometry and Determinants  
CO2: Solve various problems of Matrices  
CO3: Solve various problems of Differential Calculus  
CO4: Solve various problems of Integral Calculus

### **COURSE-XIII**

#### **BIOLOGY FOR CHEMISTS**

(For Non-Medical Students)

- CO1: Enable students to deal with biology involved in chemistry.  
CO2: Students came to know about –  
• The Organization of Life  
• Genetics  
• The Diversity of Life  
CO3: Students also learnt about the cell organization and classification of living things in this course.

### **COURSE XIV**

#### **ORGANIC CHEMISTRY (PRACTICAL)**

- CO1: Perform multistep synthesis  
CO2: Apparatus and Chemical Handling  
CO3: Perform quantitative analysis of organic compounds  
CO4: Correlate the theoretical knowledge with experimental

### **COURSE-XV**

#### **Physical Chemistry (Practical)**

- CO1: Instrument operation and handling like Ph –meter and conductometer.  
CO2: Perform various titrations to determine dissociation constant, equilibrium constant, solubility etc.  
CO3: Perform data and results interpretation.  
CO4: Establish correlation between experimental results and various physical chemistry laws and theories.

### **Sem-III**

#### **Course –XVI**

#### **INORGANIC CHEMISTRY**

- CO1: Demonstrate the role of metal ions in biological systems and metals in medicines  
CO2: Illustrate Chemistry of Iron and metal transport  
CO3: Outline bioredox Agents, Mechanism, Metalloenzymes.  
CO4: Explain role of chemistry in biology

### **COURSE-XVII**

#### **ORGANIC SYNTHESIS**

- CO1: Make use of the mechanistic approaches to different substrate to predict the products  
CO2: Analyze their role and importance of reagents in organic synthesis  
CO3: Outline basic Concepts of Supramolecular Chemistry

CO4: Theoretical understanding of heterocyclic Chemistry

#### **COURSE-XVIII**

##### **SURFACE AND POLYMER CHEMISTRY**

CO1: Discuss the phenomenon of adsorption

CO2: Explain chemistry behind micelles

CO3: Illustrate polymerization, their types and determination of their molecular weight.

CO4: Outline kinetic of polymerization.

#### **Course-XIX**

##### **Electrochemistry and Chemical Dynamics**

CO1: Explain the concepts of voltametry and polarography and electrochemistry.

CO2: Draw plots or correlation between various parameters of chemical dynamics and electrochemistry.

CO3: Solve numerical problems related to the topics.

#### **COURSE-XX**

##### **PHOTOCHEMISTRY AND PERICYCLIC REACTIONS**

CO1: Explain the role and behavior of photons in a chemical reaction

CO2: Predict no. of products and their structure in a photochemical reactions

CO3: To predict end products and the stereochemistry of different types of pericyclic reactions

#### **COURSE-XXI**

##### **Inorganic Chemistry (Practical)**

CO1: Preparation of transition metal complexes

CO2: Characterization of complexes by NMR, IR and UV-VIS spectroscopy.

CO3: Analysis of spectral data

CO4: Instrument handling

#### **COURSE-XXII**

##### **PHYSICAL CHEMISTRY (PRACTICAL)**

CO1: Learn Instrument operation of conductometer, refractometer, colorimeter, potentiometer, dilatometer etc.

CO2: Data analysis

CO3: Learn practical demonstration of physical chemistry laws and equations.

CO4: Instrument Handling.

#### **Semester IV**

#### **Course-XXIII**

##### **ADVANCED INORGANIC CHEMISTRY**

CO1: Explain role of photochemistry in reactions of transition metal complexes

CO2: Outline insertion reactions of transition metals

CO3: Illustrate role of transition metals in catalysis

CO4: Explain photo reactions and photo synthesis

#### **Course-XXIV**

##### **NATURAL PRODUCTS**

CO1: Study of biosynthetic pathways, other natural products

CO2: Analyze the difference between synthesis of compounds in laboratory and in natural plant systems.

CO3: Basic understanding and application of techniques and their correlation to draw conclusions.

CO4: Application of Disconnection approaches and retrosynthesis to establish the structure and stereochemistry of natural products

## **Course XXV**

### **Chemistry of Materials**

- CO1: Explain type of solids, point defects, electric properties of solids and their reactions
- CO2: Discuss polymers and methods of determination of their molecular mass.
- CO3: Explain glass and ceramic formation and their properties.
- CO4: Illustrate smart materials.

### **Advanced Practical's**

#### **Organic Synthesis (Practical)**

- CO1: Perform reactions for synthesis and reactivity of organic compounds such as benzalacetophenone with various reagents.
- CO2: Instrument Operation
- CO3: Learn to Characterize and Analyze the data
- CO4: Confirm the structure of final products

### **Advanced Practical's**

#### **Inorganic Synthesis (Practical)**

- CO1: Synthesis of various transition metal complexes
- CO2 ; Instrument Handling of UV spectrophotometer, IR etc.
- CO3 : Record and Interpretation of electronic absorption, IR and NMR spectral data
- CO4: Learn and perform separation techniques of column and paper chromatography.

### **Advanced Practicals**

#### **Physical Chemistry (Practical)**

- CO1: Instrument Operation
- CO2: Practical demonstration of physical chemistry phenomena like effect of conjugation on wavelength, activity coefficient, rate of reaction etc.
- CO3: Analysis of data
- CO4: Draw the conclusions

**Post Graduate Department of Mathematics**  
**Name of Programme: B.A/B.Sc. (Non-Medical/Computer Science)**

**Mathematics**

**Course Outcomes**

**Semester-I**

**Paper: I Algebra**

- CO1: Algebra forms the basis for Higher Mathematics and helps students to apply Mathematical results to more generalized concepts.
- CO2: Students will learn how to deal with quadratic, cubic and bi-quadratic equations.
- CO3: Students will be able to find Eigen values and Eigen vectors of square matrix.
- CO4: Students will be able to solve linear equations in three or more variables.

**Paper-II Calculus & Trigonometry**

- CO1: Learn the basic concepts of various functions like exponential functions, logarithmic functions and trigonometric functions and their applications to problems in real world.
- CO2: It helps the students to understand the concept of Limits, Continuity, Uniform continuity and derivatives and different properties of these concepts.
- CO3: Students will learn how to apply De Moivre's theorem to solve various equations and primitive roots of the complex variables.
- CO4: Students will be able to find sums of different trigonometric series.

**Semester-II**

**Paper -I Calculus and Differential Equations**

- CO1: Calculus will help students to trace graphs of different functions and how to find their asymptotes, multiple points etc.
- CO2: Students will be able to relate integrals of different functions using reduction formulae.
- CO3: Students will be able to solve differential equations with constant and variable coefficients.
- CO4: Students will learn to find maxima and minima, critical points and inflexion points of functions and use it to evaluate problems related to various solids.

**Paper -II Calculus**

- CO1: Introduction of the concepts of Limits, Continuity, and partial derivatives of functions of two variables and different properties of these concepts.
- CO2: Students will learn to expand functions of two variables using Taylor's theorem.
- CO3: It helps to understand the concept of double triple integrals, how to solve them and their applications to finding area and volumes of curves.
- CO4: Students will be able to learn and apply the change of order of integration to various double integrals.

**Semester-III**

**Paper -I Analysis**

- CO1: Analysis will introduce the concepts of sequence, series and their convergence and divergence. Also it will introduce the concept of Riemann integrals.
- CO2: Students will learn to check the convergence and divergence of sequence by using various tests.
- CO3: Students will be able to check whether the function is Riemann Integrable or not and find their numerical values.
- CO4: Students will learn to deal with improper integrals, Beta and Gamma functions.

**Course Outcomes of Paper II – Analytical Geometry**

- CO1: It will enhance the knowledge of Straight lines, parabolas, ellipse, hyperbola and sphere.
- CO2: Solve applied mathematics problems involving analytic geometry and conic sections.
- CO3: Students will be able to identify different conics from general equation of degree two.
- CO4: Students will learn to transform and rotate axis.

## **Semester-IV**

### **Paper I – Static & Vector Calculus**

- CO1: Students will be able to know about the different kind of forces acting on a body at rest and their properties
- CO2: Students will learn about coplanar forces, parallel forces, Moments, Varignon's theorem of moments, Couples, Resultant of two Coplanar Couples, and Equilibrium of two Coplanar couples
- CO3: Students will learn about Centre of Gravity of different bodies.
- CO4: Student will understand Green's Theorem, Divergence Theorem, Stoke's theorem and evaluate line integrals, surface and volume integrals.

### **Paper II – Solid Geometry**

- CO1: In Solid Geometry the students will learn about the surfaces and solids in space like cones, cylinders and prisms.
- CO2: Students will be able to identify equation of cones and cylinders from a second degree equation in three variables.
- CO3: Students will learn how to find surfaces of revolution of different curves.
- CO4: Students will identify type of general equation of second degree.

## **Semester-V**

### **Paper I – Dynamics**

- CO1: Dynamics will help to understand the concept of speed, velocity, acceleration and use these in solving problems.
- CO2: Students will learn about Newton's Laws of Motion and apply it to solve various problems.
- CO3: Students will be able to evaluate problems of work, power and energy and laws related to kinetic and potential energy.
- CO4: Students will be able to evaluate curvilinear motion of particle in a plane and projectiles.

### **Paper II – Number Theory**

- CO1: It will enhance the concepts of divisibility, G.C.D, L.C.M and basic properties of integers.
- CO2: Students will be able to apply Euclid's Algorithm and backward substitution.
- CO3: Students will be able to understand the definitions of congruences, residue classes and their properties and able to solve problems by congruences.
- CO4: Students will learn about different number theoretic functions and their properties.

## **Mathematics Semester-VI**

### **Paper I – Linear Algebra**

- CO1: Linear Algebra will introduce the concept of Groups, Rings and Fields. Vector Spaces and Linear Transformations.
- CO2: Students will learn about linear span, Linear dependence, Linear independence of vectors and Linear combination of vectors, Basis of a vector space.
- CO3: Students will be able to solve problems of linear transformation and Algebra of linear transformation.
- CO4: Also will learn Rank- Nullity theorem and Matrix of a linear transformation.

### **Paper II – Numerical Analysis**

- CO1: In Numerical Analysis students will learn common numerical methods and how they are used to obtain approximate solutions to otherwise intractable mathematical problems.
- CO2: Students will be able to drive numerical methods for various mathematical operations and tasks such as interpolation the solutions of linear and nonlinear equations.
- CO3: Students will be able to analyse and evaluate the accuracy of common numerical Methods.
- CO4: Students will be applying to various method numerical integration and differentiation for finding the values of integrals and derivatives.

## **Name of Program: M.Sc. (Mathematics)**

### **Program Outcomes**

- PO1: This programme brings together the graduates who wish to enhance their skills and gives them an opportunity to develop their careers in a particular direction.
- PO2: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO3: The programme tends to expertise students in practical work and experiments based on the same so that they can analyse the data effectively.
- PO4: The students will be able to exhibit the capability to study the social and ethical aspects as well as cognizance of ethical facets of research and development work.
- PO5: The masters of Science programme provides the candidate with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, entrepreneurship or public administration etc.

### **Program Specific Outcomes**

- PSO1: Understanding of the fundamental axioms in Mathematics, capability of developing ideas based on them and inculcates mathematical reasoning
- PSO2: Prepare and motivate students for research studies in mathematics and related fields of Science and Technology.
- PSO3: Provide knowledge of a wide range of mathematical techniques and application of mathematical methods/tools in other scientific and engineering domains.
- PSO4: Provide advanced knowledge on topics in pure and applied Mathematics, and empower the students to pursue higher degrees at reputed academic institutions.
- PSO5: Strong foundation on algebra, topology and Number theory which have strong links and application in theoretical physics.
- PSO6: Nurture problem solving skills, thinking, creativity through assignments and guide students in preparing for competitive exams e.g. NET, GATE, etc.

### **Course Outcomes (CO) of PG Mathematics**

#### **M.Sc. Mathematics Semester -I**

##### **Paper-551-Real Analysis-I**

- CO1: Real Analysis studies the concepts such as sequences and their limits, continuity, differentiation, integration and sequences of functions of real variables and will improve student's logical reasoning.
- CO2: Students will be able to understand countable & uncountable sets, open sets, closed sets, compact sets, perfect sets,  $k$ -cells and Cantor set.
- CO3: The students will be able to understand limits and how they are used in sequences, series differentiation and integration.
- CO4: They can understand Riemann-Stieltje's integral and its properties, Fundamental theorem of calculus and 1st and 2nd Mean values theorems of Riemann-Stieltje's integral.
- CO5: Plan and design research problems using techniques and procedures appropriate to real analysis.

##### **Paper-552 Complex Analysis**

- CO1: Complex Analysis investigates functions of complex variables, their limits, derivatives, integration and provides students with opportunities to build a deeper cognitive mathematical framework.
- CO2: Students will understand the concepts of anti-derivatives, Cauchy integral theorem or formula to compute line integrals and various integrals of functions of complex variables.
- CO3: Students will understand the Bilinear transformations their critical points, fixed points, cross ratio problems and apply it to various problems.
- CO4: Students will evaluate zeroes, singularities, residues at a pole and infinity and various theorems which help them to solve integral of a function of a complex variable.
- CO5: Plan and design research problems using techniques and procedures appropriate to complex analysis.

##### **Paper-553 Algebra-I**

- CO1: In Algebra students will study about different algebraic structures such as groups, rings, fields

- CO2: It will introduce the concepts of Groups, Subgroups, Cyclic groups and their various theorems.
- CO3: Students will understand the concept of Rings, Subrings, Quotients rings, Ideals, Prime ideals, maximal ideals, homomorphisms of rings characteristic of a ring.
- CO4: Students will understand fields, subfields, polynomial rings and rational fields.
- CO5: Students will be able to solve problems relevant to modern algebra

**Paper-554 Mechanics-I**

- CO1: Students can to articulate and describe deeply about both branches of Mathematics- Kinematics and Dynamics.
- CO2: Students will come to know about applications of Newton's Law of Motion.
- CO3: Students will learn about the Centre of gravity and Centre of mass of body along with its moment of inertia.
- CO4: Students will understand various applications of vector theorems of mechanics and interpretation of results
- CO5: Students will use the theory, methods and techniques of the course to solve problems.

**Paper-555 Differential Equations**

- CO1: Students will study equations involving the derivatives of a function or a set of functions
- CO2: Students will recognize ODEs and system of ODEs concept that are encountered in the real world, understand and be able to communicate the underlying mathematics involved to help another person gain insight into the situation.
- CO3: Students will able to classify partial differential equations and transform into the canonical form.
- CO4: Students will able to extract information from partial derivative models in order to interpret reality.
- CO5: Students will able to solve problems in ordinary differential equations, dynamical systems, stability theory, and a number of applications to scientific and engineering problems.

**M.Sc. Mathematics Semester -II**

**Paper-561 Real Analysis-II**

- CO1: Students will study convergence, uniform convergence, differentiation, and integration of sequence and series of functions.
- CO2: Students will study the concepts of Outer measure, Lebesgue measure, Measurable sets and their properties
- CO3: They will learn about characteristics functions, step and simple functions, Lebesgue integral and its various theorems
- CO4: Students will study Arzela Theorem, Weistrass approximation theorem and their applications
- CO5: Students will plan and design a piece of independent research using real analysis techniques.

**Paper-562 Tensors and Differential Geometry**

- CO1: The students will able to use the techniques of differential calculus, integral calculus, linear algebra and multi- linear algebra to study problems in geometry.
- CO2: Students will study the Theory of Space Curves, contact between curves and surfaces, envelopes, developable surfaces, asymptotic lines and their various theorems.
- CO3: Students will understand Geodesics, its differential equation, curvature, geodesics mappings and their various properties.
- CO4: Students will learn about different types of tensors such as Cartesian tensors, metric tensors, contra-variant, covariant and mixed tensors.
- CO5: Students will perform local calculations in differential geometry accurately (tensor calculus, covariant derivatives, Lie derivatives).

**Paper-563 Algebra-II**

- CO1: Students will study field of quotients of an Integral Domain, Principle ideal domains, Euclidean rings, UFD, Ring of Gaussian Integers, Polynomial rings and various theorems for these concepts
- CO2: Students will study different extension of fields such as finite, infinite, algebraic, separable, inseparable and simple and important theorem like Existence and uniqueness theorem

CO3: The concepts of Galois Theory, Group of Auto morphisms of a field are also introduced to the students. They study fundamental theorem of Galois Theory

CO4: Students will study modules, its different types, and fundamental theorem for finitely generated modules over a PID.

CO5: Students will be able to solve problems relevant to modern algebra.

#### **Paper-564 Mechanics-II**

CO1: Students will study the different concepts of rigid body such as: motion, linear momentum, angular momentum, impulsive forces and Laws of conservation of angular momentum and energy.

CO2: Students will learn about the Euler's dynamical equations for motion about a fixed point and the properties of rigid body motion under no force.

CO3: Mechanics will give students an idea of Lagrange's concepts of holonomic system and system of impulsive forces.

CO4: Students will study the various standard principles such as: Hamilton's Principle, Principle of Least Action and also study Euler-Lagrange equation for extremal functions

CO5: Students will use the theory, methods and techniques of the course to solve various optimisation problems.

#### **Paper-565 Partial Differential and Integral equations**

CO1: Students will study non-linear partial differential equations of first order and various methods to solve them such as Charpit's Method and Jacobi's Method.

CO2: Students will learn about second-order partial differential equation and its various types. They also study various methods to solve them

CO3: Students will study various transformations such as Fourier and Laplace.

CO4: Students will come to know about the concept of Volterra and Fredholm integral equations. They will be able to solve these methods such as: successive approximation, Neumann's series method.

CO5: Students will be able to solve problems in ordinary differential equations, dynamical systems, stability theory, and a number of applications to scientific and engineering problems.

#### **M.Sc. Mathematics Semester -III**

##### **Paper-571 Functional Analysis-I**

CO1: It is an important branch of Mathematics developed with the purpose to cover theoretical needs of partial differentiable equations and Mathematical Analysis.

CO2: Students will learn about important spaces like: Normed linear spaces, Banach spaces, Quotient spaces and concepts like Holder's and Minkowski's inequality and convergence in these spaces.

CO3: Students will study continuous linear transformations, equivalent norms and compactness of finite dimensional normed linear spaces.

CO4: Students will learn important theorems such as: Hahn-Banach Theorem, Open Mapping Theorem, Closed Graph Theorem, Uniform Boundedness Principle and an overview of Hilbert spaces

##### **Paper-572 Topology-I**

CO1: Students will study topology on a space is determined by collection of open sets, closed sets and by basis of neighbourhoods at each points.

CO2: Students will know what it means by convergence and compactness of topological space.

CO3: Students will study about various topological spaces like  $T_0$ ,  $T_1$ , Hausdorff spaces, regular, normal spaces, Tychonoff spaces, completely regular and completely normal spaces.

CO4: Students will become familiar with Urysohn Lemma and Tietze Extension Theorem which helps to characterize metrizable spaces.

CO5: Student is able to apply her knowledge of general topology to formulate and solve problems of a topological nature in mathematics and other fields where topological issues arise.

##### **Paper-578 Operational Research-I**

CO1: The concerned course will help students to identify and develop operational research models from the verbal description of the real system by studying linear programming problems and properties of their solutions.

- CO2: Students will understand the various Mathematical techniques that are needed to solve linear programming problems such as Simplex Method, Big-M and Two-Phase method
- CO3: Students will learn to formulate a dual of primal problem and methods to solve them. They also study Transportation and Assignment problems by solving them using various methods.
- CO4: The concept of Game Theory and Integer Programming will enhance their knowledge and mathematical logics.

**Paper-586 Number Theory**

- CO1: Students will study simultaneous linear congruences, Chinese-Remainder Theorem with applications, Fermat's Numbers and Primitive roots.
- CO2: Students will learn indices and their applications, quadratic residues, Gauss's Lemma, Jacobian symbols and its properties.
- CO3: Students will study the Arithmetic functions, Perfect numbers and Diophantine equation with its applications.
- CO4: Students will study finite and infinite simple continued fractions, periodic, purely periodic continued fractions and Fundamental solution to Pell's equation.

**Paper-577 Statistics-I**

- CO1: Students will study different measures of central tendency, dispersion, moments, skewness and kurtosis and probability along with its various theorems and applications.
- CO2: Students will learn about mathematical expectations and moments, moment generating functions and their properties.
- CO3: Students will study different probability distributions such as Binomial, Poisson's, Exponential, Gamma, Beta, and Normal.
- CO4: Students will learn about Least-Square principle, Linear and Multiple Regression, co-relation coefficients and ratio.
- CO5: Students will learn about Least-Square principle, Linear and Multiple Regression, co-relation coefficients and ratio.

**M.Sc. Mathematics Semester -IV**

**Paper-581 Functional Analysis-II**

- CO1: Students will learn about strong and weak convergence in finite and infinite dimensional normed linear spaces.
- CO2: Students will study different operators such as: self-adjoint operators, unitary operators, normal operators and projection on Hilbert spaces.
- CO3: Finite Dimensional Spectral theory will give student's an insight of Spectrum of a bounded linear operator, self-adjoint, positive and unitary operators and Properties of Compact linear operators.
- CO4: Students will study the Banach algebras, regular and singular elements, Topological divisors of zero and formula for Spectral radius.

**Paper-582 Topology-II**

- CO1: Students will study the study higher separation axioms for various topological spaces like T<sub>5</sub>, metric spaces, Hausdorff spaces, regular, normal spaces, tychnoff spaces, completely regular and completely normal spaces.
- CO2: Students will study Compact Spaces, their properties and their relation with Hausdorff spaces, regular spaces and normal spaces.
- CO3: Students will study Bolzano-Weistrass property, Countably compact spaces, Locally compact spaces, tychonoff theorem and compactness in terms of base and sub-base elements.
- CO4: Students will study about nets, filters and ultrafilters which are useful in defining convergence of net in a set, eventually and frequently in a set
- CO5: Analyze and interpret information from a variety of sources relevant to Mathematical Logic and Topology.

**Paper-588 Operational Research-II**

- CO1: Students will learn about the Queuing Theory, classification of Queueing Models.
- CO2: Students will study about different Queuing Models, generalized models and Power-Supply models.
- CO3: Students will learn about Inventory decisions, cost associated and economic order quantity, problems with price breaks and replacement problems.

CO4: Students will learn the need of simulations, its methods and models, maintenance problems and job sequencing.

CO5: Students will learn the need of simulations, its methods and models, maintenance problems and job sequencing.

**Paper-575 Discrete Mathematics-I**

CO1: It will enhance the knowledge of students about Mathematical concepts like relations functions.

CO2: Students will learn the use of grammar to construct languages In Automation.

CO3: Students will learn to construct truth tables using different logic operations.

CO4: Evaluate Boolean functions and simplify expression using the properties of Boolean algebra, apply Boolean algebra to circuits and gating networks.

**Paper-587 Statistics-II**

CO1: Students will study various Sampling distributions such as Chi-Square, t and F, distribution of mean and variance and their properties.

CO2: Students will learn about estimators, properties of unbiasedness, sufficiency and efficiency, simple and composite hypothesis and Likelihood tests.

CO3: Students will learn about applications of Sampling Distributions and equality of two proportions.

CO4: Linear Estimations models will help students to understand analysis of variance in one-way and two-way classified data, BLUE and Gauss Mark off Linear Model.

**DEPARTMENT OF BIOTECHNOLOGY**  
**Name of Programme: B.Sc. Biotechnology**

**Program outcomes**

- PO 1 Critical Thinking:** The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.
- PO 2 Lifelong learning:** Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO 3 Logical experimentation:** The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO 4 Creative thinking:** They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO 5 Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO 6 Scientific aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO 7 Self reliant:** To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

**Programme Specific Outcomes**

- PSO 1: Familiarization with Microbiology:** Students are acquainted with the various types of micro-organisms such as Bacteria, Fungi and Viruses etc.
- PSO 2: Grasping the Concept of Biochemistry:** To explain the students about various Biomolecules such as Proteins, carbohydrates, Lipids etc. along with degradation and metabolism of biomolecules.
- PSO 3: Analysing the Animal Tissue Culturing:** The main objective of tissue culturing is to tell the students about various techniques used to grow cells and their use in animal health.
- PSO 4: Comprehension of Plant Tissue Culturing:** The students are made aware of various types of media used to grow plant cells and their role in plant biotechnology.
- PSO 5: Concept of Patent and IPR:** Students are made aware of various procedures for filling patents in biotechnology and concept of innovation and various types of treaties involved in it.

**Course outcomes**

**Semester-I**

**Paper: BT-8 General Microbiology-A**

- CO 1: The students will be able to relate the basic concept of Microbiology and its relevance in daily life.
- CO 2: Students will be able to classify the basic techniques in Microbiology such as bright field, dark field, phase contrast, fluorescence & immunofluorescence and electron microscopy.
- CO 3: The students will be able to analyze the general features of different microorganisms like bacteria, viruses, fungi etc.
- CO 4: Students will be able to categorize the various biochemical and metabolic characteristics of different microorganism.

**Semestr-1**

**Paper: BT-9 Biochemistry A**

- CO 1: The students will be made to define biochemistry and tell its role in plant and animal life.
- CO 2: Students will be able to show the importance of different bio molecules such as proteins, Carbohydrates etc in daily life.
- CO 3: Students will be able to select various procedures for determining sugars, carbohydrates, etc in various samples.
- CO 4: Awareness will be shown among students to analyze the importance of water in life.

## **Semester-II**

### **Paper: BT-8 General Microbiology-B**

- CO 1: The students will be able to define about the process of microbial growth.
- CO 2: Students will make use of the various methods used for cultivation of different bacteria and life cycle of various plant and animal viruses.
- CO 3: The students will be able to categorize the various diseases and their mechanism caused by microorganisms.
- CO4: Students will be able to compare different characteristics and mechanism of various fungal Diseases, their mechanism of action and diagnosis.

### **Paper: BT-9 Biochemistry- B**

- CO1- Students will be able to know what the importance of proteins and peptides is; their types and their chemistry.
- CO2- Students will be able to classify basic types of lipids: their types and study various properties of lipids and waxes.
- CO3- Students can categorize different types of vitamins and their role in human health and their IU recommended doses and deficiency diseases associated with vitamins.
- CO4- The students will be made to experiment with and analyze proteins, lipids ,etc.

## **Semester-III**

### **Paper: BT-3 Biochemistry – III**

- CO 1: The learners will define metabolism and understand the basic concept of metabolism.
- CO 2: Students classify various metabolic pathways of carbohydrate metabolism and their regulation.
- CO 3: Students will be able apply concept of electron transport chain and oxidative phosphorylation.
- CO 4: Students will experiment with different processes used for the Separation of lipids using Various chromatography techniques.

### **Paper: BT-5 Basic concepts in Immunology – A**

- CO 1: Students will able to define Immune system.
- CO 2 The learners will be able to classify various cells and organs of immune system.
- CO3: The students will able to explain the concept of immunogenicity along with action of various immunoglobulin's.
- CO 4: The students will analyze about MHC molecule along with cell receptors

### **Paper: BT-7 Agro and Industrial Applications of Microbes-A**

- CO 1: Students will be able to define the basic concept of agro industrial microbiology.
- CO 2: Students will be able to illustrate the different approaches used for genetic manipulations of microorganisms.
- CO 3: Students will be able to classify various industrial important microbes, its isolation, screening, selection and identification.
- CO 4: Students will learn the concept of Microbial association and their interaction with plants and role of microbes in sustainable agriculture.

## **Semester-IV**

### **Paper: BT-3 Biochemistry – IV**

- CO 1: Students will understand what the metabolic pathways of lipid catabolism and its regulation are.
- CO 2: Students will be able to explain about the concept of lipid anabolism.
- CO 3: Students will classify various metabolic pathways of amino acid metabolism along with its regulation.
- CO 4: Students will analyze the detailed concept of nucleic acid metabolism.

### **Paper: BT-V Immunotechnology-B**

- CO 1: The students will learn what is the concept of T-cell subsets and surface markers along with the concept of monoclonal antibodies.

- CO 2: The students will classify various immunological techniques like Immunodiffusion, ELISA, RIA..
- CO 3: The students will be able to identify immunopathological consequences of parasitic infections, immune invasion and how to protect our immune system from such pathogenic infections.
- CO 4: Learners will be able to analyze the concept of immunization and recombinant Vaccines and latest discoveries related to recombinant vaccines.

**Paper : BT- 6 Molecular Biology**

- CO 1: The students will learn what Molecular basis of life is: DNA and its replication.
- CO 2: The learners will be able to summarize the concept of DNA recombination and its molecular mechanisms.
- CO 3: Students will analyze the Process of transcription and translation in organisms.
- CO4: Students will be able to compare different molecular mechanisms of translation etc.

**Paper: BT-7 Agro and Industrial Applications of Microbes-B**

- CO 1: Students will learn about the general characteristics of industrial and agro industrial microbes and microbes involved in antibiotics production.
- CO 2: Students will learn about the various mechanisms involved in the production of different microbial products like wine, beer etc.
- CO 3: Students will be able to relate microbial process in agro biotechnology like BT crops etc
- CO 4: Students will be able to compare about the different microbial process in industrial biotechnology.

**Semester - V**

**Paper: BT-5 Bioprocess Engineering- A**

- CO 1: Students will be able to define about the fundamental principle of bioprocess engineering and different types of microbial cultures.
- CO 2: The students will be able to compare with the various mechanisms of microbial growth kinetics.
- CO3: The students will learn the process of external and internal feed basic system of various microbial creatures.
- CO 4: Students will analyze the knowledge related to the importance of sterilization in bioprocess Engineering.

**Paper: BT-3 Animal Tissue Culture**

- CO 1: The students will be made to know what are the basic concepts of animal biotechnology, animal cell culturing.
- CO 2: Awareness will be created among students classification of various cell lines and their characteristics.
- CO 3: Students will be able to experiment to isolate DNA and RNA from animal tissues and to analyze the DNA by electrophoresis and spectrophotometrically.
- CO 4: The students will be made aware about how to choose the various types of stem cells and their role in differentiation and organ culturing.

**Paper: BT-1 rDNA Technology-A**

- CO 1: Concept clearance about how to define molecular techniques like isolation of DNA from bacteria and then analyzing it by using restriction enzymes and spectroscopy will be provided to the students.
- CO 2: The students will be made to classify of various types of vectors such as lambda, plasmid etc.
- CO 3: They will be able to learn to compare techniques used for transformation like electron gun, micro injection etc
- CO 4: Students will analyze various types of DNA sequencing techniques used in modern era.

**Paper: BT-4 Patent Laws in Biotechnology**

- CO 1: Students will be able to analyze the knowledge regarding the Indian patent system, its history, further amendments objectives and along with patenting agencies will be enlisted.

CO 2: Students will be able to compare the format of the writing the patent and its specifications. Further, added guidelines include patentee rights, post grant opposition, infringement, etc.

CO3: Students will be able to show the process regarding the patenting system in biotechnology and articles related to it.

CO4: Students will be able to analyze the Awareness created about the risks associated with the release of genetically modified microorganisms, ethical issues in biotechnology, ecological impact and legal aspects of patenting.

### **Semester-VI**

#### **Paper: BT-1 rDNA Technology-B**

CO 1: Awareness will be created among students about names of various types of vectors and their Characteristics (BAC, YAC, TAC).

CO 2: The students will be made to summarize the concept of genomic cloning and various types of lambda vectors used for the same.

CO 3: Students will be classify various types of sequencing methods such as max Gilbert method, Sanger's method.

CO4 - Students will be able to experiment with methods to make competent cells and transform the same and learn gel electrophoresis etc.

#### **Paper: BT-3 Animal Biotechnology**

CO 1: The students will be made to give names of of the various types of cell lines and their characteristics.

CO 2: Students will classify the various types of methods for cell transformation.

CO 3: The students will be able to analyze the concept of PCR and types of PCR. Further, they will get to know regarding animal genetic engineering and production of various types of animal products.

CO 4: The students will be further made to experiment to isolation of RNA from blood, southern blotting etc.

#### **Paper: BT-5 Bioprocess Engineering-B**

CO 1: The students will be able to compare with the various features of different bioreactors and its kinetics.

CO 2: The students will learn about the various control and measurement equipment of bioreactors.

CO 3: The students will be able to analyze the basic concept of down streaming processing.

CO 4: Students will be able to compare the various methods of ETP and fermentation economics.

#### **Paper: BT-4 Intellectual Property Rights and Entrepreneurship**

CO 1: The students will be able to analyze IPR history, its benefits, problems and Management.

CO 2: Students will be able to summarize about World Trade Organization, its principle, objective, structure, functions and its related provisions, GATT.

CO3: Learners will be able to interpret TRIMs, TRIPs; its agreement, principle and objective, Berne convention, Budapest Treaty, WIPO.

CO4: The students will be given the knowledge to choose entrepreneurship; its characteristics.

**Department of Zoology**  
**Name of Programme: B.Sc. Medical**  
**Programme Outcomes**

- PO 1 Critical Thinking:** The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-informatics, Bio-technology etc.
- PO 2 Lifelong learning:** Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO 3 Logical experimentation:** The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO 4 Creative thinking:** They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO 5 Interdisciplinary approach:** To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO 6 Scientific aptitude:** The programme targets to develop scientific aptitude among the students to make them open- minded, critical and curious in order to deal with all aspects related to life.
- PO 7 Self reliant:** To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

**Programme Specific Outcomes**

- PSO 1: Understanding of the importance of cell as a basic unit of life, the molecular interactions within and outside the cell and basic concepts related to various physiological phenomenon occurring in human body.
- PSO 2: Perception of morphological, anatomical and physiological features of diverse organisms including Non-chordates and Chordates.
- PSO 3: Comprehension of the sustainable use of natural resources and their conservation as well as the awareness regarding causes, impacts and control of increasing pollution.
- PSO 4: Understanding of characteristic embryological development of various organisms and the various phylogenetic relationships among them.
- PSO 5: In depth understanding and awareness of evolutionary history, relevant theories and basic concepts underlying the adaptations of animals towards the changing environment.
- PSO 6: Understanding of population dynamics, interactions with the environment and diversity of ecosystems.
- PSO 7: Comprehension of the basis of genetics including gene interactions, modifications, mutations and development of genetic abnormalities.
- PSO 8: Create awareness regarding health, pathogenic organisms, their mode of transmission and pathogenicity as well as role of medical diagnostics, safety rules, and preventive measures to control spread of diseases.
- PSO 9: Equip students with the practical skills of performing experiments and carrying out research work as per laboratory standards in various Principles of Zoology.
- PSO 10: Possess skills required for working as a professional in particular fields such as teaching, research scientist, wild life conservation, medical laboratories and Zoological survey of India.

## Course Outcomes

### Semester-I

#### Paper ZOO-IA (Cell Biology)

- CO 1: Students will acquire **detail knowledge** of principles and working of different types of microscopes fixatives and staining techniques.
- CO2: Students will be able to **understand** and draw the structure of plasma membrane, **enlist** its functions and can **explain** different methods of transport across membrane.
- CO 3: Students will be able to **learn** about structure of different cell organelles in detail and can **enlist** their different functions.
- CO 4: Students will be able to **analyze** the process of transformation of normal cell into tumor & will **understand** the basics of Immune system.

#### Paper: ZOO-I B Biodiversity

- CO1: Students will be able to **explain & categorize** about different levels of biological diversity and the evolutionary links between different phyla.
- CO2: Students will **understand** about the scientific classification of invertebrates and can **enlist** different morphological features and economic importance of specimens of each phylum .
- CO3: Students will acquire **knowledge** about general biology of one organism from each phylum Porifera to Annelida.
- CO4: Students **come to know** about the pathogenic protozoans and helminths & learn their life cycle , mode of transmission and parasitic adaptations.

### Semester-II

#### Paper:II A Ecology

- CO1: Students will be able to understand the scope of ecology in biology and functional basis of animal ecology.
- CO2: Students will be able to summarize the structure and functioning of ecosystems, ecological succession, biogeochemical cycles, and concepts of limiting factors.
- CO3: The students can categorize various adaptations acquired by the organisms to survive in the particular habitats.
- CO4: The students will know about inter and intra specific interactions & learn to solve environment problems like environmental pollution and Conservation of resource

#### Paper: ZOO-IIB Biodiversity

- CO 1: Students will be able to describe general rules of classification of invertebrates.
- CO 2: Students will understand about the scientific classification of invertebrate fauna (Arthropoda to Echinodermata) and can list different morphological features and economic importance of specimens of each phylum .
- CO3: Students will be able to explain & know about detail study of one organism each from phylum Arthropoda to Echinodermata.
- CO 4: Students will be able to understand the phenomenon of social behaviour in insects, Pearl formation in Mollusca and Echinoderm larvae.

### Semester-III

#### Paper: IIIA (Evolution)

- CO 1: Students will be able to understand the concept of evolution , theories of organic evolution and highlighted the role of evidences in support of evolution.
- CO 2: Students will know about origin of life, concept of micro, macro ,mega evolution & evolution of species.
- CO 3: The students will learn about the fossils & extinction of reptiles & evolution of man.
- CO4: Students will be able to understand poison apparatus in snakes & dentition in mammals, migration and parental care.

**Paper: ZOO- IIIB Biodiversity**

- CO 1. Students will understand about the hierarchy and diversity of chordates, basic characteristic features of chordates and the organisms showing affinities with both Chordates and Non - chordates.
- CO 2: Students will learn about of structural organization and functioning of various systems in organisms belonging to different vertebrate classes ,the detailed study of a representative specimen of each class.
- CO 3: Classification of different vertebrate groups up to order , their general features and economic importance.
- CO 4: Knowledge of Classification of Urochordata,Cephalochordata along with detail study of Amphioxus

**Semester-IV**

**Paper: IVA Biochemistry**

- CO 1: Students will be able to understand importance & scope of biochemistry.
- CO 2: The students can classify & summarize the structure, functions and metabolism of proteins, carbohydrates, lipids & nucleic acids.
- CO 3: The students will be able to understand the concept of enzymes & role of coenzymes.
- CO 4: The students will learn & perform different biochemical test.

**Paper: ZOO- IVB Animal Physiology**

- CO 1: Students will learn about the basic principles and fundamentals of animal physiology.
- CO2: The students be able to understand the physiology of digestion, types of digestion and physiology of respiration .
- CO 3:Students will understand the detailed physiology of excretion, circulation, etc.
- CO 4:Students will know about nervous coordination and integration of nervous system and can understand different endocrine glands and their disorders.
- CO5:Students will learn theoretical and practical techniques to study animal behaviour.

**Semester-V**

**Paper: ZOO-VA Developmental Biology**

- CO 1: Students will develop critical understanding of fundamentals of developmental biology, various stages in the development of embryo and gametogenesis.
- CO 2: The students can understand the role of organisers and inducers in the development of embryo, the basic concepts of determination, differentiation and gastrulation.
- CO 3: Students are able to know about the formation of foetal membranes, their role, and development of frog, chick and rabbit upto three germinal layers, their fate maps and the nature and physiology of placenta.
- CO 4: The students are able to understand the phenomenon of Metamorphosis, Regeneration, Ageing and Death.

**Paper: ZOOV- B Genetics**

- CO 1: Students will learn about the central role of genetics in the study of biology .
- CO 2: The students will come to know about genetic variation through crossing over, recombination and linkage, analyze non-allelic gene interaction and modifications of Mendelian ratios.
- CO 3: The students will be able to understand the molecular structure of genetic material, can enlist different steps of replication and transcription of DNA and expression of genes.
- CO 4: The students will learn with the phenomenon of extranuclear inheritance , Understand concept of Mutations.Get well versed with Recombinant DNA technology & Apply principles of Mendelian inheritance and Population genetics.

## **Semester- VI**

### **Paper: ZOO-VI A Medical Zoology**

- CO 1: The students are able to define different terms in parasitology ,Understand the disease causing potential of pathogenic microorganisms..
- CO2: Students will be able to describe the life cycle,mode of transmission and pathogenicity of parasitic protozoans and helminthes.
- CO 3:Students will know about different Arthropod vectors,their life cycles and control measures.
- CO 4: Students will be able to define terms in Immnology, Learn about innate and adaptive immunity & understand structure and types of Immunoglobulins.
- CO5.Demonstration and application of serodiagnostic assays and know about Vaccines.

### **Paper: ZOO-VI B Medical Labora**

- CO 1: The students will have the knowledge of laboratory safety rules, hazards and precautions . Learn the maintenance of laboratory equipments and application.
- CO2: The students will learn techniques of collection, transportation and preservation of different clinical samples.
- CO3:Students will be able to estimate and analyse different hematological tests.
- CO 4: Students will learn about Bacteriology,different culture media and prepration of culture media.
- CO5:Students will be able to know about about Histopathology,staining of tissue slides and perform different biochemical tests.tory Technology

## **B.Sc. (BIO-TECHNOLOGY) (SEMESTER-I)**

### **Paper: BT - 1 Zoology–A**

- CO1: The students will have the knowledge about the anatomy and physiology of human digestive system.Also enlist differert digestive enzymes .
- CO2: The students will be able to understand about respiratory and circulatory system. System, explain process of Haemopoiesis and list blood clotting factors
- CO3: Students will learn about structure of integumentary system,skin derivatives and its role.
- CO4: Students will understand about Integument structure and different skin derivatives in humans and their role.

## **B.Sc. (BIO-TECHNOLOGY) (SEMESTER-II)**

### **BT-1 Zoology-B**

- CO1: The students will understand about the Structure and physiology of excretory and Reproductive system.
- CO2: The students will know about endocrine glands and enlist different hormones.
- CO3: Students will be able to explain & draw Nervous system and also know about structure and working of sense organs.
- CO4: Students will be able to describe structure of different types of muscles and summarize process of muscle contraction.

## **B.Sc. (BIO-TECHNOLOGY) (SEMESTER-III)**

### **BT - 2 Zoology–C**

- CO1: The students will define different terms in parasitology. Describe the life cycle,mode of transmission and pathogenicity of parasitic protozoans.
- CO2: The students will be able to learn Histopathological techniques.Familiar with diseases such as livers, cirrhosis, nephrosis, tumors, cancer, AIDS.
- CO3: Students will be able to understand arthropod vectors, their life cycles and control measures
- CO4: Students will have the knowledge about AIDS, Hepatitis, Typhoid and Cholera, their occurence and eradication programmes. Learn about Drug therapy and Drug resistance.



**HANS RAJ MAHILA MAHA VIDYALAYA**  
MAHATMA HANS RAJ MARG, JALANDHAR (PUNJAB) INDIA



## **FACULTY OF SKILLED COURSES**

# **Program Outcomes (POs)** and **Course Outcomes (COs)**

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## **Department of Bachelor of Design**

**Name of Programme: Bachelor of Design (Specialization: Fashion/Textile/ Interior)**

### **Programme Outcomes**

- PO 1: The programme provides opportunity to the students to select their area of specialization i.e. interiors, fashion and textiles and can explore their creativity according to their area of interest
- PO 2: Programme familiarizes students with the nuances of design which make them effective communicator through brush and colours.
- PO 3: The programme enhances the confidence of the graduates through carefully chosen curriculum with emphasis on practical learning, activities and close interaction with designers, craftsmen, teachers and fellow students.
- PO 4: They learn about the history and development of design forms and the changing technologies that affect the crafting of messages leading up to and including contemporary designs.

### **Programme Specific Outcomes**

- PSO 1: Our students demonstrate their talent and dedication by consistently receiving recognition in district, state and national competitions.
- PSO 2: They develop confidence in their ability to analyze forms, shapes and various types of design artifacts; understand cultural and historical contexts, and use this understanding to inform the development and evaluation of their work.
- PSO 3: Students are introduced to many of the central themes of critical theory as applied to visual culture in general, and to fashion, textile and interior design in particular.
- PSO 4: Students are introduced to theories and methods to facilitate clarity and understanding using a wide range of complex textual and visual information.
- PSO 5: In projects, students learn processes for various modes of visualization and content including data, time-based sequences, designing and its production.

### **Course outcomes**

#### **Semester –I**

##### **Paper: I Drawing**

- CO 1: After study this course student will adapt the knowledge and skills in the use of basic tools, technique.
- CO 2: Student will built the process to work from concept to finished products, including knowledge of paints, surfaces, two dimensional and three dimensional images.
- CO 3: To combine various effects, texture and basics of art and design world.

##### **Paper: II Colour**

- CO 1: Student will develop the knowledge of the using colour in the various designs.
- CO 2: They will acquire the knowledge about colour theories and imagine the scientific reasons behind that.
- CO 3: They will evaluate the relation between design elements and colour importance.

##### **Paper: III Basic Design**

- CO 1: To justify various elements of designs
- CO 2: They improve the knowledge to implement design details in the art works.
- CO 3: They estimate the various design detail and its use in fashion/textile and interior world.

##### **Paper: IV Workshop–I**

- CO 1: To select about various materials of art world and its handling
- CO 2: To modify materials a new shape using various techniques.
- CO 3: Encompasses the development of art skills.

##### **Paper: V History of Art -I**

- CO 1: Ability to perceive art of history in its entirety from pre-history to present.
- CO 2: Ability to analyze the formal techniques stylistic, compositional characteristics of works of art.

CO 3: Ability to advance research in the field.

**Paper: VI Aesthetics and Art Appreciation**

CO 1: Ability to analyze fundamental concepts of aesthetics towards the interpretation of art.

CO2: Students classify various art theories

CO3: They discuss about the communication concepts of art and its various Indian and western concepts.

**Semester –II**

**Paper: I Drawing & Illustration**

CO 1: It helps students assume a better understanding of the people around them and learn to build stronger relationships.

CO 2: Developing the Design and illustration fosters creativity of the student.

CO 3: Design is inherently creative.

**Paper: II Colour–II**

CO 1: Color engages and inspires students, facilitating the creative and critical thinking that's so important for brainstorming original ideas and developing proficiency in complex subjects.

CO 2: Environment has a huge influence on a student's attention, creativity, concentration, and calmness, which means that designers play a significant role in helping students to learn colour aspects for fashion and interior designing.

CO 3: Colour palettes can feature a variety of shades of the same colour to set a specific mood, or layered with other colours for a more dynamic environment.

**Paper: III Design & Communication**

CO 1: This course help student to evaluate the aspects that communication design is a mixed discipline between design and information-development which is concerned with how media intervention such as printed, crafted, electronic-media or presentations communicate with people.

CO 2: To explain various elements of designs and to implement those in the art works

CO 3: Students of communication design perceive how to create visual messages and broadcast them to the world in new and meaningful ways.

**Paper: IV Workshop-II**

CO 1: This course interprets in the learning process by allowing the student to explore the knowledge independently using various art materials.

CO 2: This course is to improve students' knowledge, abilities, and skills, to monitor their assimilation of information, and to contribute to their overall development and upbringing by using various special design materials in fashion and interior world.

CO 3: To relate about various materials of art world and to give them a new shape using various techniques.

**Paper: V History of Art-II**

CO 1: Ability to relate art of history in its entirety from pre-history to present.

CO 2: Ability to analyze the formal techniques stylistic, compositional characteristics of works of art.

CO 3: Ability to Relate research in the field.

**Paper: VI Computer Application**

CO 1: Software's help the students to extend the design world as maximum work is done on software's in design world.

CO 2: Latest updates versions are taught, it improve productivity Revise errors, better quality work in less time

CO 3: This course construct to success in education and employment since computer skills are integral to all areas of study and work.

### **Semester III**

#### **Paper: I Design Development**

CO 1: Rephrase about developing the designs whatever is planned or thought, an implementation to the thinking is given.

CO 2: Various design techniques & styles are explored.

CO 3: Students develop figure drawings.

#### **Paper: II Workshop**

CO 1: Student examine about various fashion/interior and textile material

CO 2: Student identify various machines use in the design world

CO 3: Classify various weaving, stitching, carpentry techniques and make projects.

#### **Paper: III Computer Aided Design**

CO 1: Student make use of various computer software's of design world

CO 2: Student experiment on design projects which help in increased productivity and efficiency of work

CO 3: Students will able to explain about the process of creating technical drawing with the use of software.

#### **Paper: IV Market Survey**

CO 1: Students survey about various materials available of the market for designing of the products

CO 2: They survey about new markets, upcoming trends and demand of the consumers

CO 3: Students develop knowledge about various industries through industrial visits.

#### **Paper: V Technical Theory**

CO 1: Students identify various technical aspects of fashion/ textiles and interior

CO 2: They discuss about various technical details of machinery and its manufacturing

CO 3: The course help the students discuss various theories and principles of the design world.

#### **Paper: VI Historical Study of Fashion & Textile Designing/ Interior Designing-I**

CO 1: In this student compare various traditional and contemporary textiles, costumes, architecture, fashions, styles of the India and other parts of the world.

CO 2: Various historical periods are also studied which help in the creation of projects.

CO 3: The course comprehends the use of collection and interpretation of data.

#### **Paper: VII Advertising & Marketing**

CO 1: After studying this course the student should be able to develop various advertising and marketing aspects of his/her designer products

CO 2: It will demonstrate the practical knowledge of capital and revenue expenditure

CO 3: To make student understand about various about marketing techniques to be an adopted to run the business effectively by using principles of marketing.

### **Semester IV**

#### **Paper: I Design Development-II**

CO 1: The highly effective and superior study program not only brings you huge exposure, but also brings you a wonderful opportunity to experiment with your creativity skills.

CO 2: The students learn designing skills that start with sketches that capture all the details of the design and thinking process.

CO 3: It incorporates the design skills, development and creation of a garment or product, as well as the distribution and marketing of products.

#### **Paper: II Workshop**

CO 1: The subjects covered in fashion design are: fashion illustration, garment construction, flat pattern technology, draping, textiles, design synthesis, life drawing, colour theory, designing collections.

CO 2: A students apply stitching skills and interior designing skills which help a student in earning a livelihood.

CO 3: This course is important for a student and it helps them to interpret the designs and understand the design with technical ability.

**Paper: III Computer Aided Design**

CO 1: CAD explains designers to view designs of clothing on virtual models and in various colours and shapes, thus saving time by requiring fewer adjustments of prototypes and samples later.

CO 2: Software can help students draw, create woven textures, drape models to create patterns, adjust sizes and even determine fabric colours.

CO 3: They can also easily adapt a single design to varying materials and patterns, and build upon and alter existing designs to create new pieces.

**Paper: IV Market Survey**

CO 1: Students survey about materials availability in the market for designing of the products.

CO 2: They Develop knowledge about new fashion forecasts, upcoming trends and demand of the consumers.

CO 3: They compare about various industries through industrial visits.

**Paper: V Technical Theory**

CO 1: To create technical designers, fashion coordinators, fashion stylists or fashion expert, Concepts of design are very important to learn so this subject helps them to know the technical details.

CO 2: This course build the art of applying design, aesthetics and natural beauty to clothing and its accessories. It is influenced by cultural and social attitudes.

CO 3: The courses help the students for understanding various theories and principles of the design world.

**Paper: VI Historical Study of Fashion & Textile Designing/ Interior Designing- II**

CO 1: It's important to understand art history in order to understand the history of fashion. Courses in the Philosophy of Art can also offer great tools for expressing your ideas and putting them into the right context.

CO 2: Various historic design periods are also studied which help to illustrate creative Projects.

CO 3: The course comprehends the use of collection and interpretation of data.

**Paper: VII Business Studies –I**

CO 1: It is very important for the students to know about the existence of the products available there in the market and to relate about various marketing strategies.

CO 2: Business Studies demonstrate student to make more informed decisions in the everyday business of living. It gives you a better understanding of the world of work.

CO 3: It encourages students to analyze about how and why people start up in business and how to handle it.

**Semester V**

**Paper: I Design Process–I**

CO 1: It provides a framework for students to develop design skills.

CO 2: Design critiques, student presentations, team projects, and deadlines are all opportunities for a student to improve their skills.

CO 3: It helps students compare better understanding of the people around them and learn to build stronger relationships. Design fosters creativity. Design is inherently creative. By tackling old problems in new ways, students get the chance to do a double take on their own preconceptions.

**Paper: II Workshop–III**

CO 1: This course is an important Life Skill and is the vehicle to build self-confidence through skill building.

CO 2: This course helps a student to develop fine motor skills, improves focus and concentration and teaches the importance of patience and self-control.

CO 3: By learning this course a student experiment to make something useful and can make tons of one-of-a-kind accessories, tote bags, scarves and more! Designing not only enables the student to create beautiful and heirloom items that can be passed down, they are the same skills needed to recycle or alter garments and fabrics.

**Paper: III Computer Aided Design**

CO 1: CAD allows for the easier development of products and product management integration.

CO 2: It also allows for greater modeling and even provides a basis for virtual networking. In the designing world, CAD is extremely important and widely used to design and develop products to be used by consumers.

CO 3: Students learn the ability to develop very accurate designs; drawings can be created in 2D or 3D and rotated; other computer programmers can be linked to the design software.

**Paper: IV Market Survey**

CO 1: This Course helps to survey data on customers and potential customers.

CO 2: It aims to build business decision making skills.

CO 3: The students utilize market trends which reduces the risks involved in making these decisions.

**Paper: V Technical Theory**

CO 1: Students assume about various technical aspects and updated technologies of fashion/ textiles and interior.

CO 2: Students develop various technical details of machinery and its manufacturing.

CO 3: The courses help the students for understanding various theories and principles of the design world.

**Paper: VI Historical Study of Fashion & Textile Designing/ Interior Designing -III**

CO 1: This course allows a student to understand various state and country history and to create modern and contemporary designs for today's world.

CO 2: This course demonstrates ancient and old design principles and their reasons to use them.

CO 3: It helps to understand the chronological details for better designing skills.

**Paper: VII Business Studies -II**

CO 1: Studying business involves not only studying individuals, communities, and organizations; it involves assessing their needs and problems, as well as generating solutions.

CO 2: This subject will build a strong foundation for those students who wish to move on to further study and training in specialized areas such as management, international business, marketing, accounting, information and communication technology, or entrepreneurship.

CO 3: It will develop practical skills for those who wish to move directly into the workplace.

**Semester VI**

**Paper: I Design Process -II**

CO 1: This course helps a student to develop design from the beginning, allows all components of a product to work together seamlessly, providing a superior user experience.

CO 2: This course develops the ability to understand design is a plan or specification for the construction of an object or system or for the implementation of an activity or process, or the result of that plan or specification in the form of a prototype, product or process.

CO3: Student learn the process of developing a quick sketch involving considerable research, negotiation, reflection, modeling, interactive adjustment and re-design.

**Paper: II Workshop -IV**

CO 1: Designers often specialize in particular types of design field – for example, in men's, children's or sportswear, furniture or accessory designer. This role would normally involve: working to design instructions (known as a brief), analyzing or predicting trends in fabrics, colours and shapes.

- CO 2: Developing concept and mood boards (a collection of items to capture a mood, such as photos, fabric pieces and colour samples), developing basic shapes ('blocks') through patterns.
- CO 3: Estimating costs for materials and manufacture, finding suppliers, supervising the making up of sample clothing items, making in-house presentations, for example to finance departments and merchandisers.

**Paper: III Computer Aided Design**

- CO 1: It opens the doors for independent designers who may have fewer employees and therefore can't waste time and resources doing sketch after sketch.
- CO 2: Software can help students draw, build woven textures, drape models to create patterns, adjust sizes and even determine fabric colours. By introducing this technological aspect will enable students to understand a lot better and try various combinations in their design.
- CO 3: Computer industry has got its new customer. Computer technology is making waves in the fashion design zone. From determining textile weaves to sizing designs; computers are a vital component of the fashion industry. It help student survives in fashion industry with technology.

**Paper: IV Technical Theory**

- CO 1: This course is highly important in designing that infer designers to make a sensible choice of choosing fabrics that complement their design.
- CO 2: This course illustrates the topics like dyeing, printing and weaving. Students are also taught about each fabric and its usage.
- CO 3: It will explain why certain textile fabrics make cool wearing apparel as well as give an impression of coolness when used as decoration. The matter of cleanliness and maintenance must also be estimated before purchasing when that is an important factor.

**Paper: V Entrepreneurship Development Programme**

- CO 1: Ability to develop a style that is distinctive, consistent and new ability to manage the process of communication on which fashion depends upon ability to manage strategic and marketing issues.
- CO 2: The entrepreneurship in fashion and apparel design should demonstrate on opportunities emerging through creativity, preparing the graduates to work as freelancers or self-employed or creating small enterprise.
- CO 3: The framework of the entrepreneurial curriculum helps in the concepts of fashion and apparel industry with focus on design development process, fashion forecasting, production etc.

**Paper: VI Exhibition Design & Display**

- CO 1: It helps student to analyse about new platform for a multi layered communication with the audience.
- CO 2: This paper focuses on museum fashion exhibitions from the designer's perspective: the opportunities and the benefits for the students themselves.
- CO 3: This course helps them to learn about the various exhibitions and display techniques.

**Semester VII**

**Paper: I Design Process –III**

- CO 1: Designers often relate with garment technologists and sample machinists. The role could also involve liaising with manufacturers (often based overseas) to make sure designs are reproduced accurately.
- CO 2: This course helps designers to show off their talent to potential employers, they have to create a portfolio demonstrating their skills and creative sensibilities. Students can fill their portfolio with the work they've done during their degree program, so it's important for them to treat every assignment as if they were going to show their work to a future boss. Portfolios allow people to show off a range of skills, including their sketching, sewing, and pattern making abilities.

CO 3: Students should also familiarize themselves with what goes on behind the scenes—such as finance, sales, and marketing—particularly if they want to have their own fashion business.

**Paper: II Workshop V**

CO 1: This section provides a look at the earning potential of designers.

CO 2: Producing concept and mood boards (a collection of items to capture a mood, such as photos, fabric pieces and colour samples), developing basic shapes ('blocks') through patterns.

CO 3: Estimating costs for materials and manufacture, finding suppliers, supervising the making up of sample clothing items, making in-house presentations, for example to finance departments and merchandisers.

**Paper: III Computer Aided Design**

CO 1: Using CAD software, designers can create new sketches more quickly and more precisely.

They can also easily adapt a single design to varying materials and patterns, and build upon and alter existing designs to create new pieces.

CO 2: The process of designing buildings is dominated by computers. Software tools used in the design phase can automate repetitive calculation and drawing tasks, help find new design solutions and provide a high degree of precision. This optimization makes the design process faster, clearer and more effective.

CO 3: CAD allows for the easier development of products and product management integration. It also allows for greater modelling and even provides a basis for virtual networking. In the designing world, CAD is extremely important and widely used to design and develop products to be used by consumers.

**Semester VIII**

**Paper: I Industrial Training**

CO 1: Industrial Training is the important strategy to expose students to real work life situations and to equip them with the necessary skills that intensify their job. Industrial training program or training related program can be continuously improved through formal review and evaluation of its outcome.

CO2: It is the organized way of improving and enhancing knowledge and skill set of designing students. It boosts the performance of students and helps them to meet career objectives.

CO3: The industrial training program is important for designing students. It helps them to update and master their skills.

**Paper: II Design & Display / Commercial Production**

CO 1: It also helps the student in improving their knowledge. It improves the versatility of the student and helps them in boosting their career.

CO 2: It also boosts their confidence once they have the skills about the particular subject they have got training in. They help you implementing the theory into realistic area.

CO 3: It involves the application of learned skills in an organization related to the students' major projects.

**Department of Bachelor of Design (Multimedia)**  
**Name of Program: M.Voc (Web Technology and Multimedia)**

**Programme Outcomes**

- PO1: Would enable the students completing M.Voc to make a meaningful participation in acceleratory India' economy by gaining appropriate employment and creating appropriate knowledge.
- PO2: Be involved in projects right from project planning to final outcome ready for client delivery
- PO3: Entrepreneurship development. Student can gain the skills of setting up their own Business.
- PO4: Develop introductory level competencies in the areas of character and location design, lifedrawing and animation.
- PO5: Gain real world project experience throughout their learning cycle, that helps them to better understand the roles and processes in wide range of computer generated design and animation careers.
- PO6: Develops proficient skills in the field of computer graphics for still and animated contents with the use of latest creative technologies in Media and Entertainment industry.

**Programme Specific Outcomes**

- PSO 1: The programme provides an advanced skill development and specialization in modelling/ animation/ visual effects/ graphic design.
- PSO 2: To impart knowledge regarding tools and technology in the creation, reproduction, and distribution of visual messages.
- PSO 3: Relevant tools and technologies include photography, printing, VFX, Web and Interactive media.
- PSO 4: Students learn to coordinate and manage the production of a student film, including the aspects of cinematography, art direction and editing.

**Course Outcomes**

**Semester: I**

**Paper: Advanced Graphic Design**

- CO1: Gain knowledge about Special Effects, Patterns, and Background Designing.
- CO2: Develops Conceptual Thinking in Creativity
- CO3: Develop Training in Image Retouching and Color Balancing
- CO4: Analyze Case Studies & Projects Related to Graphic Design.

**Paper: Image Capturing & Processing**

- CO1: Demonstrate about camera its basic functions
- CO2: Understanding lighting used during photography.
- CO3: Gain Knowledge about Aperture, Shutter speed and ISO and how they work during photography
- CO4: Modify lighting used during photography

**Paper: 2D Animation & Character Design**

- CO1: Understand how to create characters, buttons etc.
- CO2: Work on expressions of character.
- CO3: Learn how to work professionally in Flash that is followed in industry.
- CO4: Demonstrate their skills in advance level in software.

**Paper: Scripting Language - I**

- CO1: Use operators, variables, arrays, control structures, functions and objects in JavaScript.
- CO2: Classify popular JavaScript Libraries
- CO3: Create dynamic styles
- CO4: Evaluate different JavaScript Events.

**Paper: Digital Media Production**

- CO1: Demonstrate a strong familiarity and proficiency with professional software for video editing, audio production and editing, basic animation, and web development.
- CO2: Demonstrate mastery over media file formats, conversion protocols, and storage frameworks.
- CO3: Use critical thinking skills to solve industry-related problems on real world projects and in collaboration with other students

CO4: Carry out applied learning activities focused on the production and post production process for digital media productions.

### **Semester: II**

#### **Paper: Video Editing Techniques**

CO1: Design clean as well as expert titles for your video clips..

CO2: Edit a whole video clip from starting to finish, utilizing expert and also effective strategies.

CO3: Color correct your video clip to repair problems with white balance and also direct exposure.

CO4: Modify your video clips, as well as make them a lot more vibrant with cutaway video footage and also images

#### **Paper: Visual Effects**

CO1: Describe characteristics of well-designed and executed animation

CO2: Assess and critique past and current animation trends

CO3: Demonstrate progress in basic sculpting, puppet making and animation skills.

CO4: Manipulate animation production equipment

#### **Paper: Scripting Language – 2**

CO1: Explain separation of concerns and identify all the dynamic websites.

CO2: Identify advanced JavaScript Array Methods

CO3: Use regular expressions for form validation.

CO4: Create develop Error free website.

CO5: Modify the events used in the dynamic websites.

#### **Paper: Stop Motion**

CO1: Create accurate and aseptically appealing stop motion animation

CO2: Describe characteristics of well-designed and executed animation

CO3: Demonstrate progress in basic sculpting, puppet making and animation skills.

CO4: Critically analyze your creative work and the work of others.

#### **Paper: Digital Media Laws and Ethics**

CO1: Gain knowledge about various laws imposed in the digital media industry

CO2: Critically define the different Censorship Labels imposed on films.

CO3: Demonstrate the different ethics of production

CO4: Analyze developed movies on the basis of Production.

### **Semester: III**

#### **Paper: 3d Modeling & Texturing**

CO1: Gain knowledge about the interface of 3D Max

CO2: Learn working with Nurbs, which will help them to create more smooth and attractive models.

CO3: Understand many different mapping techniques and many kind of materials.

CO4: Design their own 3d Models of different characters.

#### **Paper: Lighting & Rendering**

CO1: Get knowledge about creating different 3D models and objects

CO2: Understand how 3D objects are made and sculpted, which are commonly used in VFX, games and many other fields.

CO3: Depth knowledge about animation in 3D Max, animating an object will improve their work a lot more and help them to get in 3D field

CO4: Compile different textured models using 3d Models.

#### **Paper: Motion Graphics**

CO1: Learn use of motion graphics in various fields like in T.V., commercials, videos and many different kind of productions, how they use motion graphics along with other things to make their product/film/video love more attractive.

CO2: Understand Animation process, because understanding basic animation process can help them to make their animation more realistic and more attractive.

CO3: Know the proper use of motion graphics on the web, because motion graphics is the major part of web. Developers use motion graphics with other techniques to make their websites and web pages standout.

CO4: Getting knowledge about motion graphic composition will also help them in improving their work flow, which will make them work faster and accurately.

**Paper: ASP .NET with C#**

CO1: Create user interactive web pages using ASP.Net.

CO2: Performing Database operations for Windows Form and web applications.

CO3: Make database connection using proper controls

CO4: Validate the field elements using validator control.

**Paper: Workplace Health and Safety**

CO1: Gain knowledge about safety standards to be imposed at every workplace

CO2: Understand all the precautions to be taken during natural disasters.

CO3: Develop their own safety and health standards

CO4: Create a Blueprint of all the types of Fire extinguishers..

**Semester: IV****Paper: Advanced 3d Modeling & Texturing**

CO1: Get to know many different mapping techniques and many kind of materials.

CO2: Learn cloning objects and objects array's, grouping and linking objects.

CO3: Get in depth knowledge about animation in 3DMax, animating an object

CO4: Develop their work to gain position in 3D field.

**Paper: Digital Painting**

CO1: Learn how to develop manipulation of Digital Images

CO2: Understand the concept of brusing,

CO3: Developing Digital Landscapes.

CO4: Modify the Digital Drawing.

**Paper: Digital Portfolio**

CO1: Understand how to make a show reel.

CO2: Develop online blogs of different work done.

CO3: Critically analyze the videos developed for social media platforms.

CO4: Develop portfolio for their jobs.

**Paper: Internship**

CO1: Create their own piece of Work or Portal using all the technologies they have learnt through this programme.

CO2: Able to make the website live on the Internet and start making money

CO3: Create their own field of interest using all the softwares learnt in this programme.

CO4: Create and compile their own idea in the form of a working and interactive website using all the technologies learnt throughout the programe.

**Name of Program: B.Voc (Web Technology and Multimedia)****Programme Outcomes**

PO1: This B.Voc. programme is focused on providing undergraduate which would help them incorporate specific job roles and their NOSs along with broad based general education..

PO2: This would enable the graduates completing B.Voc. to make a meaningful participation in accelerating India's economy by gaining appropriate employment, becoming entrepreneurs and creating appropriate knowledge

PO3: .Bachelor of Vocation (B.Voc.) Degree in Web Technology and Multimedia will train students in areas such as – markup languages, programming fundamentals, database management, operating system, scripting language etc.

PO4: Gain real world project experience throughout their learning cycle that helps them to better understand the roles and processes in the field of web designing and development.

PO5: Develop introductory level competencies in the areas of web technologies, animation, programming and database management.

PO6: Develops proficient skills in the field of computer graphics for still and animated contents with the use of latest creative technologies in Media and Entertainment industry.

**Programme Specific Outcomes**

PSO 1: The course gives more importance to acquire the knowledge through a practical format of teaching.

PSO 2: To make the students learn and become specialized in various computer programming languages like JAVA, PHP along with designing softwares like Adobe photoshop.

PSO 3: To make them understand recent web application development and the security issues for web development

PSO 4: This course produces various employment opportunities as Web Designer, Web Developer, Front- End and Back-End Developer, Software Tester, System Analyst, Graphics Designer, Programmer, Data base Analyzer, E-content Developer, Teaching Profession, Freelancer etc.

## **Course Outcomes**

### **Semester: I**

#### **Paper: Computer Fundamentals and MS Office**

CO1: Understand how the computers have evolved over the decade.

CO2: learn the detailed Concepts of Computer Hardware and Software.

CO3: Understand the relation between WWW and Internet.

CO4: Understand the working of Microsoft Office Suite.

CO5: Create documents of different types using the hardware and software.

#### **Paper: Markup Languages ( HTML,HTML5, and CSS)**

CO1: Utilize web technologies.

CO2: Administer and maintain a website.

CO3: Learn techniques of responsive web design, including media queries.

CO4: Develop, administer, and maintain a web programming system solution.

#### **Paper: Programming Fundamentals ( C& C++ )**

CO1: Understand basics of Programming.

CO2: Demonstrate problem-solving skills.

CO3: Apply logical skills to programming in a variety of languages.

CO4: Gaining knowledge about the dynamic behavior of memory by the use of pointers.

#### **Paper: Adobe Photoshop**

CO1: Understand the difference types of graphics.

CO2: Gaining Knowledge about Image Formats and Pixelisation.

CO3: Enable them to use various tools of Photoshop.

CO4: Get knowledge about different types of editing techniques in Photoshop.

CO5: Develop different photo manipulations.

### **Semester: II**

#### **Paper: Web Programming with PHP-I**

CO1: Understanding POST and GET in form submission.

CO2: Enable them to read and write cookies.

CO3: Use PHP built-in functions and creating custom functions.

CO4: Get knowledge about databases of phpmyAdmin portal.

#### **Paper: Design & Layout (Dreamweaver)**

CO1: Understand the working of websites in the real world.

CO2: Steps encountered during making any website live

CO3: Analyze and Assume an idea about developing website.

CO4: Create websites and web portals for professional and personal uses

#### **Paper: Analysis and Design for Web Applications**

CO1: Categorize the websites on the basis of their development ideas.

CO2: Understand Website Requirements and Paper Work behind any website

CO3: Analyze the websites.

CO4: Critically analyze the already developed websites.

#### **Paper: JavaScript-I**

CO1: Use operators, variables, arrays, control structures, functions and objects in JavaScript.

CO2: Classify popular JavaScript Libraries

CO3: Create dynamic styles

CO4: Evaluate different JavaScript Events.

### **Semester: III**

#### **Paper: Java Script II**

CO1: Explain separation of concerns and identify all the dynamic websites.

CO2: Identify advanced JavaScript Array Methods

- CO3: Use regular expressions for form validation.
- CO4: Create develop Error free website.
- CO5: Modify the events used in the dynamic websites.

**Paper: Operating System**

- CO1: Describe the important computer system resources and the role of operating system in their management policies and algorithms.
- CO2: Understand the process management policies and scheduling of processes by CPU
- CO3: Evaluate the requirement for process synchronization and coordination handled by operating system.
- CO4: Identify the need to create the special purpose operating system
- CO5: Compile the different commands of Operating System.

**Paper: Java Programming**

- CO1: Implement Object Oriented programming concept using basic syntaxes of control Structures, strings and function for developing skills of logic building activity.
- CO2: Identify classes, objects, members of a class and the relationships among them needed for a finding the solution to specific problem
- CO3: Demonstrate understanding and use of different exception handling mechanisms and concept of multithreading for robust faster and efficient application development.
- CO4: Demonstrates how to achieve reusability using inheritance, interfaces and packages and describes faster application development can be achieved.

**Paper: Wordpress**

- CO1: Creating a dynamic space for multimedia (blogs, podcasts, video resources, etc)
- CO2: Engaging and working within a chosen theme
- CO3: An understanding of the importance of Universal Design and accessibility when designing for the Web
- CO4: Engagement with the affordances of WordPress (.css, .php, other) based on the needs and desires of the faculty member

**Semester: IV**

**Paper: Database System**

- CO1: Understand the features of database management systems and Relational database.
- CO2: Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra
- CO3: Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database.
- CO4: Retrieve any type of information from a data base by formulating complex queries in SQL.
- CO5: Use the SQL in Procedural Language for simple applications

**Paper: Software Engineering**

- CO1: Explain needs for software specifications also they can classify different types of software requirements and their gathering techniques.
- CO2: Define various software application domains and remember different process model used in software development
- CO3: Generate project schedule and can construct, design and develop network diagram for different type of Projects. They can also organize different activities of project as per Risk impact factor.
- CO4: Justify role of SDLC in Software Project Development and they can evaluate importance of Software Engineering in PLC.

**Paper: PHP-II**

- CO1: Build Dynamic web site using server side PHP Programming and Database connectivity.
- CO2: Outline the principles behind using MySQL as a backend DBMS with PHP
- CO3: Understand the differences between LAMP, WAMP, and MAMP.
- CO4: Compile the working of programming language and a scripting language.

**Paper: Adobe Flash**

- CO1: Create basic shapes and used Tweening on it.
- CO2: Build Small Animations using timeline
- CO3: Execute Expressions on Keyframes

CO4: Create e-cards with sound.

**Semester: V**

**Paper: Software Re-Engineering**

CO1: Assess which parts should be reengineered first.

CO2: Extract coarse-grained and fine-grained design models

CO3: Identify the risks and opportunities for a given re-engineering project

CO4: Exploit tests during re-engineering.

CO5: Solve the typical problems of an object-oriented re-engineering project.

**Paper: Software Project Management and Business Solutions**

CO1: Distinguish among SCM and SQA and can classify different testing strategies and tactics and compare them.

CO2: Identify the different project contexts and suggest an appropriate management strategy

CO3: Practice the role of professional ethics in successful software development

CO4: Determine an appropriate project management approach through an evaluation of the business context and scope of the project.

**Paper: ASP .NET with C**

CO1: Create user interactive web pages using ASP.Net.

CO2: Performing Database operations for Windows Form and web applications.

CO3: Make database connection using proper controls

CO4: Validate the field elements using validator control.

**Paper: Software Testing & Quality Assurance**

CO1: Familiar with the process of verification and validation.

CO2: Able to derive test cases from software requirement specifications - including being able to partition input and output domains, form test specifications, and identify valid combinations of input

CO3: Understand and be able to distinguish between methods of judging test case adequacy and how to design tests that will accomplish the obligations of such methods.

CO4: Analyze code to automate test execution.

**Paper: Adobe Muse**

CO1: Demonstrate planning and creating website using Muse CC.

CO2: Able to add text to website, formatting text, and adding images and graphics

CO3: Modify menus, widgets, and links within site

CO4: Analyze publishing site to the web.

**Paper: Lab: Software Testing (Case Tools)**

CO1: Demonstrate the steps of software development.

CO2: Develop and Design the UML Diagrams.

CO3: Modify the levels of SDLC.

CO4: Analyze the errors to be encountered during the development of a software.

**Semester: VI**

**Paper: Major Project**

CO1: Create their own Website or Portal using all the web technologies they have learnt through this programme.

CO2: Able to make the website live on the Internet and start making money

CO3: Modify assistive tools for the running websites

CO4: Create and compile their own idea in the form of a working and interactive website using all the technologies learnt throughout the program.

**Name of Program: B. Design (Multimedia)**

**Programme Outcomes**

PO1: Produce a portfolio of artwork that is research and development oriented, and that integrates the principles, techniques and skills acquired in the work.

PO2: Develop introductory level competencies in the areas of character and location design, life-drawing and animation.

PO3: Gain real world project experience throughout their learning cycle that helps them to better understand the roles and processes in wide range of computer generated design and animation careers.

PO4: Demonstrate the knowledge, dedication and work ethic required to be a successful member of a creative team.

PO5: Enhance career prospects based on skill areas and make them employable indifferent segments of Media and Entertainment industry.

### **Program Specific Outcomes**

PSO1: Entrepreneurship development. Student can gain the skills of setting up their own business.

PSO2: Develops proficient skills in the field of computer graphics for still and animated contents with the use of latest creative technologies in Media and Entertainment industry.

### **Course Outcomes**

#### **Semester: I**

##### **Paper: Drawing & Colour–I**

CO1: The ability to synthesize the use of drawing, perspective, two-dimensional design, and color.

CO2: Understanding of basic principles of drawing, colors medium and techniques, concepts, and the ability to apply them to a specific aesthetic intent.

CO3: Create landscape and collage.

CO4: Explore the expressive possibilities of various media, and the diverse conceptual modes available to the painter.

##### **Paper: Introduction to 3D–I**

CO1: Understand Key, Show or hide menu, Snap to grid, hot box display.

CO2: Explain Viewports of Maya.

CO3: Explain Mesh, Channel box, Layer editor Hotbox and Autosave.

CO4: Develop and create an exterior scene.

##### **Paper: Workshop–I**

CO1: Improving the ability to control materials, tools and techniques.

CO2: Innovate first-hand experience and from imagination, and to select their own ideas to use in their work.

CO3: develop creativity and imagination through a range of complex activities

CO4: Develop increasing confidence in the use of visual and tactile elements and materials.

##### **Paper: Elements of Art and Multimedia**

CO1: Understand the basic concepts of multimedia technology which will help them to get started easily in multimedia.

CO2: Get knowledge about various terms like, images, text, fonts, file formats.

CO3: Know about the various compression techniques, types of compressions etc

CO4: Design process is very important process for those who want to learn properly about designing.

#### **Semester: II**

##### **Paper: Drawing & Colour–II**

CO1: Knowledge of the traditions, conventions, and devolutions of the discipline as related to issues of representation, illusion, and meaning.

CO2: Knowledge and skills in the use of basic tools, techniques, and processes sufficient to work from concept to finished product, including knowledge of paints and surfaces.

CO3: Ability to apply them to a specific aesthetic intent

CO4: Create animation based on running/ walking with following the elements of animation.

##### **Paper: Introduction to 3D–II**

CO1: Understand Shaders and its type.

CO2: Get knowledge about purpose to use Parent and Child command

CO3: Analyze the Hierarchy of 3D.

CO4: Create an animation of any object (Ball, Walk, Run) using keyframes and graph editor.

##### **Paper: Theory of Media(Print Media & Script writing)**

CO1: Identify the difference between traditional printing techniques.

CO2: Determine the flexibility of advertisement

CO3: Analyze the various forms of modern printing..

CO4: Critically analyze the units of Script Writing (Terminology, Concepts, Themes & Loglines)

**Paper: Workshop–II (Photography & Adobe Lightroom)**

CO1: Understand different kind of cameras, lenses and lights.

CO2: Learn different camera functions like ISO, shutter speed, aperture

CO3: Create dynamic styles

CO4: Create artificial lens flare for photos.

**Paper: Adobe Illustrator**

CO1: Get familiarizes students with Adobe Illustrator.

CO2: Learn different types of effects used in Graphic Designing.

CO3: Analyze designs and their processes.

CO4: Design their own publishing.

**Semester: III****Paper: Film Appreciation–I**

CO1: Identify ways sound contributes to movies.

CO2: Get Knowledge about Performing Art.

CO3: Understand History of Indian Cinema.

CO4: Analyze concepts behind storytelling, Miseen Scène, and cinematography.

**Paper: Animation in 3D**

CO1: Understand Basic of Character modeling and types of modeling

CO2: Analyze the arms, leg and foot models.

CO3: Evaluate Rendered object in 3D.

CO4: Create Human character modeling and create body parts of human

**Paper: Adobe Photoshop**

CO1: Understand the difference types of graphics.

CO2: Gaining Knowledge about Image Formats and Pixelisation.

CO3: Enable them to use various tools of Photoshop.

CO4: Get knowledge about different types of editing techniques in Photoshop.

CO5: Develop different photo manipulations.

**Paper: HTML5**

CO1: Utilize web technologies.

CO2: Administer and maintain a website.

CO3: Learn techniques of responsive web design, including media queries.

CO4: Develop, administer, and maintain a web programming system solution.

**Paper: CorelDraw**

CO1: Utilize graphic designing techniques.

CO2: Administer thoughts into graphics.

CO3: Learn techniques of attractive web designs.

CO4: Develop calendars, event planners and other graphic designs.

**Paper: Project - V**

CO1: Utilize their skills to develop a combination of web technology and graphic designing.

CO2: Learn migrating graphic into websites.

CO3: Learn techniques of attractive web designs.

CO4: Develop own online portfolios.

**Semester: IV****Paper: Adobe Flash**

CO1: Create basic shapes and used Tweening on it.

CO2: Build Small Animations using timeline

CO3: Execute Expressions on Keyframes

CO4: Create e-cards with sound.

**Paper: PHP**

CO1: Understanding POST and GET in form submission.

CO2: Enable them to read and write cookies.

CO3: Use PHP built-in functions and creating custom functions.

CO4: Get knowledge about databases of phpmyAdmin portal.

**Paper: Dream Weaver**

CO1: Understand the working of websites in the real world.

- CO2: Steps encountered during making any website live
- CO3: Analyze and assume an idea about developing website.
- CO4: Create websites and web portals for professional and personal uses

**Paper: Film Appreciation–II**

- CO1: Understand how motion picture industry of India works
- CO2: Analyze how the movies are being distributed.
- CO3: Explain the stages of film production
- CO4: Create own short story

**Paper: Project– II**

- CO1: Learn and work on 3d and 2d animation software
- CO2: Develop skill of initiation, planning, execution, regulation and closure
- CO3: Analyze the workflow of the project.
- CO4: Explain how quality of product is established based upon the customer's needs

**Semester: V**

**Paper: Adobe Premiere Pro**

- CO1: Design clean as well as expert titles for your video clips
- CO2: Edit a whole video clip from starting to finish, utilizing expert and also effective strategies.
- CO3: Color corrects your video clip to repair problems with white balance and also direct exposure.
- CO4: Modify your video clips, as well as make them a lot more vibrant with cutaway video footage and also images

**Paper: Adobe After Effects**

- CO1: Describe characteristics of well-designed and executed animation.
- CO2: Assess and critique past and current animation trends
- CO3: Demonstrate progress in basic sculpting, puppet making and animation skills
- CO4: Create Motion Graphics.

**Paper: Workshop–III**

- CO1: Get knowledge about production process
- CO2: Learn 3 different kinds of production processes
- CO3: Learn about different kinds of topics like frame rate, storyboard, camera angles, exposure and many other things.
- CO4: Develop their own documentary.

**Paper: Sound Editing and Recording**

- CO1: Working with video, Attaching & detaching a video
- CO2: Understand Basic editing, editing tools, Play the content of the clipboard
- CO3: Working with All Effects, Sampling Sound, MIDI synchronization
- CO4: Create their own mashups and mix Audio

**Paper: Technical Theory of Media – II (Electronic Media)**

- CO1: Able to use the skills in the creative industry – be it television channels, information technology, public relations, or corporate communication.
- CO2: simplify technical content in simple language and multimedia as part of technical communication
- CO3: Get equipped with lots of soft skills required of many of the managerial and high-profile jobs
- CO4: Develop and implement communication for development projects at local, regional and global levels

**Paper: Project–III**

- CO1: Use adobe Premiere, aftereffects and Sound forge.
- CO2: Create visual outputs.
- CO3: Handling different Extensions for Deferent platforms
- CO4: Executing software integration and Project Rendering

**Semester: VI**

**Paper: 3D Studio Max**

- CO1: Gain knowledge about the interface of 3D Max
- CO2: Learn working with Nurbs, which will help them to create more smooth and attractive models.
- CO3: Understand many different mapping techniques and many kind of materials.

CO4: Design their own 3d Models of different characters.

**Paper: Introduction to 3D**

CO1: Know about types of modeling to use in creating models.

CO2: Understand 12 basic principles of animation

CO3: Analyze Mapping and texturing

CO4: Develop their own 3d Object Model.

**Paper: Drawing & Illustration**

CO1: An understanding of basic principles of drawing and color, concepts.

CO2: Ability to synthesize the use of drawing, two-dimensional design, and color, beginning with basic studies and continuing

CO3: Knowledge and skills in the use of basic tools, techniques, and processes sufficient to work from concept to finished product, including knowledge of paints and surfaces.

CO4: Use drawing and illustration skill to visually communicate abstract concepts.

**Paper: Workshop–IV: (Stop Motion)**

CO1: Create accurate and aseptically appealing stop motion animation

CO2: Describe characteristics of well-designed and executed animation

CO3: Demonstrate progress in basic sculpting, puppet making and animation skills.

CO4: Critically analyze your creative work and the work of others.

**Paper: Blender**

CO1: Create animation of different types of ball using key frames and graph- editor

CO2: Create an exterior scene of any building

CO3: Use Camera and lights in Interior (lab)

CO4: Create a dice, chair, table and sofa with proper detail

**Paper: Project – IV**

CO1: Understanding software integration.

CO2: Create time laps video.

CO3: Modify 3d objects using blender.

CO4: Create output using 3d.

**Semester: VII**

**Paper: Maya**

CO1: Model the arms, leg, foot, hand etc. in detail

CO2: Rigged the body using kinematics, deformers

CO3: Create Ear and Eyes

CO4: Create animation using principles such as walk cycle, Run cycle, Jump and Push.

**Paper: Mudbox**

CO1: Get knowledge about creating different 3D models and objects

CO2: Understand how 3D objects are made and sculpted, which are commonly used in VFX, games and many other fields.

CO3: Depth knowledge about animation in 3D Max, animating an object will improve their work a lot more and help them to get in 3D field

CO4: Compile different textured models using 3d Models

**Paper: Project–V**

CO1: Understand how 3D objects are made and sculpted, which are commonly used in VFX, games and many other fields.

CO2: In Maya, they will get knowledge about creating different 3D models and objects

CO3: In Mudbox, they will get to know about sculpting

CO4: Create their own interior and exterior designs

**Semester: VIII**

**Paper: 3D and Animation in Photoshop**

CO1: Understanding 3d in Photoshop.

CO2: Understanding features of extended version.

CO3: Creating 3d Text using Extrude and postcard feature.

CO4: Create and Rendering 3d Logos.

**Paper: Motion Graphics for Commercials**

- CO1: Learn use of motion graphics in various fields like in T.V., commercials, videos and many different kind of productions, how they use motion graphics along with other things to make their product/film/video more attractive.
- CO2: Understand Animation process, because understanding basic animation process can help them to make their animation more realistic and more attractive.
- CO3: Know the proper use of motion graphics on the web, because motion graphics is the major part of web. Developers use motion graphics with other techniques to make their websites and web pages stand out.
- CO4: Getting knowledge about motion graphic composition will also help them in improving their work flow, which will make them work faster and accurately.

**Semester: VIII****Paper: 3D Human Modeling and Animation**

- CO1: Get to know many different mapping techniques and many kind of materials.
- CO2: Learn cloning objects and objects array's, grouping and linking objects.
- CO3: Get in depth knowledge about animation in 3DMax, animating an object
- CO4: Develop their work to gain position in 3D field.

**Paper: Industrial Training**

- CO1: Execute the operation of equipment and/or procedures associated with multiple facets of multimedia. These may include: digital-photography, page layout, typography, video, audio, interactive media, and web design.
- CO2: Gain experience with multimedia processes using current, recognized, industry-standard software as well as computer hardware and software associated in both Mac and Windows platforms.
- CO3: Demonstrate an advanced knowledge of photo editing including: image manipulation, color correction, compositing, toning, and preparing for distribution.
- CO4: Assemble video projects in professional non-linear editing software showing proficiency in importing, exporting, effects, transitions, color correcting, and flow.

## **Department of Fine Arts**

**Name of the Program: Bachelor of Fine arts (BFA- Painting) (4 Years degree program)**

### **Programme Outcomes**

- PO 1: The students acquire knowledge in the field of fine arts which make them sensitive and sensible enough.
- PO 2: The BFA graduates are acquainted with the artistic traditions and thinking.
- PO 3: Programme familiarizes them with the nuances of fine arts which make them effective communicator through brush and colours.
- PO 4: The programme enhances the confidence of the graduates through carefully chosen curriculum with emphasis on practical learning, activities and close interaction with teachers and fellow students.
- PO 5: The programme does not restrict the graduates to one specific lane. It empowers them to appear for various competitive examinations or choose the post graduates Programmes of their choice.
- PO 6: The programme enables the students to acquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
- PO 7: The students are given an exposure to creative environment which sparks their thoughts, process and help to think of the solutions of various issues in life to make this world a better place to live.
- PO 8: Use of ICT helps in providing experiential learning which deeply embeds and has long lasting impact.
- PO 9: This programme prepares them well to explore and avail opportunities available.
- PO 10: The programme lays the foundation to become a responsible citizen and meaningfully contribute to society.

### **Programme Specific Outcomes**

- PSO 1: The students are enabled to acquire knowledge in the field of fine arts which make them sensitive and sensible enough.
- PSO 2: The graduates will be acquainted with the artistic traditions and thinking.
- PSO 3: The programme also would empower the graduates to appear for various competitive examinations or choose the post graduate programmes of their choice.
- PSO 4: The programme will enable the students to acquire the knowledge with human values framing the base to deal with the various problems in life with courage and humanity.
- PSO 5: The students will be stimulated enough to think and act over for the solution of various problems prevailed in human life to make this world better than ever.
- PSO 6: The programme would provide them the base to be the responsible citizen.

### **Course Outcomes Semester-I**

#### **Paper: Drawing-I**

- CO 1: Understand and explain structure of human figures.
- CO 2: Draw painting of flower, plants, & insects.
- CO 3: Differentiate between the basic discipline of beautiful handwriting, sense of letter writing and basic study of calligraphy style in English and Hindi.
- CO 4: Illustrate landscape & nature of clouds. Shading, rendering, hatching etc.

#### **Paper II Design 2D/ Color (Practical)**

- CO 1: Interpret their self with the concepts of color in art and to what ends artists use it.
- CO 2: Identify works with color, value, hue, etc. as predominant themes or techniques in the work
- CO 3: Create their own work that demonstrates an understanding of color.
- CO 4: Understand and analyse two dimensional space and its organizational possibilities
- CO 5: Explain elements of pictorial expression related to concepts of space and forms.

CO 6: Determine the pictorial elements such as point, line, shape, volume, texture, light and color, Basic design problems.

CO 7: Draw various types of objects into flat pictorial images.

### **Paper III Design 3D (Practical)**

CO 1: Build basic structure in claylike spherical, conical and cylindrical.

CO 2: Differentiate between the properties of cement and terracotta.

CO 3: Explain the term relief sculpture with the technique of shilpakar.

CO 4: Make use of thermocol in making any art work

### **Paper IV Print Making (Practical)**

CO 1: Anticipate the process of gathering Impressions with the various fundamental methods of taking prints.

CO 2: Differentiate between various surfaces and textures of natural and man-made things.

CO 3: Understand the use of Lino, Wood and the techniques of taking prints.

CO 4: Create prints in monochrome.

### **Paper V History of Arts (Theory)**

CO 1: Evaluate the process of Prehistoric Art in India with its geographical areas with special reference to Bhim Bhetka Caves.

CO 2: Describe the various artistic skills of Indus Valley people in various artistic fields.

CO 3: Identify the socio cultural and artistic activities under Mauryan period. The emergence of Buddhism in Indian soil analyze by the students.

CO 4: Evaluate the architectural details of Buddhist architecture and other features of Buddhism.

CO 5: Illustrate the various styles of Buddhist sculptural art and its characteristics with the jataka stories and other episodes of Buddha's life in Snachi.

## **Semester-II**

### **Paper I Drawing (Practical)**

CO 1: Create Common methods of digital drawing including a stylus or finger on a touchscreen device, stylus- or finger-to-touchpad, or in some cases, a mouse.

CO 2: Analyse elements of perspective: study of basic solids, plan and elevation, main aspects of parallel and triangular perspective.

CO 3: Differentiate between the basic discipline of beautiful handwriting, sense of letter writing and basic study of calligraphy style in English and Hindi.

CO 4: Use Gothic, Block Letters (Condense and Normal) type, its construction of letters and spacing, Roman type, its construction of letter and spacing

### **Paper II Design 2d / Color (Practical)**

CO 1: Identify works with color, value, hue, etc. as predominant themes or techniques in the work

CO 2: Develop an awareness of pictorial space- division of space form and relation with space observation of primitive, folk and miniature paintings as well as graphic designs.

CO 3: Develop an awareness of inter-Relation of different shapes and forms relative values.

CO 4: Evaluate understanding the color qualities in its variations of warm and cool colors, harmony and contrast.

CO 5: Create colored designs with regular irregular forms Mosaic/Mural/Flat Gradation effect.

CO 6: Create space through form and color- Optical illusions. Handling of various types of material for pictorial organization and rendering, such as; Pencil, pen, brushes, water colors, poster paints, pastel crayon, inks, cellophanes, oil newsprint and other college material, gums and adhesives, wax crayon with inks, etc. A coordinated series is basic

design problems with aesthetic and analytical approach. Off the composition of letters, spacing organizations- intuitive and logical planning

### **Paper III Design 3D (Practical)**

CO 1: Build basic structure in clay like spherical, conical and cylindrical.

CO 2: Explain process of making wood block structure.

CO 3: Understand the term relief sculpture with the technique of Plaster of paris.

CO 4: Use metal sheet in making any art work

### **Paper IV Print Making (Practical)**

CO 1: Anticipate the process of gathering Impressions with the various things like rice paper, handmade paper etc.

CO 2: Differentiate between various surfaces and textures of various fabrics.

CO 3: Demonstrate the process of Lino and the techniques of taking prints.

CO 4: Take prints in the process of screen printing.

### **Paper V History of Arts (Theory)**

CO 1: Categorize artistic creativity of sculptural art of Mathura and Gandhara under Kushana Dyanasty.

CO 2: Evaluate the various knowledge about the artistic skills in terms of architecture, sculpture, painting and it will also enhance the ability of students to learn about the socio political scenario of Gupta dynasty especially in Mathura and Sarnath.

CO 3: Illustrate the Techniques of wall painting, the nature of colors and modes of various themes in Ajanta and Bagh Caves

CO 4: Analyze the various sculptural characteristics of art of Hoysallas and Badami

### **Semester- III**

#### **Paper History of Arts (Theory)**

CO 1: Analyze the revival of Hinduism in Indian soil after the decline of Gupta Dynasty. They also evaluate the scio political scenario of India in Various places in Early Medieval period.

CO 2: Differentiate between Post Classical Sculputres of Pallava, Ellora and Mahabalipuram

CO 3: Explain technique of various Chola Bronzes Sculptures.

CO 4: Demonstrate the architectural details of Hindu Temple and its types. The various kinds of sculptural activities enhance the structure of temple

CO 5: Understand the sculptural art during Chandella Dynsaty.

#### **Paper II Aesthetics (Theory)**

CO 1: Classify the growth of “Art”, their Functions and Aims of art.

CO 2: Analyze the classification development of the Categories of Art - Visual and Performing Arts. It will enable them to analyze the Inter-relationship between Visual and Performing Arts.

CO 3: Identify, describe and compare/contrast between Art and Craft.

CO 4: Understand the Elements of art-line, form, colour, texture and tone.

CO 5: dentify & analyze the key facts of Principles of Art-Balance, Harmony, Perspective, Emphasis, Rhythm and Movement.

#### **Paper III Method and Materials (Theory)**

CO 1: Explain the composition and role of the importance of the Study of Method and Materials.

CO 2: Analyze levels, role and responsibilities of the “Deterioration of painting and Beautiful Materials.

CO 3: Differentiate the nature and characteristics of various drawing Materials-Pencil and Pen drawing, Charcoal drawing, Black and red Chalk-drawing.

CO 4: Analyze and describe the development of Painting materials-water Colour Painting, Oriental Ink Painting and Oil Painting.

CO 5: Use the Crayon and Pastel Gouche.

#### **Paper IV Portrait (Practical)**

CO 1: Understand the construction of skull, planes and masses of head.

CO 2: Create the details such as eyes, mouth, nose, bust from different angles and eye levels etc.

CO 3: Draw different shapes of different part and modelling.

CO 4: Draw portrait using light and shades in different mediums.

#### **Paper V Life Drawing (Practical)**

CO 1: Draw figure drawing, as it is the act of drawing a living person. Normally this means drawing a nude model in real life

CO 2: Demonstrate life model to develop understanding of the human structure; volume in perspective and foreshortening, proportion of male and female, rhythmic curves as uniting factors in all parts of the body; balance of parts, study of anatomy; various media; emphasis on delineation of character, various expressions and composition of figure in different settings and environment

CO 3: Illustrate life drawing of the human figure.

#### **Paper VI Composition Painting (Practical)**

CO 1: Draw 2d & 3d paintings.

CO 2: Create figure drawing, as it is the act of drawing a living person. Normally this means drawing a nude model in real life.

CO 3: Explain line, drawing, color, texture, form & space, balance of parts, study of anatomy; various media; emphasis on delineation of character, various expressions and composition of figure in different settings and environment.

CO 5: Draw outdoor & indoor sketching. Study of eye level and perspective balance and Rhythms to be used in composition.

#### **Paper VII (B) Computer Graphics (Practical)**

CO 1: Explain various computer softwares of art world

CO 2: Work on art projects which help in increased productivity and efficiency of work

CO 3: Create technical drawing with the use of software

CO 4: Use modeling techniques for creating 3D-printed objects.

#### **Semester-IV**

##### **Paper History of Arts (Theory)**

CO 1: Describe Indian Miniature Painting and its emergence in India with special reference to Mughal, Rajasthani, and Pahari.

CO 2: Understand the Techniques used in different phases of Miniature art of India and its subject matter and coloristic approach.

CO 3: Identify the art of Mughal under Akbar and Jahagir

CO 4: Classify the style of Rajasthani Art especially mewar, Bundi and Kishangarh.

CO 5: Differentiate the style of Kangra and Basohli Art in details.

CO 6: Analyze emergence of European Impact in social scenario and in the artistic activities of Indian art.

CO 7: Explain the folk art of West Bengal, its techniques and emergence of Kaighat painting as a source of new style in Indian art.

CO 8: Explain the temple wall paintings of Tanjore with its techniques, Colors and style.

##### **Paper II Aesthetics (Theory)**

CO 1: Understand the meaning of "Art".

CO 2: Explain the role of art in human life.

CO 3: Explain the Theory art & morality.

CO 4: Differentiate between art & communication.

CO 5: Compare and contrast study of art & expression.

### **Paper III Method and Materials (Theory)**

CO 1: Understand the meaning of Varnishes and its various types

CO 2: Explain Glues

CO 3: Explain the process of Preparation of Canvases

CO 4: Interpret the various techniques of Oil Paints and Oil, Drying oils, Thinners and their uses in the field of art especially in painting.

### **Paper IV Portrait (Practical)**

CO 1: Construct skull, planes and masses of head.

CO 2: Create the details such as eyes, mouth, nose, bust from different angles and eye levels etc.

CO 3: Create character of different shapes of different part and modelling.

CO 4: Understand the process of perspective and foreshortening in figure.

CO 5 Demonstrate the handling of colors in various ways which suitable to portraiture.

### **Paper V Life Drawing (Practical)**

CO 1: Create figure drawing, as it is the act of drawing a living person. Normally this means drawing a nude model in real life

CO 2: Explain life model to develop understanding of the human structure; volume in perspective and foreshortening proportion of male and female, rhythmic curves as uniting factors in all parts of the body; balance of parts, study of anatomy; various media; emphasis on delineation of character, various expressions and composition of figure in different settings and environment

### **Paper VI Composition Painting (Practical)**

CO 1: Draw 2d & 3d paintings

CO 2: Analyze the elements of arts

CO 3: Differentiate among the line, drawing, colour, texture, form & space

CO 4: Understand the Compositional exercise based on objects

CO 5: Draw outdoor & indoor sketching

### **Paper VII (B) Computer Graphics (Practical)**

CO 1: Demonstrate art works on virtual models and in various colors and shapes, thus saving time by requiring fewer adjustments of prototypes and samples later.

CO 2: Create logo, art, models to create patterns, adjust sizes and even determine fabric colors.

CO 3: Explain single art work to varying materials and patterns, and build upon and alter existing art works to create new pieces.

CO 4: Draw and create textures, patterns, adjust sizes and even determine acrylic colors. By Introducing this technological aspect will enable students to understand a lot better and try various combinations in their design.

## **Semester- V**

### **Paper II History of Arts (Theory)**

CO 1: Identify and define world's earliest work of art in the western counterpart including Paleolithic, Mesolithic and Neolithic Revolution. They learn how the people used their creativity in the making of various tools and paintings.

CO 2: Analyze the artistic characteristics of Greek Civilization with the help of their Geographical settlements, their knowledge of making sculptures, pottery and other art works.

CO 3: Analyze characteristics of Roman Empire and their sculptural art forms in different mediums and their techniques of pa

CO 4: Understand the key facts of Christianity in the Europe by making the Catacombs, illuminated manuscripts and other details of architecture.

CO 5: Explain the formation of Cathedrals with huge sculptures and various kind of paintings which show the skills and mastery of artists of Gothic period.

### **Paper II Aesthetics (Theory)**

CO 1: Explain the concept of Art. Art is the expression of a man's feelings and imagination on through a medium. When both are given a form, it is called art.

CO 2: Understand the meaning of “Artist has total freedom to deny reality because they are supposed to be the creator of beauty.”

CO 3: Explain an artwork of Van Gogh - Sunflower painting.

CO 4: Differentiate the Theory of Rasa & Bhava given by different philosophers Anand Vardhan, Bharat Muni, Abhinav Gupta and Six limbs of Indian Paintings (Shadangas).

CO 5: Evaluate the Fundamentals in Indian Art as in Chitrasutra and Pratimalakshana of Vishnudharmottram, Shilparatna, Sukranitisara. They also understand Indian concept of Beauty according to Veda and Literatura

### **Paper III Method and Materials (Theory)**

CO 1: Explain the terminology 'background', a ground is the very first layer of paint (or other wet medium) applied to an artwork. It is an undercoat, which can either be covered entirely by subsequent media, or left visible in the final work. Using a ground has several practical advantages, as well as some important aesthetic ones

CO 2: Classify three different types of colors: primary, secondary, and tertiary colors. The primary colors are red, yellow, and blue. The secondary colors are green, orange, and purple Classification of colours

CO 3: Identify Sources, characteristics and durability of pigments, Causes of colours changing, Priming and ground recipes.

### **Paper IV Portrait (Practical)**

CO 1: Construct a skull, planes and masses of head.

CO 2: Create the details such as eyes, mouth, nose, bust from different angles and eye levels etc.

CO 3: Create character of different shapes of different part and modelling.

CO 4: Differentiate between perspective and foreshortening in figure.

CO 5: Demonstrate handling of colors in various ways according to portraiture.

CO 6: Create various features along with exercising various expression in facial and muscular form.

### **Paper V Life Drawing (Practical)**

CO 1: Understand the various proportions of human anatomy by using various gestures and postures in human anatomy.

CO 2: Demonstrate life model to develop understanding of the human structure; volume in perspective and foreshortening, proportion of male and female, rhythmic curves as uniting factors in all parts of the body; balance of parts, study of anatomy; various media; emphasis on delineation of character, various expressions and composition of figure in different settings and environment

CO 3: Illustrate life drawing of the human figure .

### **Paper VI Composition Painting (Practical)**

CO 1: Draw 2d & 3d paintings

CO 2: Analyze the elements of arts

CO 3: Differentiate among the line, drawing, colour, texture, form & space

CO 4: Understand the Compositional exercise based on objects

CO 5: Draw outdoor & indoor sketching

### **Paper VII (B) Computer Graphics (Practical)**

CO 1: Develop products and product management integration.

CO 2: Develops products to be used by consumers.

CO 3: Produce very accurate art works; draw 2D or 3D and rotated; other computer programmers linked to the design software.

CO 4: Create the layout of the business card, poster, greeting card and much more.

CO5: Create technical drawing with the use of software

### **Semester- VI**

#### **Paper I History of Arts (Theory)**

CO 1: Analyze the emergence of new artistic art movement Renaissance with detailed views on social political scenario of Europe.

CO 2: Compare and contrast the artistic values and views of the genius of High Renaissance.

CO 3: Understand the emergence of Baroque art as new artistic activity in different area of Europe with different style, medium and themes.

CO 4: Explain Neo Classicism through the theme, style, and works of art made by the artists.

CO 5: Evaluate the tem Romanticism in details with the works of different artists in various places of Europe.

#### **Paper II Aesthetics (Theory)**

CO 1: Understand the Theory of western aesthetics.

CO 2: Explain the study of aesthetics during Greek classical Period

CO 3: Tell about the Greek philosophers on beauty.

CO 4: Compare and contrast art & society Aesthetics

#### **Paper III Method and Material (Theory)**

CO 1: Use oil colors & Acrylic colors

CO 2: Explain the detail study of glazes

CO 3: Tell about the distemper

CO 4: Differentiate between Plano graphics and instigation Paintings

#### **Paper IV Portrait (Practical)**

CO 1: Understand the construction of skull, planes and masses of head.

CO 2: Create the details such as eyes, mouth, nose, bust from different angles and eye levels etc.

CO 3: Explain the concept of drawing.

CO 4: Understand the process of perspective and foreshortening in figure.

CO 5: Demonstrate the handling of colors in various ways which suitable to portraiture.

CO 6: Create various features along with exercising various expression in facial and muscular form.

#### **Paper V Life Drawing (Practical)**

CO 1: Differentiate between male and female human anatomy structure

CO 2: Create full composition using various view angles of live model

CO 3: Draw the human figure from observation of a live model. A figure drawing may be a composed work of art or a figure study done in preparation for a more finished work such as a painting.

CO 4: Understand the creation of human anatomy in natural light and artificial light.

#### **Paper VI Composition Painting (Practical)**

CO 1: Draw 2d & 3d paintings

CO 2: Analyze the elements of arts

CO 3: Differentiate among the line, drawing, colour, texture, form & space

CO 4: Understand the Compositional exercise based on objects

CO 5: Draw outdoor & indoor sketching

### **Paper VII (B) Computer Graphics**

- CO 1: It opens the doors for independent artists who may have fewer employees and therefore can't waste time and resources doing sketch after sketch.
- CO 2: Draw and create textures, drape models to create patterns, adjust sizes and even determine fabric colors. By introducing this technological aspect will enable students to understand a lot better and try various combinations in their design.
- CO 3: Correct errors and develop better quality work in less time
- CO 4: Develop integral skills required in all areas of study and work related to education and employment.

### **Semester BFA VII**

#### **Paper I History of Arts (Theory)**

- CO 1: Explain modern art of India with special reference to Bengal School of Art.
- CO 2: Understand new artistic activities in India with different styles of art in the early 20<sup>th</sup> century A.D.
- CO 3: Interpret western art movements in Europe.
- CO 4: Analyze Impressionism by the works of their artists like Monet, Manet, Renior, and Degas.
- CO 5: Describe artistic techniques used by the artists of Post Impressionism with their works.
- CO 6: Critical analysis of the subject matter and techniques of Fauvism.

#### **Paper II Aesthetics (Theory)**

- CO 1: Understand the concept of creative process.
- CO 2: Explain the role of Imitation in art.
- CO 3: Characterize the role of subconsciousness in art.
- CO 4: Analyze the theories related to works of art with special reference to Form and Content and Expressiveness.
- CO 5: Explain the process of intuition in art.

#### **Paper III- Method and Materials (Theory)**

- CO 1: Understand the technique and material of Fresco wall painting.
- CO 2: Explain the process of Jaipur method.
- CO 3: Interpret the technique, its color scheme of Ajanta Painting.
- CO 4: Describe methodology of Mosaic.

#### **Paper IV Portrait (Practical)**

- CO 1: Construct skull, planes and masses of head.
- CO 2: Create the details such as eyes, mouth, nose, bust from different angles and eye levels etc.
- CO 3: Explain the concept of drawing.
- CO 4: Understand the process of perspective and foreshortening in figure.
- CO 5: Demonstrate the handling of colors in various ways which suitable to portraiture.
- CO 6: Create various features along with exercising various expression in facial and muscular form.

#### **Paper V Life Drawing (Practical)**

- CO 1: Simplify the form and show different kind of emotions.
- CO 2: Use different textures in body rendering.
- CO 3: Understand the creation of human anatomy in natural light and artificial light.
- CO 4: Explain the human figure from observation of a live model. A figure drawing may be a composed work of art or a figure study done in preparation for a more finished work such as a painting.

### **Paper VI Composition Painting (Practical)**

CO 1: Draw 2d & 3d paintings

CO 2: Analyze the elements of arts

CO 3: Differentiate among the line, drawing, colour, texture, form & space

CO 4: Understand the Compositional exercise based on objects

CO 5: Draw outdoor & indoor sketching

### **Paper VII (B) Computer Graphics (Practical)**

CO 1: Create new sketches more quickly and more precisely. They can also easily adapt a single design to varying materials and patterns, and build upon and alter existing designs to create new pieces

CO 2: Design buildings using software tools.

CO 3: Create a vast range of high-quality marketing content, including designing content for your social media profiles such as Face book, twitter etc producing animated banner ads and creating a stylish and innovative design.

CO 4: Create the layout of the business card, poster, greeting card and much more.

CO 5: Find new design solutions

### **Semester-BFA VIII**

#### **Paper I History of Art (Theory)**

CO 1: Interpret the Progressive artist group.

CO 2: Understanding various theories (groups) of Indian Art-Delhi, Calcutta and Madras (Chola Mandalam, Shilpi Chakra).

CO 3: Analyze various western art movements and its impact.

CO 4: Differentiate among cubism Futurism, Dadaism and Surrealism through their prominent artists-Picasso and Braque, Boccioni, Duchamp and Salvador Dali.

CO 5: Explain the meaning, nature and scope of the “Abstract Art”- Wassily Kandinsky and Piet Mondrian for young artists through their art.

CO 6: Interpret the Artistic change due to the working of “Pop Art” through their artists- Andy Warhole and Roy Lichenstein.

#### **Paper II Aesthetics (Theory)**

CO 1: Understand the theories related to response and appreciation with empathy pleasure.

CO 2: Classify the appreciation in work of art.

CO 3: Evaluate how narration is important in work of art from the prehistoric art to till contemporary art.

CO 4: Classify the term Abstraction in art with examples of works of few artists.

#### **Paper III Method and Material (Theory)**

CO 1: Explain Fresco Wall, Plastering and its main types and technique of fresco.

CO 2: Analyze the techniques, material used in the Jaipur Method.

CO 3: Differentiate the style and working process of Seceo Painting

CO 4: Understand the style and technique of Ajanta with various color preparation.

CO 5: Describe the term Mosaic its types and techniques.

#### **Paper IV Portrait (Practical)**

CO 1: Understand the construction of skull, planes and masses of head.

CO 2: Create the details such as eyes, mouth, nose, bust from different angles and eye levels etc.

CO 3: Explain the concept of drawing.

CO 4: Differentiate the process of perspective and foreshortening in figure.

CO 5: Evaluate the demarcation of character and its expression, gesture, posture, drapery and individualistic style of execution.

CO 6: Create various features along with exercising various expressions in facial and muscular form.

### **Paper V Life Drawing (Practical)**

- CO 1: Draw figure drawing, as it is the act of drawing a living person. Normally this means drawing a nude model in real life
- CO 2: Demonstrate life model to develop understanding of the human structure; volume in perspective and foreshortening, proportion of male and female, rhythmic curves as uniting factors in all parts of the body; balance of parts, study of anatomy; various media; emphasis on delineation of character, various expressions and composition of figure in different settings and environment
- CO 3: Illustrate life drawing of the human figure.

### **Paper VI Composition Painting (Practical)**

- CO 1: Draw 2d & 3d paintings
- CO 2: Analyze the elements of arts
- CO 3: Differentiate among the line, drawing, colour, texture, form & space
- CO 4: Understand the Compositional exercise based on objects
- CO 5: Draw outdoor & indoor sketching

### **Paper VII B Computer Graphics (Practical)**

- CO 1: Create pictures and films using computers. Usually, the term refers to computer-generated image data created with help from specialized graphical hardware and software.
- CO 2: Design logo, brochure design, flex board, pamphlets etc.
- CO 3: Prepare visiting card using various tools of Adobe Photoshop.
- CO 4: Demonstrate the process of masking and its types.
- CO 5: Analyze the software in the creation of different print media

#### **Department of Fine Arts**

**Name of Programme: B.A. (Bachelor of Arts)**

### **Course Outcomes**

#### **Semester-I**

##### **Paper: - Fine Arts (Theory & Practical)**

- CO 1: Sensitize and develop sensible mind with critical bent and acquiring the basics of Fine Arts through the “Indian Art History”.
- CO 2: Develop creative skill with six limbs of Indian Painting (Shadanga)
- CO 3: Identify the techniques of Indian painting and understand the application of Colour, Texture, Light & Shade Perspective, Rhythm, and Balance & Harmony.
- CO 4: Understand the composition, Classical Mural tradition of Ajanta paintings & technique.
- CO 5: Identify & describe the emergence of earliest Indus Valley Civilization in India.
- CO 6: Understand & apply creative writing of different style, still life and Collage making.

#### **Semester-II**

##### **Paper- Fine Arts (Theory & Practical)**

- CO 1: Interpret Mauryan Sculptures and Pillars-Sarnath, Rampurva, Parkham and Didarganj through Indian History of Art.
- CO 2: Understand and analyze the Indian sculptures of karle and Bhaja caves.
- CO 3: Locate rich reservoir of Indian Art laying in the different parts of the country like Sanchi Stupa, Amaravati Stupa and Bharhut Stupa.
- CO 4: Analyze Kushana period in Mathura Art and Gandhara Art.
- CO 5: Evaluate different types of still life objects and will impart knowledge to understand proportion, volume, texture and light & shade.
- CO 6: Create posters on social awareness.

#### **Semester-III**

##### **Paper- Fine Arts (Theory & Practical)**

- CO 1: Evaluate consolidation of the Classical Gupta Sculpture of India-Mathura and Sarnath.
- CO 2: Analyze Post Classical Sculptures of Ellora, Elephanta and Mahabalipuram.

- CO 3: Analyze various Chola Bronzes Sculptures and its technique.
- CO 4: Compare and contrast 2 dimensional and 3 dimensional designs based on folk forms.
- CO 5: Understanding the Head Study (Male/Female) through structure, Volume, Proportion, texture, light & shade in Monochromatic Colour Scheme.

#### **Semester-IV**

##### **Paper- Fine Arts (Theory & Practical)**

- CO 1: Describe Early Indian Miniature Painting (Pala Paintings) Buddhism
- CO 2: Understand and grasp the western Indian Miniature Paintings (Jain Paintings) Jainism.
- CO 3: Explain Mughal Art (Painting) under Akbar and Jahagir.
- CO 4: Classify Rajasthani Art (Painting) mewar, Bundi and Kishangarh.
- CO 5: Differentiate between Kangra Art and Basohli Art.
- CO 6: Understand the Practical art work-Landscape through study of clouds, trees and foreground. The students will also understand the Full life study (Life/Cast) through the study of muscles and bones.

#### **Semester-V**

##### **Paper- Fine Arts (Theory & Practical)**

- CO 1: Create skillful artistic creation by using techniques and methods appropriate to the intended result.
- CO 2: Interpret the role of art making in the larger social context
- CO 3: Develop artistic autonomy to identify and focus on their idea and continue to learn over the length of their career
- CO 4: Develop a working knowledge of relationship to art history criticism and theory.
- CO 5: Locate, interpret and analyze primary and secondary sources to research questions.

#### **Semester-VI**

##### **Paper- Fine Arts (Theory& Practical)**

- CO 1: Evaluate the impact of British on Indian art with special reference to Company School of Art.
- CO 2: Differentiate between artistic creation and activity of Bengal which show the impact of socio cultural scenario of Bengal in Late 19<sup>th</sup> C. A.D.
- CO 3: Explain the different trends of creation in the artistic way in the contemporary art of Early and Mid-20<sup>th</sup> C.A.D. with the help of artist's works like Amrita Shergill, Jamini Roy, Sobha Singh, and M.F. Hussain.
- CO.4: Apply basic principal of life study and color, concepts, media and formats.
- CO 5: Draw two dimensional and color, beginning with basic studies and continuing throughout the degree program

## **Post Graduate Department of Fashion Designing**

### **Name of Programme: B.Sc. Fashion Designing**

#### **Programme Outcomes**

- PO 1: The programme aims to give knowledge with facts and figures related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics, Computer Science, Economics, Quantitative Techniques, Bio-Informatics, Bio-technology etc.
- PO 2: Enable the students to understand the basic concepts, fundamental principles, and the scientific theories related to various scientific phenomena and their relevance in the day-to-day life.
- PO 3: The learners acquire the abilities in handling scientific instruments, scheduling and executing the experiments in laboratories and to draw logical inferences from the scientific experiments.
- PO 4: They become capable of thinking creatively, to propose innovative ideas in clarifying facts and figures and providing new solution to the problems.
- PO 5: To give them knowledge about developments in any science subject and how interdisciplinary approach helps in providing better solutions and new ideas for the sustainable developments.
- PO 6: The programme targets to develop scientific aptitude among the students to make them open-minded, critical and curious in order to deal with all aspects related to life.
- PO 7: To make them capable of applying their acquired knowledge and able to work on their own hence make themselves self-reliant and self-sufficient.

#### **Programme Specific Outcome**

- PSO 1: The students will have the basic foundation in designing and have the ability to visually represent it by illustrations, photographs, graphics and visual display of merchandising.
- PSO 2: The students will be able to convert their designs into a garment using appropriate construction techniques.
- PSO 3: The students will have a strong foundation and understanding of the garment manufacturing process and procedures.
- PSO 4: Successful graduates of the course are lucratively employed in various sectors- such as export houses, garment manufacturing units, leather companies, jewellery houses etc.

### **Course Outcomes**

#### **Semester –I**

##### **Paper I: Basic of Design and Illustration**

- CO 1: To help students to understand and define design fundamental, elements and principles of design.
- CO 2: To enable students to demonstrate figure sketching and drawing.
- CO 3: To understand the what, why and how of illustration techniques
- CO 4: Students will be able interpret Fashion Design concepts and colour theories.

##### **Paper II: Concept of Fashion**

- CO 1: Students will be able to find and discuss concepts related to the historical background of fashion
- CO 2: Students will be able to interpret, assess, purpose and apply various techniques related to drafting, draping.
- CO 3: Students will be able to interpret different fashion cycles and theories of fashion
- CO 4: Students will be able to interpret social and psychological aspects of clothing

##### **Paper III: Basics of Sewing-I**

- CO 1: Students will able to define and construct various sleeves e.g. Puff, raglan, kimono etc.
- CO 2: Students will able to explain Yokes with fullness and without fullness
- CO 3: Students will able to understand and translate Construction of collars – Flat and rolled, peter-pan collar
- CO 4: Student will be able to make use of Sewing machines and other basic sewing techniques used for Garment formation.

**Paper IV: Basics of Computers**

- CO 1: Students will be able to Define and understand the basic knowledge of computers.
- CO 2: Students will learn to compare between an operating system and an application program.
- CO 3: Student will be able to identify General concept of MS-Word.
- CO 4: Student will be able to analyze Computer applications in various fields of fashion Industry

**Paper V: Fiber to Fabric**

- CO 1: Students will be able to tell and identify different types of Fibers and yarns.
- CO 2: Students will be able to identify different fibers to know the fabric type with Microscopic appearance, burning test and solubility test.
- CO 3: To extend student's knowledge of fiber, sources of fibers, their definitions and properties
- CO 4: To provide students with understanding of yarn science and yarn properties.

**Semester-II****Paper I: Traditional Textiles**

- CO 1: Students will be able to summarize, differentiate & learn types of carpets, colored woven & printed textiles of India.
- CO 2: Students will be able to analyse various effects, texture and basics of art and design world.
- CO 3: To extend student's knowledge of traditional design and motifs of textiles.
- CO 4: To demonstrate applications of the traditional motifs on different textiles.

**Paper II: Fabric Construction**

- CO 1: Students will be able to discover various techniques of weaving, knitting, felting & bonding.
- CO 2: Students will analyze different types of decorative fabric construction techniques.
- CO 3: To impart knowledge of fabric manufacture and fabric properties.
- CO 4: To enable students to understand fabric structures and to analyze them.

**Paper IV: Basics of Computers**

- CO 1: Students will be able to apply the Professional presentation formations, different views of PowerPoint & animation effects.
- CO 2: Student will be able to explain basic Concepts of PowerPoint, CorelDraw & Photoshop.

**Semester-III****Paper I: Fashion Design and Illustration**

- CO 1: Student will formulate the process to work from concept to finished products, including knowledge of paints and surfaces.
- CO 2: Students will conclude the various design details and their use in fashion/textiles.
- CO 3: Students will be able to analyze two dimensional and three dimensional images.
- CO 4: To enable students to gain knowledge of figure sketching and drawing.

**Paper II: Colour Concepts & Coloration**

- CO 1: Students will understand importance of colour & colour schemes.
- CO 2: Students will be able to originate different types of dyeing techniques on fabrics.
- CO 3: To impart knowledge of fashion design concepts.
- CO 4: To enable students to develop practical skills of printing

**Paper III: Pattern Making & Garment Construction**

- CO 1: Students will be able to develop commercial paper patterns & make style reading sheets.
- CO 2: Students will be able to design and construct garments – Salwar suit, blouse, Petticoat.
- CO 3: Student will be able to relate different aspects of pattern making and grading.
- CO 4: Student will be able to develop the concept of pattern making and draping.

**Paper IV: Needle Craft**

- CO 1: It enables the students to classify methods of surface ornamentation on fabric using different techniques to produce value added products.

- CO 2: Students will learn to develop and explain practical skills in needle craft techniques
- CO 3: Students will be able learn methods of surface ornamentation of fabric using different techniques to produce value-added products.
- CO 4: To enable the students to develop practical skills in needle craft techniques.

#### **Paper V: Knitting Technology**

- CO 1: Students will be able to demonstrate types, characteristics & structure of knitted products
- CO 2: Students will summarize the knowledge of knitted garments.
- CO 3: Student will be able to analyze about knitting technology.
- CO 4: To enable students to develop practical skills of knitting.

#### **Semester- IV**

##### **Paper I: Fashion Design and Illustration (CAD)**

- CO 1: Students will interpret fashion design concept on computer.
- CO 2: Students will gain working knowledge of Corel draw software and will apply hands on knowledge on details and croquis on computer.
- CO 3: To understand the fashion design concepts on computer.
- CO 4: To acquaint students with perception of CAD based application in fashion designing

##### **Paper II: History of Costumes**

- CO 1: Students will be able to build and develop costumes for men and women – Indus valley civilization, British period, Mauryan, Mughal period etc.
- CO 2: Students will summarize dresses of historic period
- CO 3: To acquaint the students with different types of costumes.
- CO 4: To assess opportunity for skill development in designing accessories.

##### **Paper III: Garment Construction & Draping**

- CO 1: Students will apply concept of advance pattern making and different garment construction techniques.
- CO 2: Students will be able to learn Commercial pattern making techniques which will support students to work with industry.
- CO 3: To introduce concept of advanced garment construction.
- CO 4: To impart knowledge of different garment components.

##### **Paper IV: Fashion Illustration & Appreciation**

- CO 1: Student will discover to design theme based project.
- CO 2: Students will design and develop theme based collection on any type of theme.
- CO 3: To enable students to create designs by taking inspiration from different themes.

##### **Paper V: Pattern and Marker Making on Computer**

- CO 1: This course aids in translating patterns and layouts according to body measurements.
- CO 2: Students will able to analyze skills of marker plan, pattern making & drawing using computers.
- CO 3: To impart the skills of marker plan, pattern making and drawing using computers.

#### **Semester-V**

##### **Paper I: Fashion Illustration and Appreciation**

- CO 1: The highly effective and superior study program brings in opportunity to maximize creative skills by collage making on different theme based collections.
- CO 2: Students will illustrate and develop garments by taking inspiration from historical period, monuments, traditional fabric, embroideries and many more themes.
- CO 3: Student will be able to appreciate and originate the Fashion Illustrations.

##### **Paper II: Draping, Pattern Making and Construction**

- CO 1: Students will able to classify and drape stylized skirts, necklines, bodice & torso.
- CO 2: Students will be able to Concept of draping and stitching will be utilized in developing garments for clients.

CO 3: Students will be able to construct garments on each theme: • Night Wear • Ethnic wear

### **Paper III: CAD (Computer Aided Design)**

CO 1: Software helps the students to discover the design world, as maximum work is done on software in design world.

CO 2: Software will help students to determine the process of creating technical drawing with the use of computer aided designing.

CO 3: Students will be able to Design different outfits using themes like: • Flora and Fauna • Traditional Fabric and embroidery

CO 4: Student will be able to imagine Minimum 2 designs and create the same on computers.

### **Paper IV: Internship for Design and Construction of Garments**

CO 1: Students will be able to Adapt Designers to work closely with garment technologists and sample machinists. The role could also involve liaising with manufacturers (often based overseas) to make sure designs are reproduced accurately.

CO 2: Students will be able to examine and perceive industrial working methods.

CO 3: Students will be able to justify, how management plays an important role in every field.

### **Paper V: Leather Technology**

CO 1: Students will explain Packaging of product –importance and various materials used for packaging.

CO 2: Students will be able to summarize leather manufacturing process.

CO 3: To impart knowledge about Leather technology.

CO 4: To enable students to develop practical skills of leather Product Formation.

## **Semester-VI**

### **Paper I: Fashion Illustration and Appreciation**

CO 1: To classify framework for students to understand the basic concept of illustration.

CO 2: It helps students to interpret different types of color medium in illustration.

CO 3: Students will be able to appreciate work of western and Indian designers

CO 4: Student will be able to illustrate the innovative dresses by the use of appropriate mediums and different presentation skills by taking inspiration of famous western and Indian designers.

### **Paper II: Pattern Making and Construction**

CO 1: This course helps students to perceive, design and develop different types of female garments according to theme based pattern.

CO 2: It helps students in Construction of garments on each theme: • Office wear • Evening wear

CO 3: Students will be able to design and construct any innovative garment based on previous paper.

### **Paper III: Computer Aided Design**

CO 1: Students will be able to originate, and develop designs on Corel draw & Adobe Photoshop

CO 2: It helps students in Designing and Construction of outfits on the themes • Season/Casual wear • Party wear • Sportswear/ Uniform (School)

CO 3: It helps students in Draping simulation of designs.

### **Paper IV: Survey and Project Report**

CO 1: Support the student with ability to discover a style that is distinctively consistent.

CO 2: Helps student to develop ability to manage the process of emerging designs through creativity and preparing graduates to work with fashion industry.

CO 3: After completion of the project students will be able to support working on different types of field project.

CO 4: After doing survey on any Indian state, the student will be able to • Make a project report • Design any 10 garments taking it as inspiration

### **Paper V: Fashion industry, Marketing and Management**

- CO 1: After studying this course the students should be able to apply various marketing & management aspects to their projects and understand marketing techniques to run any business effectively.
- CO 2: Students will be able to inspect the Career & job roles in fashion industry.
- CO 3: Students will perceive how management plays an important role in every field of fashion.
- CO 4: After completion of the project students will be able define and differentiate Indian and global fashion.

### **Name of Programme: B.Voc Fashion Technology**

#### **Program Outcomes**

- PO 1: Students will be able to practically understand and apply the knowledge related to the requirements of industry.
- PO 2: To provide a judicious mix of professional skills and suitable general education component.
- PO 3: To provide flexibility to the students to serve the industry by having exit points at different levels.
- PO 4: To provide an opportunity to the students to get on the job training which help them to enhance their professional skills.

#### **Programme Specific Outcome**

- PSO1: The Bachelor of vocation degree programme in fashion technology introduced under the University Grants Commission's new scheme of skills development.
- PSO 2: The aim of B.Voc programme in fashion technology is to integrate Government of India's national skills qualifications framework within the undergraduate level, in order to enhance employability of the graduates and meet industry requirements.
- PSO 3: The programme incorporates the requirements of various industries in an innovative and flexible manner which aids to develop holistic and well groomed graduates.
- PSO 4: This programme equips students to pursue a wide range of career prospects as designer in apparel manufacturing and merchandising.
- PSO 5: This course also tunes student's entrepreneurial skills to set up their own manufacturing units
- PSO 6: This programme lays greater emphasis on interaction with the relevant industry in the form of internship.

### **Course Outcomes**

#### **Semester-I**

#### **Paper IV: Sewing Techniques-I**

- CO 1: Students will able to define and construct various sleeves e.g. Puff, raglan, kimono etc.
- CO 2: Students will able to explain Yokes with fullness and without fullness
- CO 3: Students will able to understand and translate Construction of collars – Flat and rolled, peter-pan collar
- CO 4: Student will be able to make use of Sewing machines and other basic sewing techniques used for Garment formation.

#### **Paper V: Fashion Art & Design Development**

- CO 1: To help students to understand and define design fundamental, elements and principles of design.
- CO 2: To enable students to demonstrate figure sketching and drawing.
- CO 3: To understand the what, why and how of illustration techniques
- CO 4: Students will be able interpret Fashion Design concepts and colour theories.

#### **Paper VI: Pattern Making & Construction-I**

- CO 1: Student will be able to develop patterns and do garment construction of the following: Basic block, child panty, bloomer, party wear frock, jump suit
- CO 2: Student will able to compare patterns and layouts according to body measurement of kids and produce the final apparel product accordingly.
- CO 3: Students will be able to develop commercial paper patterns & make style reading sheets.

CO 4: Student will be able to develop the concept of pattern making and draping.

**Paper VII: CAD-I**

CO 1: Students will find about basics of designing on computer.

CO 2: Student work on design projects which help in increased productivity and efficiency of work with the help of CorelDraw.

CO 3: Software helps the students to discover the design world, as maximum work is done on software in design world.

CO 4: Software will help students to determine the process of creating technical drawing with the use of computer aided designing.

**Paper VIII: Concept of Fashion & Textiles-I.**

CO 1: Students will understand & tell basic concepts of fashion and textiles.

CO 2: Students will summarize various technical aspects of printing and finishing of textile products in the industry.

CO 3: Students will be able to find and discuss concepts related to the historical background of fashion

CO 4: Students will be able to interpret, assess, purpose and apply various techniques related to drafting, draping.

**Semester- II**

**Paper IV: Sewing Techniques-II**

CO 1: Students will learn to develop samples of sleeves, yokes and collars.

CO 2: Students will learnt to formulate above learnt techniques through drafting, layout and construction of gathered frock.

CO 3: To impart knowledge of fabric manufacture and fabric properties while selecting fabric according to design and age group..

CO 4: To enable students to understand fabric structures and to analyze them while designing any dress.

**Paper V: Fashion Illustration & Design Development Skill**

CO 1: Students will be able to classify different types of prints and textures related to kids wear.

CO 2: Students will summarize about figure drawings of kids and babies.

CO 3: To understand the what, why and how of illustration techniques

CO 4: Students will be able interpret Fashion Design concepts and colour theories.

**Paper VI: Portfolio Development (Kids)**

CO 1: Students will be able to communicate effectively with customers to design and develop their garments as per their requirements.

CO 2: Students will develop theme based collection including specification sheet, mood board, story board and many more.

CO 3: Students will be able to design according to the latest trend.

**Paper VII: CAD-II**

CO 1: Students will able to make use of the basic Concepts of Corel Draw & their tools.

CO 2: Students will learn to design & render fashion details.

CO 3: Students will be able to Design different outfits using kids themes

CO 4: Student will be able to imagine Minimum 2 designs and create the same on computers.

**Paper VIII: Concept of Fashion & Textiles-II**

CO 1: Student will be able to translate concepts related to fashion and textiles.

CO 2: This course will support knowledge about decorative way of constructing fabrics.

CO 3: Students will be able to interpret different fashion cycles and theories of fashion

CO 4: Students will be able to interpret social and psychological aspects of clothing

## **Semester-V**

### **Paper III: Computer Aided Designing (CAD)-II**

- CO 1: Students will be able to design various fashion details by using CorelDraw and Adobe Photoshop.
- CO 2: Software helps the students to discover the design world, as maximum work is done on software in design world.
- CO 3: Software will help students to determine the process of creating technical drawing with the use of computer aided designing.

### **Paper IV: Garment Construction and Care Skill**

- CO 1: After studying this course the students will understand and apply aesthetics in dress.
- CO 2: Students will be able to summarize, care and storage of garment and hence plan and imagine the wardrobe.
- CO 3: Students will understand suitable selection of clothes.
- CO 4: Students will be able to understand and simplify planning of wardrobe.

### **Paper V: Portfolio Skill**

- CO 1: Learn about developing the designs whatever is planned or thought, an implementation to the thinking is given.
- CO 2: Various design techniques & styles are combined and explored.

### **Paper VI: Fashion Industry, Marketing and Management**

- CO 1: After studying this course the student should be able to define about various marketing aspects of his/her designer products
- CO 2: It will be help to apply the practical knowledge of fashion market, environment, planning, research, concept of exhibition and fashion shoe.
- CO 3: The students will be able to recall the concept of retailing.

## **Semester-VI**

### **Paper III: Computer Aided Designing (CAD)-III**

- CO 1: CAD allows for the easier development of products.
- CO 2: After studying this course the students will be able to design outfits for casual wear, sportswear, office wear, nightwear, party wear and ethnic wear.
- CO 3: It allows students for greater modeling and even provides a basis for virtual networking.
- CO 4: Helps the student to interpret that in designing world, CAD is extremely important and widely used to design and develop products to be used by consumers.

### **Paper IV: Pattern making and Garment Construction-II**

- CO 1: Students will learn to develop Patterns.
- CO 2: Students will be able to construct and stitch garments like skirts and bifurcated garments.
- CO 2: Students will be able to develop commercial paper patterns & make style reading sheets.
- CO 3: Student will be able to develop the concept of pattern making and draping.

### **Paper V: Quality Control**

- CO 1: Students learn and find quality and its assurance parameters.
- CO 2: Students will be able to interpret the various fabric defects and garment inspection techniques.
- CO 3: The courses help the students to understand and interpret packaging and its importance.

### **Paper VI: Fashion Merchandising**

- CO 1: Students will able to extend the knowledge of different sectors of garment industry Including sampling, designing, production & marketing.
- CO 2: To simplify the knowledge of trend prediction, colour& sales forecasting.
- CO 3: Students will perceive, how management plays an important role in every field of fashion.

CO 4: After completion of the project students will be able define and differentiate Indian and global fashion.

**Name of Programme: M.Sc. (Fashion Designing & Merchandising)**

**Program Outcomes**

- PO 1: This programme brings together the graduates who wish to enhance their skills and gives them an opportunity to develop their careers in a particular direction.
- PO 2: The programme provides in-depth knowledge of particular subject and arouses interest of the students towards research in that particular field.
- PO 3: The programme tends to expertise students in practical work and experiments based on the same so that they can analyze the data effectively.
- PO 4: The students will be able to exhibit the capability to study the social and ethical aspects as well as cognizance of ethical facets of research and development work.
- PO 5: The masters of science programme provides the candidate with understanding, general proficiency, and methodical abilities on an advanced level required in industry, consultancy, education, entrepreneurship or public administration etc.

**Programme Specific Outcomes**

- PSO 1: This course enables the students to go for various fashion designing industries, film industry and teaching related jobs.
- PSO 2: This course includes training, project and guest lectures collaborated with industries help to learn from real life situations.
- PSO 3: Hands on experience by working on live projects to develop a sense of problem solving critical thinking in order to gain real life understanding
- PSO 4: This course offers subjects like communication and soft skills to enhance personality and employability.
- PSO 5: This course also provides golden opportunity for the students to organize fashion show and create professional portfolios.

**Course Outcomes**

**Semester-I**

**Paper I: Fashion Illustration**

- CO 1: To classify framework for students to understand the basic concept of illustration.
- CO 2: It helps students to interpret different types of color medium in illustration.
- CO 3: Students will be able to appreciate work of western and Indian designers
- CO 4: Student will be able to illustrate the innovative dresses by the use of appropriate mediums and different presentation skills by taking inspiration of famous western and Indian designers.

**Paper II: Product Development Workshop**

- CO 1: Students will able to design and develop different types of garments for kids.
- CO 2: Students will learn developing the designs planned or thought & an implementation to the thinking is given by drafting of different designs.
- CO 3: To enable the students to apply the knowledge of design process in making a collection

**Paper III: Pattern Making and Grading**

- CO 1: Students will be able to determine sleeve and adult bodice block with metric system
- CO 2: Various design technique and styles are explored in drafting of different types of collars, sleeves, skirts. Contoured pattern, dart manipulation & grading.
- CO 3: Students learn and apply techniques of up grading and down grading
- CO 4: To understand the importance of pattern development and apply the knowledge of pattern development for creating structural designs

#### **Paper IV: Computer Aided Fashion Designing**

- CO 1: This course leads to success in education & employment as computer skills are integral to all areas of study. The students will gain knowledge of Adobe Illustrator and Adobe Photoshop in detail.
- CO 2: Students will also learn to design fashion details, accessories, figure drawing of male, female and kids on computers.
- CO 3: Knowledge of draping simulation on Adobe Photoshop is also perceived.
- CO 4: To enable students to handle tools of Adobe Illustrator & Photoshop to create fashion and design Illustration

#### **Paper V: History of Indian Costumes**

- CO 1: Ability to relate art of historical costumes of men and women during Indus valley civilization, British period, Mauryan, Mughals and traditional costumes of India.
- CO 2: Students will appraise knowledge of– Headgears, footwear, handbags, belts, gloves, earrings, necklaces and bangles which will further helps them in designing.
- CO 3: To acquaint the students with different types of costumes.
- CO 4: To assess opportunity for skill development in designing accessories.

#### **Semester-II**

##### **Paper I: Fashion Illustration**

- CO 1: It will help students illustrate basic block figures- Male and female.
- CO 2: Students will make use of various effects, texture and basics of art and design world to foster creativity of the students.
- CO 3: To understand the what, why and how of illustration techniques
- CO 4: Students will be able interpret Fashion Design concepts and colour theories.

##### **Paper II: Product Development- Workshop**

- CO 1: Students will able to apply the knowledge of design process in making collection of female wear.
- CO 2: Students will learn developing the designs planned or thought & an implementation to the thinking is given by drafting of different designs.
- CO 3: To enable the students to apply the knowledge of design process in making a collection of women wear.

##### **Paper III: Pattern Development & Draping**

- CO 1: Students will understand and create pattern for the collection
- CO 2: It provides technical knowledge of draping in developing patterns and designing via draping.
- CO 3: The students will learn to develop draped patterns of basic foundation patterns along with variation in collar, sleeve and neckline.

##### **Paper IV: Computer Aided Fashion Designing**

- CO 1: To enables student to improve working on pattern making and grading software (Rich piece).
- CO 2: Student will appraise and assess design projects which help to increase productivity and efficiency of work
- CO 3: Student maximize the process of creating technical drawing with the use of software.

##### **Paper V: Fashion Merchandising and Marketing**

- CO 1: Students will able to explain role & responsibility of Fashion Merchandiser.
- CO 2: The students experiment with material availability in market, fashion forecast , upcoming trends and demands of the consumers.
- CO 3: Students will perceive, how management plays an important role in every field of fashion.
- CO 4: After completion of the project students will be able define and differentiate Indian and global fashion.

##### **Paper VI: Traditional Indian Embroideries**

- CO 1: To translate beauty of garments with embroidery, painting and other decorative materials

CO 2: To know and choose appropriate fabric suited to the design of the garment with special reference to colour, texture and design of fabric by visit to any textile museum, craft cluster/craft area.

CO 3: This course will help student to understand and create documentation of the selected craft.

### **Semester-III**

#### **Paper I: Product Development- Workshop**

CO 1: Students will be able to develop different types of male garment.

CO 2: This course helps students to evaluate and incorporate drafting casual, traditional, street and formal wear for male garments.

CO 3: The student will be able to understand process of Design Development • Research • Finalization of Theme • Sourcing • Finalization of designs • Measurements and specification sheets.

CO 4: The student will be able to analyze, evaluate and submit the documentation of the design process.

#### **Paper II: Advance Draping**

CO 1: Students will be able to apply the knowledge of draping in developing patterns and designs by different designs.

CO 2: The concept of contouring used in draping to make off shoulder and padded evening gowns will also be taught by which students will be able to modify handling fitting problems in designing.

CO 3: The student will be able to Drape and stitch any designed garment.

#### **Paper III: Computer Aided Fashion Designing**

CO 1: Students will be able to elaborate designing through use of Adobe Illustrator &Photoshop and hence create fashion & design illustrations.

CO 2: It allows students for greater modeling and even provides a basis for virtual networking.

CO 3: Helps the student to interpret that in designing world, CAD is extremely important and widely used to design and develop products to be used by consumers.

#### **Paper IV: Surface Ornamentation**

CO 1: Students will utilize skills to beautify garments with embroidery, printing, crochet, macramé and other decorative materials

CO 2: Students will be able to incorporate the above and develop apparels.

CO 3: To know and choose appropriate fabric suited to the design of the garment with special reference to surface ornamentation.

CO 4: This course will help student to understand and create documentation of the selected craft.

#### **Paper V: Global Costumes**

CO 1: To develop knowledge of costumes related to men and women like Babylonian costumes, Persian, Egyptian, Greek, Roman period etc.

CO 2: To determine the use of – Headgears, footwear, handbags, belts, gloves, earrings, necklaces and bangles globally and hence help in planning and designing according to the world's culture.

CO 3: To acquaint the students with different types of costumes.

CO 4: To assess opportunity for skill development in designing accessories.

#### **Paper VI: Seminar-Indian Traditional Textiles**

CO 1: The students will gain knowledge about the traditional textiles of India.

CO 2: Students will be able to apply traditional fabrics of different states of India with emphasis on texture, design and colour to any design of their choice.

## **Semester-IV**

### **Paper I: Portfolio Development**

- CO 1: Student will learn that Portfolio development is the important part of designing to expose students to real work like situation and improve male, female and kids garments with various boards, specs, cost sheets and garment collection.
- CO 2: The student will learn that the art portfolio is an expression of graduating student's creativity, design/ ability, technical expertise, illustration and presentation skills.
- CO 3: It explains and evaluates the students inclination towards the particular segment of the industry by identifying the target customers, design requirements and pricing

### **Paper II: Product Development- Workshop**

- CO 1: Students will able to construct different types of kid, male or female garments.
- CO 2: Students will able to apply the knowledge of design process in making a collection
- CO 3: The student will be able to understand process of Design Development • Research • Finalization of Theme • Sourcing • Finalization of designs • Measurements and specification sheets.
- CO 4: The student will be able to analyze, evaluate and submit the documentation of the design process.

### **Paper III: Fashion Merchandising and Retailing**

- CO 1: Students will able discuss about various retail organizational structure store.
- CO 2: Students will learn the role of Customer identification, customer, planning and role of buyer.
- CO 3: Students will perceive how management plays an important role in every field of fashion.
- CO 4: After completion of the project students will be able define and differentiate Indian and global fashion.

### **Paper IV: Textile Chemistry**

- CO 1: Students will able to learn and identify different types of Fibres
- CO 2: To interpret different fibres through Microscopic appearance, burning test and solubility test for to know the fabric type.
- CO 3: The student will be able to do Fabric Identification on the basis of fabric construction. • Woven • knitted • Non-woven • Fabric analysis on the basis of the thread count
- CO 4: The student will be able to do Collection and identification of fabric Construction techniques • Woven • Non- Woven • Knitted and Dyeing of Fabric • Cotton with natural dyes and Direct dyes • Wool with acid dyes • Silk with basic dyes

### **Paper V: Project Report/Design Project**

- CO 1: This course helps the students in developing the knowledge and versatility of students and helps them in boosting their career by designing through research.
- CO 2: It involves application of learned skills in designing and developing to the major project report.
- CO 3: It explains and evaluate the students inclination towards the particular segment of the industry by identifying the target customers, design requirements and pricing
- CO 4: The student will be able to analyze, evaluate and submit the documentation of the design process.

### **Name of Programme: PG Diploma in Garment Construction & Fashion Designing** **Programme Specific Outcome**

- PSO 1: This course helps to develop students with a holistic perspective of product development process right from the design concept.
- PSO 2: After completion of this one year course students may get opportunities in area like design houses, export houses, buying houses, handloom sector, retail fashion brand etc.
- PSO 3: Students may get offers from both government and private designing companies.
- PSO 4: The students of this course will have an in-depth knowledge on apparel and textile designs, production methods etc.
- PSO 5: The key principles and skills obtained the course leads to many career opportunities and ensure a successful career in fashion and related industries.

## **Course Outcomes**

### **Semester –I**

#### **Paper I: Pattern Making**

- CO 1: Students will be able to explain Different aspects of pattern making.
- CO 2: Students will able to develop Commercial paper patterns of various designs.
- CO 3: Student will be able to relate different aspects of pattern making and grading.
- CO 4: Student will be able to develop the concept of pattern making and draping.

#### **Paper II: Fashion Illustration**

- CO 1: Students will able to define and explain: Figure sketching.
- CO 2: Illustrate techniques for various garment details.
- CO 3: To understand the what, why and how of illustration techniques
- CO 4: Students will be able interpret Fashion Design concepts and colour theories.

#### **Paper III: Garment Designing**

- CO 1: The students will construct and develop process to work on patterns for various basic deigns.
- CO 2: The student will be able to encompasses the development of pattern making skills, fashion details and illustration techniques in designing various outfits.

#### **Paper IV: Garment Construction**

- CO 1: Students will build pattern making and stitching of skirts, kurti and kalidarkurta and pyjama for ladies garments.
- CO 2: With the help of developing Commercial pattern the students will be able to work with industry.
- CO 3: Students will able to understand and translate Construction of collars – Flat and rolled, peter-pan collar
- CO 4: Student will be able to make use of Sewing machines and other basic sewing techniques used for Garment formation.

#### **Paper V: Fashion Concepts**

- CO 1: To understand, analyze and apply principles and elements of design with respect to textile garments
- CO 2: Students will understand relation between design development and colour importance.
- CO 3: Students will be able to interpret different fashion cycles and theories of fashion
- CO 4: Students will be able to interpret social and psychological aspects of clothing

#### **Paper VI: Workshop - Surface Ornamentation**

- CO 1: To enable the students to construct and beautify garments by imparting practical skills in needle craft, embroidery, painting and other decorative materials
- CO 2: Students will learn to demonstrate and understand how an art form expresses the culture that produced it.
- CO 3: To know and choose appropriate fabric suited to the design of the garment with special reference to surface ornamentation.
- CO 4: This course will help student to understand and create documentation of the selected craft.

#### **Paper VII: CAD in Fashion**

- CO 1: To enables students apply methods of surface ornamentation of fabric using different techniques to produce value added products
- CO 2: To formulate knowledge about CorelDraw and photo paint.
- CO 3: Students will apply CAD based application in fashion designing
- CO 4: Helps the student to interpret that in designing world, CAD is extremely important and widely used to design and develop products to be used by consumers.

## **Semester- II**

### **Paper I: Pattern Making**

CO 1: To extend knowledge about different aspects of pattern making, dart manipulation, draping & commercial pattern making techniques.

CO 2: It helps students in Construction of garments on each theme: • Office wear • Evening wear

CO 3: Students will be able to design and construct any innovative garment based on previous paper.

### **Paper II: Fashion Illustration**

CO 1: To enables students to design and create: Figure sketching.

CO 2: Illustrate techniques for various garment details.

CO 3: Students will be able to analyze two dimensional and three dimensional images.

CO 4: To enable students to gain knowledge of figure sketching and drawing.

### **Paper III: Garment Designing**

CO 1: Students will able to develop: Fashion details and designing various outfits, illustration Techniques and fashion design concepts.

CO 2: The student will be able to understand process of Design Development • Research • Finalization of Theme • Sourcing • Finalization of designs • Measurements and specification sheets.

CO 3: The student will be able to analyze, evaluate and submit the documentation of the design process.

### **Paper IV: Garment Construction**

CO 1: Students will be able to learn and apply various construction techniques in apparel designing

CO 2: Students will be able to apply above learnt techniques in garment construction.

CO 3: Students will learn developing the designs planned or thought & an implementation to the thinking is given by drafting of different designs.

CO 4: To enable the students to apply the knowledge of design process in making a collection of women wear.

### **Paper V: Fundamentals of Textiles**

CO 1: To identify and discuss concepts related to the traditional fabrics of different states of India.

CO 2: Students will be able to assess, importance of textiles in fashion designing.

CO 3: Students will be able to define various fabric construction methods.

### **Paper VI: Workshop - Surface Ornamentation**

CO 1: Students will to learn methods of surface ornamentation of fabric to develop value added products.

CO 2: To enable the students to develop practical skills in needle craft and printing.

### **Paper VII: CAD in Fashion**

CO 1: Students will make use of operating knowledge of Corel draw and photo paint.

CO 2: To learn CAD based software and support its application in fashion designing.

**PG Department of Mass Communication and Video Production**

**Name of the Programme: B.Voc. (J&M)(3 year degree course)**

**Programme Outcomes**

- PO1: The students are able to work as per the requirement of the industry, i.e., newspaper, radio, television, advertising and Public relations.
- PO2: The students can start their own venture and become job providers instead of job seekers. The venture can be started in any field of media.
- PO3: As more emphasis on practical is given in B.Voc. like on the job training, expert classes, workshops, seminars, media visits, etc., so the students have more exposure.
- PO4: The students can handle still as well as video camera by knowing various angles, shots, etc.
- PO5: The students are made aware about industry demands and they are given training accordingly. After completing this course students can find careers as TV and Radio artist, Producer and Director, Reporting Journalists, PR Executives and Event Managers.

**Programme Specific Outcomes**

- PSO1: Students demonstrate knowledge of the field of communication and the meaning and purpose of communication at the individual, group, and societal level.
- PSO2: Students will be able to prepare, organize, and deliver an engaging oral and written communication presentation.
- PSO3: The students will be able to know technical knowledge about media related software especially newspaper related software including design of newspaper's pages.
- PSO4: The students will be able to write a variety of mass media products, including news stories and press releases.
- PSO5: The students are able to evaluate mass communication theories and assess their use.
- PSO6: The student gain knowledge about media evolution.

**Course outcome**

**Semester I**

**P-III (Communication: Principles and Practices)**

- CO 1: The students will be able to understand and apply specific paradigms for critical thinking to mass communication.
- CO 2: They will be explained the best methods and strategies for developing a message.
- CO 3: They will be able to evaluate mass communication theories and assess their use.
- CO 4: Students will be able to make effective oral presentations on a variety of topics.
- CO 5: The students will be aware about basic concepts of communication and its role in society.

**P-IV (Basics of Computer)**

- CO 1: They will understand the concept of input/output devices of computers and how it works.
- CO 2: The students will be able to use MS office, MS excel, MS word and power point presentation.
- CO 3: They will understand the important commands of coral draw, page maker, quark express and Photoshop.
- CO 4: They will understand internet and its applications.
- CO 5: The students will be able to create banners in coral draw.

**P-V (News Reporting-I)**

- CO 1: The basics of reporting and writing for print media will be introduced to the students.
- CO 2: The students will be able to understand the news values and qualities of reporters.
- CO 3: Different types of reporting and their importance will be introduced to the students.
- CO 4: The students will be trained in event reporting.

**P-VI (History of Press)**

- CO 1: The students will be introduced to the history of print media and its role in freedom movement.
- CO 2: The students will be made aware about organs of I&B Ministry and their working.
- CO 3: The students will know about the regulatory bodies in Print and Broadcast journalism.
- CO 4: The students will remember about the evolution of Indian press and media in Punjab.

## **Semester II**

### **P-III (Media and the Law)**

CO 1: The students will be provided with the basic ideas of all the laws related to media which govern it.

CO 2: The students will be told about their fundamental rights and duties.

CO 3: They will be made aware about the various regulatory bodies of media.

CO 4: The students will be provided with basic understanding on various media laws and ethics.

### **P-IV (News Reporting-II)**

CO 1: The students will be introduced to different categories of articles/features/columns/editorials and reviews.

CO 2: They will be able to understand newspaper organisation structure and editorial department.

CO 3: The students are acquainted with interview taking techniques.

### **P-V (Editing for newspapers)**

CO 1: The students will be acquainted with principles of editing, copy testing, and rewriting the news copy.

CO 2: The students will be able to analyze the headlines of news stories and different types of headlines.

CO 3: The students will learn about the importance of translation in journalism.

CO 4: They will be able to differentiate between newspaper/radio and TV editing.

### **P-VI (Design and Pagination)**

CO 1: The students will be told about traditional methods of printing and the new ones.

CO 2: They will come to know about the principles of page makeup and pagination.

CO 3: The students will be given training about the software of pagination, quark express and illustrator.

CO 4: They will be given practical training about the page makeup of various pages of a newspaper.

## **Semester III**

### **P-I (Broadcasting in India)**

CO 1: The students will be made aware about the evolution of broadcasting in India and its present status.

CO 2: They will learn about AIR, Community Radio, and Internet Radio.

CO 3: They will also learn about broadcasting policy of the government.

CO 4: The students will also be told about the AIR code of broadcasting and its commercial code.

### **P-II (Business Communication)**

CO 1: The students will be able to demonstrate their verbal and non-verbal communication ability through presentations.

CO 2: The students will be able to draft business correspondence with brevity and clarity.

CO 3: The students will be made aware about the various techniques of writing for business pages of a newspaper.

CO 4: They will have an understanding and analysis of budget and share market too.

### **P-III (Photo Journalism)**

CO 1: The students can create imagery which meets the requirements of different media.

CO 2: They are acquainted with different types of photography.

CO 3: The students will know about the various legal and ethical issues in photojournalism.

CO 4: The students will have a sound knowledge of technical aspects of photography.

### **P-IV (Radio Journalism)**

CO 1: The students can produce well-researched, effective and relevant radio shows.

CO 2: They will be able to use all the equipments used in a radio studio.

CO 3: The students will be able to apply technical skills in recording and production skills to produce and present radio interviews, news stories and features.

CO 4: The students will develop professional communication skills as applicable to professional broadcast media including voice and presentation.

### **P-V (Advertising)**

- CO 1: The students will be introduced to basics of advertising and its role in society.
- CO 2: The students will be trained in basics of ad campaign designing and copy writing.
- CO 3: The students will be made aware about the ethics of advertising.
- CO 4: They will be provided an understanding of various forms of advertising.

### **Semester IV**

#### **P-I (Media Management)**

- CO 1: The students will understand about the importance of management in the field of media.
- CO 2: The students will remember about the organizational pattern of print media.
- CO 3: They will be acquainted with the functions of various departments of a newspaper.

#### **P-II (Public Relations)**

- CO 1: The students will understand the scope, functioning of Public Relations.
- CO 2: The students will be enabled to understand the various PR tools and publics.
- CO 3: The role of PR in government and private sectors will be introduced to the students.
- CO 4: The students will be able to understand the ethics, law and responsibility of public relations.

#### **P-III (TV Journalism)**

- CO 1: The student will be able to identify appropriate story content for broadcast news reporting.
- CO 2: The students will be able to gather information through a variety of methods using primary and secondary sources.
- CO 3: They will be able to consistently meet production deadlines whilst maintaining high journalistic standards.
- CO 4: They will be able to produce news reports using industry-appropriate techniques of scripting, shooting and editing.

#### **P-IV (Camera, Lights and Sound)**

- CO 1: The students will learn all the aspects of camera and lighting.
- CO 2: The students will come to know about all the aspects of camera handling, lighting and sound system.
- CO 3: The students will be able to make use of camera on their own and produce good quality videos.
- CO 4: The students will be given practical training of video editing using software.

#### **P-V (Cyber Journalism)**

- CO 1: The students will understand about cyber journalism and its advantages/disadvantages.
- CO 2: They will be aware about the recent trends of presentation of news in cyber journalism.
- CO 3: They will understand latest trends in cyber reporting and editing.
- CO 4: They will be made aware about the concept of e-governance and cyber laws.

### **Semester V**

#### **P-I (GK and Current Affairs)**

- CO 1: The students will be aware about the national and international happenings.
- CO 2: They will be able to take part in quizzes, debates and competitive exams.

#### **P-II (Development Communication)**

- CO 1: The students will be enabled to understand various factors of development.
- CO 2: They will be enabled to understand the problems of human development and compare measures to overcome them.
- CO 3: They will be introduced to development issues in India and coverage of these issues by media.
- CO 4: The idea of social responsibility and awareness of state and central government welfare measures will be inculcated in them.
- CO5: The students will be trained on various media programme formats of development communication.

#### **P-III (Film Production)**

- CO 1: The students will get knowledge about various phases of film production, .i.e., preproduction, production and post production.
- CO 2: They will have knowledge about key departments involved in film making.
- CO 3: They will be able to compare film distribution, film review and film criticism.

#### **P-IV (Event Management)**

- CO 1: The students will know the importance of team work.

CO 2: They will develop a range of leadership skills and abilities such as motivating others, leading changes and resolving conflict.

CO 3: The qualities of a good manager are instilled in the students as they have to act as good managers.

#### **P-V (Writing for Media)**

CO 1: The students will be acquainted with the process of writing for print/radio/TV.

CO 2: They will be able to write good scripts for radio and TV.

CO 3: Students will be able to understand and apply the historical, theoretical, legal and societal contexts for producing and consuming news media for consumers, ranging from local to global publics.

#### **Semester VI**

##### **P-I (GK and Current Affairs)**

CO 1: The students will be aware about the national and international happenings.

CO 2: They will be able to take part in quizzes, debates and competitive exams

##### **P-II (Folk Media)**

CO 1: The students will be able to understand the role of folk media in communication.

CO 2: The students will be able to understand the influence of modern media on folk media.

CO 3: They will come to know the present status of folk media.

##### **P-III (Communication Research)**

CO 1: The students will demonstrate a sound knowledge of basic research methods.

CO 2: They will demonstrate a working knowledge of the theories and frameworks through which media are analysed and understood.

CO 3: The students will be conducting surveys which will enhance their practical knowledge in research.

##### **P-IV (Publishing)**

CO 1: The students will be able to understand the principles of publishing industry.

CO 2: The students will understand the job of central and state publishing groups and NBT.

CO 3: They will understand the working of a publishing house by visiting there.

CO 4: The students will be made aware about basics of DTP fonts, page designing and proof correction.

CO 5: The students will be told about the copyright, plagiarism and royalty.

##### **P-V (Training)**

CO 1: The students will get training in any reputed media house for one month. They will be acquainted with the working environment of the media houses.

#### **Name of the Programme: B.A. (with JMC as vocational subject)**

##### **Program Outcomes**

PO1: Students will be able to understand the effectiveness and need of communication.

PO2: The students will be able to know the practicability of communication models and theories in day to day life.

PO3: The students understand the whole system of Information and Broadcasting in India.

PO4: The students will be able to understand the concept of News and its writing styles.

PO5: The students learn the art of photography.

PO6: The students understand the world of advertising and public relations and its practical approach.

##### **Programme Specific Outcomes**

PSO1: Students will be able to make effective oral presentations on a variety of topics in public. The students become sensitive and caring and the ability to understand people of very different backgrounds and upbringing is developed in them.

PSO2: The students analyze the work of various news persons, their qualities, duties and the professional requirements

PSO3: The students gain knowledge about advertising and its different types and mediums and their selection criterion

PSO4: The students develop knowledge about photography and photojournalism.

PSO5: The students will be aware about the technicalities of publishing.

**Name of the Programme: B.A. (with JMC as vocational subject) First Year**

CO 1: Students will be able to make effective oral presentations on a variety of topics in public. The students become sensitive and caring and the ability to understand people of very different backgrounds and upbringing is developed in them.

CO 2: The students develop the ability to present information clearly, logically and critically.

CO 3: The students understand the basics of news and its elements, news sources and its types.

CO 4: The students can identify the role of the reporter and his/her duties and responsibilities. They are aware about the various duties, responsibilities and qualities of reporter of different beats.

CO5. Understanding the crucial role played by Ministry of I&B and its various organs.

**Name of the Programme: B.A. (with JMC as vocational subject) Second Year**

CO 1: The students analyze the work of various news persons, their qualities, duties and the professional requirements.

CO 2: The students come to know about the whole process of starting a newspaper venture of how to apply for it and what are the other formalities.

CO 3: Defining various aspects and the nuances involved in newspaper page designing and typography.

CO 4: The students can understand various formats of Radio and TV programs.

CO5. The students develop knowledge about photography and photojournalism.

**Name of the Programme: B.A. (with JMC as vocational subject) Third Year**

CO 1: The students gain knowledge about advertising and its different types and mediums and their selection criterion.

CO 2: The students learn about ethics of advertising.

CO 3: The students understand the structure and functioning of an advertising agency.

CO 4: The students gain knowledge about Public Relations and its various aspects, PR in Public and Private sector and various tools of PR.

CO5. The students learn about the new technologies in PR, PR institutions and role of PRO with the qualities and duties.

**Name of the Programme: MA (JMC)**

**Program Outcomes**

PO1: This programme enhances the skills of the students who wish to work in the field of media.

PO2: The programme provides in-depth knowledge of particular field

PO3: The programme arouses the interest of the students towards research in that particular field.

PO4: This programme provides the candidate with understanding, proficiency and methodology on advanced level in industry, academia, entrepreneurship etc.

**Programme Specific Outcomes**

PSO1: Students demonstrate knowledge of the field of communication and the meaning and purpose of communication at the individual, group, and societal level.

PSO2: They will demonstrate critical and innovative thinking and display competence in oral, written and visual communication.

PSO3: They will be competent in writing and editing science stories and in production of science related stories.

PSO4: The students will exhibit professional attitudes and behaviours including commitment to healthy work environment, acceptance of differing viewpoints, willingness to work collaboratively and most important, commitment to meeting project due dates.

PSO5: The students will have an inclination towards research as they will be writing their dissertation on a specific topic.

## **Course outcome**

### **P-I (Introduction to communication)**

CO 1: The students will be able to apply specific paradigms for critical thinking to mass communication.

CO 2: They will be able to determine the best methods and strategies for developing a message.

CO 3: They will be able to evaluate mass communication theories and assess their use.

CO 4: Students will be able to make effective oral presentations on a variety of topics.

CO 5: The students will be aware about basic concepts of communication and its role in society.

### **P-II (History of Print Media in India)**

CO 1: The students will be introduced to the history of print media and its role in freedom movement.

CO 2: The students will be made aware about organs of I&B Ministry and their working.

CO 3: The students will know about the regulatory bodies in Print and Broadcast journalism.

CO 4: The students will be told about the evolution of Indian press and media in Punjab.

### **P-III (Reporting and Editing)**

CO 1: The basics of reporting and writing for print media will be introduced to the students.

CO 2: The students will be able to understand the news values and qualities of reporters.

CO 3: Different types of reporting and their importance will be told to the students.

CO 4: The students will be trained in event reporting.

### **P-IV (Media Law and Ethics)**

CO 1: The students will be provided with the basic ideas of all the laws related to media which govern it.

CO 2: The students will be told about their fundamental rights and duties.

CO 3: They will be made aware about the various regulatory bodies of media.

CO 4: The students will be provided with basic understanding on various media laws and ethics

### **P-V (Advertising)**

CO 1: The students will be introduced to basics of advertising and its role in society.

CO 2: The students will be trained in basics of ad campaign designing and copy writing.

CO 3: The students will be made aware about the ethics of advertising.

CO 4: They will be provided an understanding of various forms of advertising.

## **Semester II**

### **P-I (Development Communication)**

CO 1: The students will be enabled to understand various factors of development.

CO 2: They will be enabled to learn the problems of human development and required measures to overcome them.

CO 3: They will be introduced to development issues in India and coverage of these issues by media.

CO 4: The idea of social responsibility and awareness of state and central government welfare measures will be inculcated in them.

CO 5: The students will be trained on various media programme formats of development communication.

### **P-II (Media Management)**

CO 1: The students will come to know about the importance of management in the field of media.

CO 2: The students will be told about the organisational pattern of print media.

CO 3: They will be acquainted with the functions of various departments of a newspaper.

### **P-III (Current Affairs)**

CO 1: The students will be aware about the national and international happenings.

CO 2: They will be able to take part in quizzes, debates and competitive exams

### **P-IV (Communication Research-I)**

CO 1: The students will demonstrate a sound knowledge of basic research methods.

CO 2: They will demonstrate a working knowledge of the theories and frameworks through which media are analysed and understood.

CO 3: The students will be conducting surveys which will enhance their practical knowledge in research.

### **P-V (Radio and TV Programming)**

- CO 1: The students will be able to use all the equipments of a radio and TV studio.  
CO 2: The students will be able to write scripts for different formats of radio and TV.  
CO 3: They will be able to use camera and produce TV programs of any format.

### **Semester III**

#### **P-I (Mass Communication Research-II)**

- CO 1: The students will demonstrate a sound knowledge of basic research methods.  
CO 2: They will demonstrate a working knowledge of the theories and frameworks through which media are analysed and understood.  
CO 3: The students will be conducting surveys which will enhance their practical knowledge in research.

#### **P-II (New Media Technology)**

- CO 1: The students will come to know about the concept of new media in mass communication.  
CO 2: They will be made aware about cyber journalism.  
CO 3: They will be acquainted with working of online newspapers.

#### **P-III (Public Relation and Corporate Communication)**

- CO 1: The students will be made to understand the scope, functioning of Public Relations.  
CO 2: The students will be enabled to understand the various PR tools and publics.  
CO 3: The role of PR in government and private sectors will be introduced to the students.  
CO 4: The students will be able to understand the ethics, law and responsibility of PRO.  
CO 5: They come to know about corporate communication and privatisation of PR.

#### **P-IV (Science Journalism)**

- CO 1: The students are made aware about the importance of science in the field of journalism.  
CO 2: They come to know about health communication, government policies of health sectors and welfare measures of the government.  
CO 3: They are also familiarized with agriculture communication, use of pesticides and fertilizers on crops and their impact on our health.  
CO 4: The students are given necessary skills to interview a scientist.

#### **P-V (Photography)**

- CO 1: The students can create imagery which meets the requirements of different media.  
CO 2: They are acquainted with different types of photography.  
CO 3: The students will know about the various legal and ethical issues in photojournalism.  
CO 4: The students will have a sound knowledge of technical aspects of photography.

### **Semester IV**

#### **P-I (International Communication)**

- CO 1: The students will be made aware about political, cultural and social dimensions of communication.  
CO 2: They will be made aware about the UN's Universal declaration of human rights.  
CO 3: They will be made aware about issues in international communication.

#### **P-II (Human Rights)**

- CO 1: The students will come to know about the concept of human rights and its connection with media.  
CO 2: The students will be made aware about the state and national commissions on human rights.

#### **P-III (Film Studies)**

- CO 1: The students will have knowledge about historical background of world cinema and Indian cinema.  
CO 2: The students will be introduced to the pioneers of Indian cinema.

#### **P-IV (Intercultural Communication)**

- CO 1: The students will be introduced to the concept of intercultural communication by telling them about various cultures of the world and importance of communication in uniting them.  
CO 2: They will come to know about the efforts of UN and other institutions in the promotion on intercultural communication.

CO 3: They students can have inclination towards research in the field of intercultural communication.

**P-V (Dissertation)**

CO 1: This dissertation can be a basis of Ph.D. for the student.

CO 2: The students will be motivated to do research based dissertation.

**Post Graduate Department of Cosmetology**  
**Name of Programme: B.Voc. (Cosmetology and Wellness)**

**Programme Outcomes**

- PO 1: Students will be able to practically understand and apply the knowledge related to the requirements of industry.
- PO 2: To provide a judicious mix of professional skills and suitable general education component.
- PO 3: To provide flexibility to the students to serve the industry by having exit points at different levels.
- PO 4: To provide an opportunity to the students to get on the job training which help them to enhance their professional skills.

**Programme Specific Outcomes**

- PSO1: Develop competent with professional skills, knowledge abilities & attitude to become entrepreneur, provide opportunities and develop students in terms of social, economic and environment sensitive as responsible professionals.
- PSO 2: Gain high level skills and became a trusted beauty expert after passing this course. This course will further advance student's beauty therapy skills and prepare for management positions in salons and spas. Students will be ready to work in house or as an independent freelance professional. Students will become professional in various streams like nail care, makeup artist, hair colorist and hair dresser etc.
- PSO 3: Students will know the theory and science behind treatments and equipments with knowledge of the most up-to-date beauty techniques. The course includes a practical placement in a saloon of students can gain confidence and face to face experience with clients.
- PSO 4: Describe terminology and concepts within the cosmetology field.
- PSO 5: Analyze customer needs and communicate solutions by applying theories of cosmetology to real-life customer experiences.

**Course Outcomes**

**Semester-I**

**Paper: IV Basic Concept of Skin**

- CO 1: To facilitate the students to demonstrate the basic concept, structure & growth and reproduction of cell in brief.
- CO 2: Students will be able to understand the structure and functions of skin.
- CO 3: The students will be able to explain the types and common skin problems in detail.
- CO 4: Students will be able to analyse the skin type and problems.
- CO 5: The students will be able to explain the diseases & disorders of sweat and sebaceous glands.
- CO 6: Students will get to know about the treatments of skin.

**Paper: V Basic Skin Care**

- CO 1: Students will be able to learn to analyse the skin.
- CO 2: Students will be able to understand the concept of Basic facial.
- CO 3: Students will learn the basic manipulation and massage techniques, benefits of massage, safety precautions.
- CO 4: Students will learn the Basic knowledge of facial muscles and motor points.
- CO 5: The students will be able to identify the different skin types with skin analyzer.
- CO 6: Students will be able to identify which skin disorders may be handled in the salon and which should be referred to a physician and skin treatments with home remedies.

**Paper: VI Epilation and Depilation**

- CO 1: The students will be able to explain Epilation and Depilation.
- CO 2: The students will be able to catalogue proper method of threading, waxing, tweezing and depilatories.
- CO 3: The students will be able to examine skin bleach for lightened the facial hair & technique of doing shaving.
- CO 4: The students will be able to understand the technique of Electrolysis and Laser hair removal.

CO 5: The students will be able to enlist the benefits and safety precaution of epilation and depilation.

CO 6: Students will be able to draw out a comparison between epilation and depilation.

**Paper: VII Manicure and Pedicure**

CO 1: The students will be able to draw the basic structure of nail.

CO 2: The students will be able to demonstrate the Product knowledge of manicure and pedicure.

CO 3: Students will be able to explain the basic knowledge of proper techniques of manicure and pedicure with pressure points.

CO 4: Students will be able to enlist the benefits of manicure and pedicure.

CO 5: The students will come to know about various infection control methods & safety precautions.

CO 6: Students will be able to explain the nail disorders and diseases.

**Paper: VIII Sanitation and Safety Precautions**

CO 1: Students will be able to relate sanitation and cosmetology.

CO 2: They will come to know about the definitions pertaining to sanitation & method of sanitation.

CO 3: Students will be able to explain the sanitation rules.

CO 4: Students will be able to understand Public Sanitation.

CO 5: The students will be able to explain the types of sanitizers, usages & safety precaution.

CO 6: The students will be able to use different sanitizing agents.

**Semester-II**

**Paper: IV Basic Concept of Hair**

CO 1: The students will be able to draw basic structure & division of hair.

CO 2: The students will be able to explain the forms and types of hair.

CO 3: The students will come to know about various characteristics of hair.

CO 4: The students will be able to outline the growth and regeneration of hair.

CO 5: The students will be able to enlist the common disorders of hair and scalp infectious & non infectious diseases.

CO 6: The students will be able to analyze the type of hair.

**Paper: IV Hair Care**

CO 1: The students will be able to elaborate brushing and combing,

CO 2: The students will be able to enlist do oil treatments.

CO 3: The students will be able to catalog basic massage technique (manual, vibratory).

CO 4: The students will be able to demonstrate the application of heat & electrotherapy.

CO 5: The students will come to know about shampooing and conditioning.

CO 6: The students will be able to enlist the benefits & precautions of massage.

**Paper: V Hair Styling and Dressing.**

CO 1: The students will be able to enlist the elements and basic principle of design.

CO 2: The students will be able to demonstrate the Hair shaping instruments.

CO 3: The students will come to know about the section the hair before haircut.

CO 4: The students will be able to compare line, elevation & angle system in haircuts.

CO 5: The students will be able to demonstrate the Technique of Basic haircuts.

CO 6: The students will be able to explain the Procedure of Thermal hair styling.

**Paper: VI Hair Coloring and Lightening**

CO 1: The students will be able to enlist the basic principles of color.

CO 2: The students will be able to compile the classifications of hair color.

CO 3: The students will be able to select the color formula.

CO 3: The students will be able to demonstrate the preparation of hair coloring.

CO 4: The students will be able to explain the process of hair coloring.

CO 4: The students will be able to catalog the use of lighteners and its effects .

CO 5: The students will be to enlist the safety precautions while doing hair coloring .

**Paper: VII Color Correction**

CO 1: The students will be able to enlist the basic principles of color.

CO 2: The students will be able to elaborate skin or under tone.

CO 1: The students will be able to select the color according to skin and hair.

- CO 2: The students will be able to enlist hair pigments.
- CO 3: The students will be able to do color toning.
- CO 4: The students will be able to examine depth of color.
- CO 5: The students will be able to explain different techniques of color correction and safety precaution while doing hair color.

### **Semester III**

#### **Paper: I Basic Make up**

- CO 1: The students will be able to analyse make up.
- CO 2: The students will be able to enlist the Basic Principles of color.
- CO 3: The students will be able to choose the correct color.
- CO 4: The students will be able to determine Facial Balance.
- CO 5: The students will be able to analyse the products According to skin.
- CO 6: The students will be able to demonstrate of Basic Make up.

#### **Paper: II Camouflage Make up**

- CO 1: The students will be able to elaborate Camouflage Make up.
- CO 2: The students will be able to elaborate color Wheel.
- CO 3: The students will be able to catalog concealing.
- CO 4: The students will be able to classify the concealers.
- CO 5: The students will be able to enlist use of Camouflage.
- CO 6: The students will be able to show demonstration of Camouflage make up.

#### **Paper: III Bridal Make up**

- CO 1: The students will be able to execute Bridal Make up.
- CO 2: The students will be able to analyze the skin before make up.
- CO 3: The students will be able to The students will be able to identify the facial shapes .
- CO 4: The students will be able to select the color tone according to skin .
- CO 5: The students will be able to classify the Base used in Make up .
- CO 6: The students will be able to demonstrate of Bridal Make up.
- CO 7: The students will be able to know the methodology of draping the client.

#### **Paper: IV Theatre Make up**

- CO 1: The students will be able to execute Theatre Make up.
- CO 2: The students will be able to analyze the skin before make up.
- CO 3: The students will be able to identify the facial shapes.
- CO 4: The students will be able to is stage Make up.
- CO 5: The students will be able to demonstrate of Stage Make up for different characters.
- CO 6: The students will be able to compile the process of Screen Make up.

#### **Paper: V Photographic Make up**

- CO 1: The students will be able to elaborate Photographic Make up.
- CO 2: The students will be able to analyze the skin before make up.
- CO 3: The students will be able to identify the facial shapes.
- CO 4: The students will be able to create a perfect base.
- CO 5: The students will be able to demonstrate Artistry in different Photogenic make up.

### **Semester IV**

#### **Paper: II Bacteriology**

- CO 1: The students will be able to catalog bacteria and enlist the classification of bacteria.
- CO 2: The students will be able to compile the growth and reproduction of bacteria.
- CO 3: The students will be able to compile Infection, Immunity, Disease and Virus.
- CO 4: The students will be able to interpret details of Sterlization and Sanitation in field of Cosmetology.
- CO 5: The students will be able to compile the different method of sterilization.
- CO 6: The students will be able to explain the chemical Disinfectants and Antiseptics .
- CO 7: The students will be able to compile the General Sanitary suggestions.

**Paper: III SPA**

CO 1: The students will be able to elaborate SPA.

CO 2: The students will be able to interpret the ambience is required for SPA.

CO 3: The students will be able to identify the products for SPA.

CO 4: The students will be able to explain the basic technique of SPA.

CO 5: The students will be able to execute Mani Pedi SPA.

CO 6: The students will be able to demonstrate of Hair and Body SPA.

**Paper: IV Facial and Electrotherapy**

CO 1: The students will be able to elaborate Facial and electrotherapy.

CO 2: The students will be able to analyze the skin.

CO 3: The students will be able to identify the products.

CO 4: The students will be able to demonstrate the basic technique of facial.

CO 5: The students will be able to demonstrate of skin treatments with electrotherapy.

CO 6: The students will be able to enlist the benefits and safety measures.

**Name of Programme: B.A. (Bachelor of Arts)****Course Outcomes****Cosmetology****Semester I****Paper: Theory/Practical**

CO 1: Facilitate the shaping of new minds of the students by giving the appropriate knowledge of Cosmetology.

CO 2: The students will be able to elaborate skin, personal grooming and massage.

CO 3: This course provides an opportunity to the students to improve their Practical Skills through The students will be able to demonstrate, Hands on practice.

CO 4: The students will be able to learn the basic etiquettes.

CO 5: The students will be able to demonstrate preparation of facial mask pack and steps for applying the pack as per requirement of skin.

CO 6: The students will be able to analyse the type of skin.

**Semester-II****Paper: Theory/Practical**

CO 1: The students will be able to enlist nail disorders, diseases and basic structure of nail.

CO 2: The students will be able to examine the product knowledge of manicure and pedicure.

CO 3: The students will be able to demonstrate proper techniques of manicure and pedicure with pressure points.

CO 4: The students will be able to enlist the benefits of manicure and pedicure.

CO 5: The students will be able to enlist safety measures that must be followed while doing Manicure and Pedicure.

CO 6: The students will be able to compare epilation and depilation method.

**Semester-III****Paper: Theory/Practical**

CO 1: The students will be able to describe the terminology and concepts used in the cosmetology field.

CO 2: The students will be able to analyse customer needs and communicate solutions by applying theories of cosmetology to real-life customer experiences.

CO3: The students will be able to apply business concepts and professional behaviour to build a sustainable clientele in the field Cosmetology.

CO 4: The students will be able to demonstrate basic cosmetology practical skills.

CO 5: The students will be able to draw and elaborate structure and division , purpose, forms and composition of hair.

CO 6: The students will be able to enlist the types and disorders of hair.

#### **Semester-IV**

##### **Paper: Theory/Practical**

- CO 1: The students will be able to execute hair care services for all types of hair including hair analysis, hairstyling and hair treatments.
- CO 2: The students will be able to serve basic hair care services including hair massage, hair Spa and superfluous hair removal.
- CO 3: The students will be able to demonstrate customer service skills, self-growth and personal development.
- CO 4: The students will be able to demonstrate the thermal hair styling.
- CO 5: The course will empower students by the knowledge of good and prescribed diet for healthy hair.

#### **Semester-V**

##### **Paper: Theory/Practical**

- CO 1: The students will be able to elaborate salon business such as front desk operations, dispensary inventory and loss prevention, resume building and interviewing skills, self-marketing and the basic knowledge of starting one's own salon business.
- CO 2: The students will be able to maintain public hygiene and special sanitation procedures used for the protection of the client and the operator.
- CO 3: The students will be able to demonstrate the services for all types of hair including hair analysis, hair cutting, hairstyling, hair colouring and lightening, permanent waving and chemical relaxing.
- CO 4: The students will be able to serve/execute basic skin services including skin analysis and makeup application.

#### **Semester-VI**

##### **Paper: Theory/Practical**

- CO 1: The students will understand the business aspects of managing a salon. This includes aspects such as human resources, marketing, and financial components.
- CO 2: The students will be able to move into management positions within the salon or may open or run their own business using the information taught in these programs.
- CO3: The students will be able to elaborate the importance of health and safety procedures in the salon.
- CO 4: The students will be able to enlist the importance of health and safety in the salon.
- CO5: The students will be able to make the workplace safe for customers, suppliers and the general public; prevent risks to health; appropriate use and storage of materials; appropriate use maintenance and storage of equipment; indicate The students will be able to do it in an emergency situation.
- CO 6: The students will be able to to manage the difficulties like: untrained staff, tools that are not properly sanitized, dirty basins and towels, inappropriate use and storage of chemicals, inappropriate use and storage of equipment, lack of cleanliness, poor ventilation.

#### **Name of Programme: Diploma in Cosmetology**

##### **Programme Specific Outcomes**

- PSO 1: Students will become able to perform hair care services for all types of hair including hair analysis, hair cutting, hairstyling, hair colouring and lightening, permanent waving and chemical relaxing.
- PSO 2: They will be able to provide natural nail services including manicuring and pedicuring.
- PSO3: Perform basic skin care services including skin analysis, facials, makeup application and superfluous hair removal.
- PSO 4: Learn management of salon business such as front desk operations, dispensary inventory and loss prevention, resume building and interviewing skills, self-marketing and the basic knowledge of starting one's own salon business.
- PSO 5: To have the knowledge of public hygiene and special sanitation procedures used for the protection of the client and the operator.

## Course Outcomes

### Semester-1

#### Paper: I

CO 1: The students will be able to enlist aims and importance of cosmetology.

CO 2: The students will be able to catalog visual poise like care of yourself like teeth, ears, feet, ears, feet, removing body hair, nails, hand care and care of clothing.

CO 3: The students will be able to draw the structure and functions of skin.

CO 4: The students will be able to explain the types and common skin problems in detail.

CO 5: The students will be able to analyse the skin type and problems.

CO 6: The students will be able to explain the diseases & disorders of sweat and sebaceous glands.

#### Paper: II

CO 1: The students will be able to elaborate upon Yoga, Elements of an on-going yoga practice, Concepts and basics of warm up and cool down, Safety principles in a yoga practice.

CO 2: The students will be able to demonstrate the yoga asanas for example Shav, Gomukh, Vajar, Chakra and many more.

CO 3: The students will be able to draw basic structure & division of hair.

CO 4: The students will be able to explain the forms and types of hair.

CO 5: The students will be able to enlist the characteristics of hair.

CO 6: The students will be able to explain the growth and regeneration of hair.

### Semester-II

#### Paper: I

CO 1: The students will be able to draw and analyse structure of nail

CO 2: The students will be able to enlist disorders and disease of nail.

CO3: The students will be able to demonstrate pedicure and manicure, nail spa and nail art.

CO3: The students will be able to take care of eyes, exercise of eyes, eyebrow shaping and treatment of eyes with home remedies.

CO4: The students will be able to do make-up for occasions like bridal, party, engagement with proper contouring of eyes, nose, lips, cheeks and jaw line.

CO5: The students will be able to demonstrate dupatta setting and saree draping.

#### Paper-II

CO 1: The students will be able to assess the role of nutrition such as protein, carbohydrates, fats, minerals vitamin etc. and basic five food groups.

CO 2: The students will be able to analyse the effect of color would have on the structure and The students will be able to different color and looks work on the hair like global color, streaking, henna and understand the proper method of mixing and applying.

CO 3: The students will be able to execute the basic techniques of massage and treatments of different hair problems with the help natural ingredients.

CO 4: The students will be able to do and elaborate the hair treatments after the use of chemicals like hair spa, deep conditioning and polishing.

CO 5: The students will be able to demonstrate the advance techniques on hair like rebonding and perming.

CO 6: The students will be able to elaborate salon business such as front desk operations, dispensary inventory and loss prevention, resume building and interviewing skills, self-marketing and the basic knowledge of starting one's own salon business, planning and layout of salon.

### Name of Programme: PG Diploma in Cosmetology

#### Programme Specific Outcomes

PSO 1: Students will able to analyse customer needs and communicate solutions by applying theories of cosmetology to real life customers.

PSO 2: Apply business concepts and professional behaviour to build a sustainable clientele

PSO 3: Learn the basic structure, division of hair

- PSO 4: The students will be able to identify which skin disorders may be handled in the salon and which should be referred to a physician and skin treatments with home remedies.
- PSO 5: Learn the basic manipulation and massage techniques, benefits of massage and precautions.
- PSO 6: Learn the basic concept about structure, growth and reproduction of cell.
- PSO 7: Understand the function and operation of basic facial machines.
- PSO 8: Assess skin type and prescribe a skin care regimen.

### **Course Outcomes**

#### **Semester-I**

##### **Paper: I Personality Development**

- CO 1: The students will be able to use the color wheel to assemble the outfits. Outfits according to figure, physique, complexion, occupation and weather.
- CO 2: The students will be able to enlist the aims and importance of cosmetology.
- CO 3: The students will be able to elaborate the visual poise like basic & corrective stance, basic hand positions, correct sitting positions, getting in & out of car, handling coats, shawls, handbags etc.
- CO 4: To develop students' ability to communicate about familiar topics and in simple and routine tasks, and participate in classroom conversations. Familiarize students with informal presentation skills and structures.
- CO 5: The students will be able to understand and elaborate personal hygiene is important as well as ways to maintain personal hygiene. Students then finish up by making a personal hygiene plan & type, growth and reproduction of bacteria.

##### **Paper: II External Skin Science**

- CO 1: The students will be able to explain the basic knowledge of structure of cells, growth and reproduction of cells in brief.
- CO 2: The students will be able to explain the anatomy, function, types and different problems of skin.
- CO 3: The students will be able to analyse and elaborate facial muscles, kinds of nerves of face and neck.
- CO 4: The students will be able to understand basic theory of massage, its benefits and precautions
- CO 5: The students will be able to demonstrate facial and body massage.
- CO 5: The students will be able to explain the facial therapies with pressure points
- CO 6: The students will be able to demonstrate herbal treatments of skin.

##### **Paper: III Hair and scalp**

- CO 1: The students will be able to explain the hair structure, division and different types of hair.
- CO 2: The students will be able to explain the structure connected with hair follicle like dermal papilla, outer & inner roots sheath, bulb, dermal cord, connective tissues & arrector pilli muscles.
- CO 3: The students will be able to compile the growth and Replacement of hair like hair cycle, analysis and hair pigments.
- CO 4: The students will be able to enlist hair disorders such as infectious and non-infectious disorder and their reasons.
- CO 5: The students will be able to compile the care and treatments of scalp with The students will be able to demonstrate of different electrical equipment.
- CO 6: The students will be able to analyze the type of hair.

#### **Semester II**

##### **Paper: I Yoga and Salon Management**

- CO 1: The course will impart knowledge of balance, flexibility, kinesthetic awareness, alignment, breath control, strength.
- CO 2: The students will be able to explain the relaxation techniques, experience the relationship between mind, body and spirit.
- CO 3: The students will be able to explain the yoga, elements of an on-going yoga practice, Concepts and basics of warm up and cool down, Safety principles in a yoga practice.
- CO 4: The students will be able to analyse salon business such as front desk operations, dispensary inventory and loss prevention, resume building and interviewing skills, self-marketing and the basic knowledge of starting one's own salon business.

CO 5: The students will be able to interpret the procedure of decontamination control, public hygiene and special sanitation procedures used for the protection of the client and the operator, Students will learn the professional ethics and also get the awareness of qualities and duties of salon manager/ operator.

### **Paper-II Makeup and Cosmetics**

CO 1: The students will be able to assess the chemical composition of cosmetic products and recommend appropriate cosmetic treatments.

CO 2: The students will be able to differentiate ingredients found in cosmetic products and The students will be able to identify their functions, effects and apply various make-up equipment and techniques used for professional application.

CO 3: The students will be able to create a variety of make-up special effects to portray a theme or cater to the requirements of events and perform Basic makeup, Formal makeup, corrective makeup and bridal makeup.

CO 4: The students will be able to explain the structure, functions, disorder and diseases of nails in brief.

CO 5: The students will be able to demonstrate the step by step manicure and pedicure with their effects.

### **Paper-III Chemical Structure of Hair and Colours**

CO 1: The students will be able to explain the chemical composition, hair bonds, chemical reaction in layers of hair, acids, and alkalis in hair, action of shampoo and types of shampoo.

CO 2: The students will be able to enlist the physical and chemical classifications such as shampoo, hair conditioners, rinses, hair gels, lotions, sprays, tonics and oils.

CO 3: The students will be able to explain the basic principles of color, color correction, types of color, client consultation, mixing techniques and depth and tones of color etc.

CO 4: The students will be able to describe the hair texturing like cutting tools, cutting angle system, cutting lines & texturing and different techniques and haircuts.

CO 5: The students will be able to demonstrate Chemical jobs like Permanent Waving and Rebonding techniques.

## **Name of Programme: M.Voc Cosmetology & Wellness Programme Specific Outcomes**

PSO 1: Students will able to analyse customer needs and communicate solutions by applying theories of cosmetology to real life customers.

PSO 2: Apply business concepts and professional behaviour to build a sustainable clientele

PSO 3: Learn the basic structure, division of hair

PSO 4: The students will be able to identify which skin disorders may be handled in the salon and which should be referred to a physician and skin treatments with home remedies.

PSO 5: Learn the basic manipulation and massage techniques, benefits of massage and precautions.

PSO 6: Learn the basic concept about structure, growth and reproduction of cell.

PSO 7: Understand the function and operation of basic facial machines.

### **Course Outcomes**

#### **Semester-I**

#### **Paper: I Human Physiology**

CO 1: The students will be able to explain the basic knowledge of nutrients.

CO 2: The students will be able to compile the balanced diet with food groups.

CO 3: The students will be able to understand the importance of meal planning.

CO 4: The students will be able to explain the Diet for healthy body.

CO5: The students will be able to elaborate the Digestive system, Excretory system ,Circulatory system, Lymphatic system &Respiratory system.

CO 6: The students will be able to explain the muscles of face, head and neck.

**Paper: II Skin Science**

- CO 1: The students will be able to explain the basic knowledge of structure of cells, growth and reproduction of cells in brief.
- CO 2: The students will be able to explain the anatomy, function, types and different problems of skin.
- CO 3: The students will be able to enlist facial muscles, kinds of nerves of face and neck.
- CO 4: The students will be able to understand and analyse basic theory of massage, its benefits and precautions
- CO 5: The students will be able to demonstrate facial and body massage.
- CO 5: The students will be able to explain the facial therapies with pressure points
- CO 6: The students will be able to demonstrate herbal treatments of skin

**Paper: III Skin Manipulation and Care**

- CO 1: The students will be able to explain the procedure of analysis of the skin.
- CO 2: The students will be able to demonstrate Basic facial.
- CO 3: The students will be able to explain the basic manipulation and massage techniques, benefits of massage, safety precautions.
- CO 4: The students will be able to explain the Basic knowledge of facial muscles and motor points.
- CO 5: The students will be able to identify the different skin types with skin analyzer.
- CO 6: The students will be able to identify which skin disorders may be handled in the salon and which should be referred to a physician and skin treatments with home remedies.

**Paper: IV Bacteriology & Infection Control**

- CO 1: The students will be able to catalog bacteria and classification of bacteria.
- CO 2: The students will be able to compile the growth and reproduction of bacteria.
- CO 3: The students will be able to understand Infection, Immunity, Disease and Virus.
- CO 4: The students will be able to know the importance of Sterlization and Sanitation in field of Cosmetology.
- CO5: The students will be able to compile the different method of sterilization.
- CO 6: The students will be able to explain the chemical Disinfectants and Antiseptics.

**Semester-II****Paper: V Hair Science**

- CO1: The students will be able to explain the hair structure, division and different types of hair.
- CO 2: The students will be able to explain the structure connected with hair follicle like dermal papilla, outer & inner roots sheath, bulb, dermal cord, connective tissues & arrector pilli muscles.
- CO 3: The students will be able to compile the growth and Replacement of hair like hair cycle, analysis and hair pigments.
- CO 4: The students will be able to elaborate hair disorders such as infectious and non-infectious disorder and their reasons.
- CO 5: The students will be able to compile the care and treatments of scalp with demonstration of different electrical equipments.
- CO 6: The students will be able to analyze the type of hair.

**Paper: VI Scalp and Hair**

- CO1: The students will be able to explain shampoo and enlist types of shampoos.
- CO2: The students will be able to explain the procedure of shampoo.
- CO3: The students will be able to shampoo clean the hair.
- CO4: The students will be able to explain Hair rinses and Conditioners.
- CO5: The students will be able to explain the procedure of deep conditioning.
- CO 5: The students will be able to compile the care and treatments of scalp with demonstration of different electrical equipment.
- CO 6: The students will be able to analyze the type of hair.

**Paper: VII Hair Chemistry**

- CO1: The students will be able to explain Hair Chemistry.
- CO2: The students will be able to elaborate Organic and Inorganic Chemistry.
- CO3: The students will be able to compile the Chemical structure of hair.

CO4: The students will be able to explain the bonds form hair.

CO5: The students will be able to explain acids and alkalis.

CO6: The students will be able to classify of Cosmetics at Physical and Chemical level.

**Paper: VIII Hair Shaping and Design**

CO1: The students will be able to elaborate the Elements of hair design.

CO2: The students will be able to elaborate laborate the Principles of Hair design.

CO3: The students will be able to hold hair shaping instruments.

CO4: The students will be able to demonstrate the different techniques of Braiding and Buns.

CO5: The students will be able to use Wigs,Stuffings and Hair pieces.

CO6: The students will be able to demonstrate about Hair Cuts.

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