FOUR YEAR UNDERGRADUATE PROGRAM (NEP–2020)

Program: Bachelor in Science (2024 -28)

DISCIPLINE – COMPUTER SCIENCE

SESSION – 2024 -25

DSC -01 to 08		DSE -01 to 12	
Code	**Title**	**Code**	**Title**
CSSC -01T	Computer Fundamental and Operating System	CSSE -01	Data Communication and Networking
CSSC -01P	**Lab 1**: Operating Systems (DOS, Windows, Linux)	CSSE -02	Computer System Architecture
CSSC -02T	Programming in C++	CSSE -03	Cyber Security and Cyber Law
CSSC -02P	**Lab 2**: Programming in C++	CSSE -04	Introduction to Artificial Intelligence
CSSC -03T	Data Structure	CSSE -05	Computer Graphics
CSSC -03P	**Lab 3**: Data Structure Using C++	CSSE -06T	Machine Learning
CSSC -04T	Relational Database Management System	CSSE -06P	**Lab 8:** Machine Learning
CSSC -04P	**Lab 4**: Relational Database Management System (Oracle/MySQL)	CSSE -07	Software Engineering
CSSC -05T	Programming in Java	CSSE -08	Theory of Computation
CSSC -05P	**Lab 5**: Programming in Java	CSSE -09	Soft Computing
CSSC -06T	Web Technology	CSSE -10	Advanced Operating Systems
CSSC -06P	**Lab 6**: Web Technology	CSSE -11	Cloud Computing
CSSC -07T	Programming in Python	CSSE -12	Major Project
CSSC -07P	**Lab 7**: Programming in Python		
CSSC -08T	Fundamental of IoT and Applications		
CSSC -08P	**Lab 9**: Fundamental of IoT and Applications		
DGE -01 & 02		**VAC**	
CSGE -01T	Computer Fundamental and Operating System	CSVAC-01	Artificial Intelligence
CSGE -01P	**Lab 1**: Operating System (DOS, Windows, Linux)	**SEC**	
CSGE -02T	Programming in C++	CSSEC-01	Multimedia and Animation
CSGE -02P	**Lab 2**: Programming in C++		

Program Outcomes (PO):

- Gain a complete exposure to the theories and practices of Computer science.
- Get transformed into a skilled learner and active programmer, enabling the students to focus on their

higher studies.

- Value computer professionals and programmers.
- Explore how the concepts and applications of Computer science lead to innovative thinking with a problem-solving attitude.

Program Specific Outcomes (PSO):

- Understand the basic Computer knowledge and practical application in operating system.
- Understanding the concept of programming and develop program in C++.
- Understanding the concept of data structure and implementation with C++.
- Understanding the concept of DBMS and implementation in MySQL /Oracle.
- Understanding the concept of OOPs and Java programming and develop program in Java.
- Understanding the concept of web technology and its implementation with HTML/CSS/DHTML/PHP.
- Understand the basic concept of internet of things (IOT).
- Understanding the basic concept of cyber security and cyber law.
- Understanding the basic concept of Artificial Intelligence.

Dr. H.S. Hota Chairman (Dr. K.B. Dubey) (Dr S K Sahu) (Dr. Anil sharma) (Dr. Swati Jain)

(R. Khautey) (Sushil Kumar Sahu)

ANJEETA KUJUR

FOUR YEAR UNDERGRADUATE PROGRAM (NEP-2020)

Program: Bachelor of Arts (2024-28)

DISCIPLINE- ECONOMICS

SESSION – 2024-25

DSC – 01 T0 08		DSE- 01 TO 12		DGE – 01-06	
CODE	**TITLE**	**CODE**	**TITLE**	**CODE**	**TITLE**
ECSC-01	BASICS OF ECONOMICS	ECSE-01	INTERNATIONAL ECONOMICS	ECGE-01	BASICS OF ECONOMICS
ECSC-02	BASICS OF INDIAN ECONOMY	ECSE-02	HISTORY OF ECONOMIC THOUGHT	ECGE-02	BASICS OF INDIAN ECONOMY
ECSC-03	MICRO ECONOMICS	ECSE-03	INDUSTRIAL ECONOMICS		
ECSC-04	MACRO ECONOMICS	ECSE-04	MONEY AND BANKING	ECSEC - 01	SPSS
ECSC-05	DEVELOPMENTAL ECONOMICS	ECSE-05	PUBLIC FINANCE		
ECSC-06	STATISTICAL METHODS	ECSE-06	ECONOMICS OF CHHATTISGARH		
ECSC-07	ADVANCE ECONOMIC THEORY	ECSE-07	BASIC ECONOMETRICS		
ECSC-08	QUNATITATIVE METHODS	ECSE-08	ENVIRONMENTAL ECONOMICS		
		ECSE-09	DEMOGRAPHY		
		ECSE-10	INDIAN AGRICULTURE		
		ECSE-11	GENDER ECONOMICS		
		ECSE-12	ECONOMICS OF SOCIAL SECTOR		

Program Outcome (PO) :

PO 1 – *Develops critical thinking* : To draw a relationship between various assumptions and their actual estimates, helps develop analytical and critical thinking.

PO 2 – *Communicational skill enhancement*: By connecting to people, various ideas help the communicational skill.

PO 3 – *Ethical Awareness*: More awareness about the values of life, moral duties and obligations.

PO 4 – *Environment and Sustainability*: To know about the environmental issues and the solution.

Program Specific Outcome (PSO) :

PSO 1- *Economic System* : Ability to know the basics of economics at macro and micro level.

PSO 2 – *Statistical Analysis*: Acquaint with the statistical data and analysis.

PSO 3 – *Perspective on Indian Economy*: Awareness about the nation's economic policies and compare it with the global scenario.

PSO 4 – *Development Perspective*: Draw a relationship between developed and developing economies.

Program Outcomes (PO):

PO - 1 Utilize efficiently the acquired knowledge of humanities to face the challenges of life.
PO – 2 Implement the contributions of great thinkers and transform the society in accordance with local, national and global needs.
PO – 3 Prioritize cultural, ethical and moral values through learning experiences for a sustainable development.
PO - 4 Understand the cultural values of different countries through their literature. Develop global leadership competencies
PO – 5 Enhance leadership qualities, team spirit and communication skills for a better developmental career.
PO – 6 Apply the comprehensive learning to attain self-confidence and self-reliance in their chosen career and higher education.
PO-7 Emerge with competency to view challenges and experiences with multiple perspectives through critical thinking.
PO-8 Develop LSRW skills to communicate effectively and appropriately in person and online to facilitate inter-personal relationship with every section of the society
PO-9 Nurture social concerns and social justice for effective civic life participation and to enhance value systems for assessing moral dimensions at every walk of life
PO-10 Acquire the ability to simultaneously engage in independent multidisciplinary learning which facilitates lifelong learning

Program Specific Outcomes (PSO):

English Literature

Programme Specific Outcomes (PSOs)

PSO - 1 Master communication skills for employability and higher education.

PSO - 2 Ascertain specialized knowledge of literature and its backgrounds.

PSO - 3 Interact confidently at the interface between life and self.

PSO-4 Understand the basic tenets of Literature.

PSO-5 Analyse cross-cultural nuances and to assess the underlying human values that connect peoples of all races

PSO-6 Determine the criss-crossing influencing factors in the fields of History, Literatures of the East and the West, Writings of Men and Women, Psychology and Socio Economics

PSO-7 Understand the applications of Literary Theories to creatively analyse literature with prismatic interpretation

PSO-8 Extend the envisioned emotional, social and psychological mellowness in the affairs of the society

PSO-9 Apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.

PSO -10 Identify, analyze, interpret and describe the critical ideas, values, and themes that appear

in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.

PSO-11 Write analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.

PSO – 12 Ethically gather, understand, evaluate and synthesize information from a variety of written and electronic sources.

PSO – 13 Understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies.

NEP - 2022

Bachelor of Business Administration [BBA]

Programme Objectives (PO)

The objectives of BBA Programme are:

PO1: Acquire adequate knowledge through Principles, Theory and Models of Business Management, Accounting, Marketing, Finance, IT, Operations and Human Resource.

PO2: To develop Leadership and Communication skills to become successful Business Leaders and Managers.

PO3: Obtain legal knowledge of various Business operations for effective Decision-making. To remember the conceptual knowledge with an integrated approach to various functions of Management

PO4: To develop problem-solving skills through experiential learning and innovative pedagogy to ensure utilization of knowledge in Professional Careers.

PO5: To apply the various Concepts, Theories and Models in the area of HR, Marketing, Finance.

PO6: To develop a positive attitude and life skills to become a multi facet Personality with a sense of Environmental Consciousness and Ethical values.

PO7 : Ability to develop Group Behaviour and lead a team to achieve the Individual, Group and Organizational Goals.

PO8: Possess strong foundation for their higher studies.

PO9: Become employable in various IT companies and Government jobs.

PO10: Demonstrate use of appropriate techniques to effectively manage Business challenges.

Programme Specific Outcomes (PSO)

The expected outcomes after completing the program would be:

PSO1: Communication Skills - Demonstrate proficiency for Business Communication for effective and Professional Business Management.

PSO2: Critical Thinking Skills - Demonstrate analytical and problem-solving skills through core elective area of specialization in Finance, Human Resource, and Marketing to solve the Business Issues.

PSO3: Technical Skills - Acquire employability skills through practical exposure of IT and its usage in Management.

PSO4: Pragmatic - Acquire Practical learning through Summer Internship, Industrial visit and to develop the new dimensions of knowledge through open electives to cater the need of the Industry.

PSO4: Entrepreneurial Perspective - Develop Entrepreneurial skills to become an Entrepreneur and to understand importance of Ethics in Business Decision-making and inculcate the spirit of Social Responsibility.

PSO5: Business Knowledge - Analyse and comprehend the applicability of Management Principles in solving complex Business issues and to apply various concepts, theories and models in the functional areas of Business like Marketing, HR and Finance in the Organizations.

Program Outcomes (POs):

- The Program outcomes are to students understands the objectives of the visual courses at the Undergraduate level and to get them acquainted with contemporary artistic and social needs. Students will be enabled to understand the philosophy behind their art and master the grammar and techniques of their chosen art form develop artistic skills that would enhance their expression and communication abilities. So that they can create a series of original works of art with coherent formal, conceptual, and procedural relationships to one another.

- Apply visual literacy-Describe, analyse, and interpret artwork of students' own creation, Analyse, interpret, and evaluate the form and content of works of art. Produce creative works that demonstrate innovation in concept, formal language and/or materials, Compare and contrast contemporary work with their historical antecedent, Analyse works of art contextually

- Applying to work on various art forms that are on the verge of extinction, besides the living traditions, the students empower to study such art forms from external experts/gurus.

- Demonstrate a coherent and systematic knowledge and understanding of the developments in theory and practice in the Visual Arts.

Program Outcomes (PO):

Outcomes of a Bachelor of Arts in Ancient Indian History, Culture, and Archaeology

1. Critical Thinking/Scientific Temper:

- Develop a basic understanding of historical methods and the ability to analyze historical sources critically.
- Identify and evaluate different interpretations of the past.
- Formulate research questions and engage in basic research projects.
- Apply logical reasoning and scientific principles to the study of ancient societies.

2. Communication Skills:

- Communicate historical information effectively in written and oral formats, tailored to various audiences.
- Participate actively in classroom discussions and presentations.
- Develop basic research writing skills, including proper citation and referencing.
- Articulate findings clearly and concisely in essays, reports, or presentations.

3. Managerial Skills/Team Spirit & Leadership:

- Collaborate effectively in group projects and assignments, demonstrating teamwork and communication skills.
- Contribute to team decision-making processes and manage assigned tasks responsibly.
- Develop leadership skills through participation in group activities and presentations.
- Organize and manage research materials and data effectively.

4. Social Responsibility/Ethics/Professional Ethics/Human Values/Gender Issues:

- Demonstrate basic cultural sensitivity and awareness of historical context when interpreting the past.
- Understand the importance of ethical conduct in academic pursuits.
- Recognize diverse perspectives and appreciate the need for inclusivity in historical narratives.
- Begin to critically analyze representations of gender and social structures in ancient societies.

R. Singh

5. Global Citizenship:

- Develop an initial understanding of the interconnectedness of ancient civilizations and cultures.
- Gain basic knowledge of the historical roots of contemporary global issues.
- Foster tolerance and respect for diverse cultural heritage.
- Begin to engage in critical reflection on the impact of colonialism and globalization on historical interpretations.

6. Environmental Awareness:

- Understand the basic relationship between ancient societies and their environment.
- Gain introductory knowledge of the impact of human activities on the environment in the past.
- Develop a foundation for critical thinking about environmental sustainability in historical context.
- Appreciate the importance of responsible stewardship of cultural heritage and archaeological sites.

7. Employability:

- Prepare for further studies in related fields like history, archaeology, or cultural studies.
- Develop transferable skills valuable in diverse workplaces, such as:
- Research and analytical skills
- Critical thinking and problem-solving
- Communication and interpersonal skills
- Teamwork and collaboration
- Information literacy and research skills

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प्राचीन भारतीय इतिहास, संस्कृति और पुरातत्व में कला स्नातक के परिणाम

1. आलोचनात्मक सोच/वैज्ञानिक स्वभाव:

• ऐतिहासिक तरीकों की बुनियादी समझ और ऐतिहासिक स्रोतों का आलोचनात्मक विश्लेषण करने की क्षमता विकसित करें।

• अतीत की विभिन्न व्याख्याओं को पहचानें और उनका मूल्यांकन करें।

• अनुसंधान प्रश्न तैयार करें और बुनियादी अनुसंधान परियोजनाओं में संलग्न हों।

• प्राचीन समाजों के अध्ययन में तार्किक तर्क और वैज्ञानिक सिद्धांतों को लागू करें।

2. संचार कौशल:

• विभिन्न दर्शकों के अनुरूप लिखित और मौखिक प्रारूपों में ऐतिहासिक जानकारी को प्रभावी ढंग से संप्रेषित करें।

• कक्षा चर्चाओं और प्रस्तुतियों में सक्रिय रूप से भाग लें।

• उचित उद्धरण और संदर्भ सहित बुनियादी शोध लेखन कौशल विकसित करें।

• निबंधों, रिपोर्टों या प्रस्तुतियों में निष्कर्षों को स्पष्ट और संक्षिप्त रूप से व्यक्त करें।

3. प्रबंधकीय कौशल/टीम भावना एवं नेतृत्व:

• टीम वर्क और संचार कौशल का प्रदर्शन करते हुए समूह परियोजनाओं और असाइनमेंट में प्रभावी ढंग से सहयोग करें।

• टीम निर्णय लेने की प्रक्रियाओं में योगदान दें और सौंपे गए कार्यों को जिम्मेदारी से प्रबंधित करें।

• समूह गतिविधियों और प्रस्तुतियों में भागीदारी के माध्यम से नेतृत्व कौशल विकसित करें।

• अनुसंधान सामग्री और डेटा को प्रभावी ढंग से व्यवस्थित और प्रबंधित करें।

4. सामाजिक उत्तरदायित्व/नैतिकता/व्यावसायिक नैतिकता/मानवीय मूल्य/लिंग संबंधी मुद्दे:

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• अतीत की व्याख्या करते समय बुनियादी सांस्कृतिक संवेदनशीलता और ऐतिहासिक संदर्भ के बारे में जागरूकता प्रदर्शित करें।

• शैक्षणिक गतिविधियों में नैतिक आचरण के महत्व को समझें।

• विविध दृष्टिकोणों को पहचानें और ऐतिहासिक आख्यानों में समावेशिता की आवश्यकता की सराहना करें।

• प्राचीन समाजों में लिंग और सामाजिक संरचनाओं के प्रतिनिधित्व का आलोचनात्मक विश्लेषण करना शुरू करें।

5. वैश्विक नागरिकता:

• प्राचीन सभ्यताओं और संस्कृतियों के अंतर्संबंध की प्रारंभिक समझ विकसित करें।

• समसामयिक वैश्विक मुद्दों की ऐतिहासिक जड़ों का बुनियादी ज्ञान प्राप्त करें।

• विविध सांस्कृतिक विरासत के प्रति सहिष्णुता और सम्मान को बढ़ावा देना।

• ऐतिहासिक व्याख्याओं पर उपनिवेशवाद और वैश्वीकरण के प्रभाव पर आलोचनात्मक चिंतन में संलग्न होना शुरू करें।

6. पर्यावरण जागरूकता:

• प्राचीन समाजों और उनके पर्यावरण के बीच बुनियादी संबंध को समझें।

• अतीत में पर्यावरण पर मानवीय गतिविधियों के प्रभाव का परिचयात्मक ज्ञान प्राप्त करें।

• ऐतिहासिक संदर्भ में पर्यावरणीय स्थिरता के बारे में आलोचनात्मक सोच के लिए एक आधार विकसित करें।

• सांस्कृतिक विरासत और पुरातात्विक स्थलों के जिम्मेदार प्रबंधन के महत्व की सराहना करें।

7. रोजगार योग्यता:

• इतिहास, पुरातत्व, या सांस्कृतिक अध्ययन जैसे संबंधित क्षेत्रों में आगे की पढ़ाई के लिए तैयारी करें।

• विविध कार्यस्थलों में मूल्यवान हस्तांतरणीय कौशल विकसित करें, जैसे:

• अनुसंधान और विश्लेषणात्मक कौशल

• आलोचनात्मक सोच और समस्या-समाधान

• संचार और पारस्परिक कौशल

• टीम वर्क और सहयोग

• सूचना साक्षरता और अनुसंधान कौशल

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Program Specific Outcomes (PSO): (If any)

Specific Outcomes of a Bachelor of Arts in Ancient Indian History, Culture, and Archaeology

1. *Indus Valley Civilization*:
   - Flourished around 3300–1300 BCE.
   - Urban planning, sewage systems, and advanced drainage.
   - Discovered archaeological sites such as Mohenjo-Daro and Harappa.

2. *Vedic Period*:
   - Emergence of Vedic texts such as the Rigveda.
   - Development of early Hinduism and Vedic rituals.
   - Introduction of Sanskrit language.

3. *Maurya Empire*:
   - Unified much of the Indian subcontinent under Emperor Chandragupta Maurya and later Emperor Ashoka.
   - Ashoka's conversion to Buddhism and propagation of Buddhist teachings.

4. *Gupta Empire*:
   - Golden age of Indian civilization, marked by advancements in art, science, and mathematics.
   - Contributions to literature, including the works of Kalidasa.
   - Establishment of the decimal numeral system and concept of zero.

5. *Buddhism and Jainism*:
   - Spread of Buddhism across Asia, influencing art, philosophy, and culture.
   - Establishment of Jain monastic traditions and ethical teachings.

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6. *Influence of Trade Routes*:
   - Interaction with other civilizations along the Silk Road and Indian Ocean trade routes.
   - Exchange of goods, ideas, and cultural practices with regions such as Central Asia, China, and Southeast Asia.

7. *Cultural Diversity*:
   - Synthesis of various cultural, religious, and philosophical traditions, including Hinduism, Buddhism, Jainism, and later Islam.
   - Development of diverse art forms, including temple architecture, sculpture, and painting.

8. *Decline of Ancient Empires*:
   - Factors such as invasions, internal conflicts, and environmental changes led to the decline of ancient Indian empires.
   - Fragmentation of political power and the emergence of regional kingdoms.

9. *Legacy and Continuity*:
   - Many aspects of ancient Indian civilization continue to influence modern India, including religious practices, social structures, and artistic traditions.
   - Preservation and excavation of archaeological sites provide insights into the rich cultural heritage of ancient India.

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बी ए प्राचीन भारतीय इतिहास, संस्कृति और पुरातत्व के कुछ विशिष्ट परिणाम दिए गए हैं:

1. *सिंधु घाटी सभ्यता*:
- 3300-1300 ईसा पूर्व के आसपास फली-फूली।
- शहरी नियोजन, सीवेज सिस्टम और उन्नत जल निकासी।
- मोहनजो-दारो और हड़प्पा जैसे पुरातात्विक स्थलों की खोज की।

2. *वैदिक काल*:
- ऋग्वेद जैसे वैदिक ग्रंथों का उद्भव।
- प्रारंभिक हिंदू धर्म और वैदिक अनुष्ठानों का विकास।
- संस्कृत भाषा का परिचय।

3. *मौर्य साम्राज्य*:
- सम्राट चंद्रगुप्त मौर्य और बाद में सम्राट अशोक के अधीन भारतीय उपमहाद्वीप के अधिकांश हिस्से को एकीकृत किया।
- अशोक का बौद्ध धर्म में धर्मांतरण और बौद्ध शिक्षाओं का प्रचार।

4. *गुप्त साम्राज्य*:
- भारतीय सभ्यता का स्वर्ण युग, कला, विज्ञान और गणित में उन्नति द्वारा चिह्नित।
- कालिदास की रचनाओं सहित साहित्य में योगदान।
- दशमलव अंक प्रणाली और शून्य की अवधारणा की स्थापना।

5. *बौद्ध धर्म और जैन धर्म*:
- एशिया भर में बौद्ध धर्म का प्रसार, कला, दर्शन और संस्कृति को प्रभावित करना।
- जैन मठवासी परंपराओं और नैतिक शिक्षाओं की स्थापना।

6. *व्यापार मार्गों का प्रभाव*:
- सिल्क रोड और हिंद महासागर व्यापार मार्गों पर अन्य सभ्यताओं के साथ संपर्क।
- मध्य एशिया, चीन और दक्षिण पूर्व एशिया जैसे क्षेत्रों के साथ वस्तुओं, विचारों और सांस्कृतिक प्रथाओं का आदान-प्रदान।

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7. *सांस्कृतिक विविधता*:

- हिंदू धर्म, बौद्ध धर्म, जैन धर्म और बाद में इस्लाम सहित विभिन्न सांस्कृतिक, धार्मिक और दार्शनिक परंपराओं का संश्लेषण।
- मंदिर वास्तुकला, मूर्तिकला और चित्रकला सहित विविध कला रूपों का विकास।

8. *प्राचीन साम्राज्यों का पतन*:

- आक्रमण, आंतरिक संघर्ष और पर्यावरणीय परिवर्तन जैसे कारकों ने प्राचीन भारतीय साम्राज्यों के पतन को जन्म दिया।
- राजनीतिक सत्ता का विखंडन और क्षेत्रीय राज्यों का उदय।

9. *विरासत और निरंतरता*:

- प्राचीन भारतीय सभ्यता के कई पहलू आधुनिक भारत को प्रभावित करते रहे हैं, जिनमें धार्मिक प्रथाएँ, सामाजिक संरचनाएँ और कलात्मक परंपराएँ शामिल हैं।

- पुरातात्विक स्थलों का संरक्षण और उत्खनन प्राचीन भारत की समृद्ध सांस्कृतिक विरासत के बारे में जानकारी प्रदान करता है।

R. Singh

Program Outcomes

- Explains the science and technologies that enhance the quality of life in day-to-day living.
- Take science from the laboratory to the people.
- Define the importance of food and health to enhance the quality of life of people.
- Develop skills in food, nutrition, textiles, product making, communication technologies and human development.
- Competence in Public Speaking, writing and interpersonal skills.
- Development of critical sensitivity towards community issues and process.
- Acquire basic management skills for organizing events, resource mobilization, leading community-based projects etc.
- Reflect universal and domain-Specific values in Home Science.

Program Specific Outcomes

- Understand the concepts of different areas of home science.
- Blend relevant instructions with real time applications in career.
- Be committed as responsible consumers and able designers.
- Manage diseases using diet therapy.
- Develop comprehensive and analytical skills in food industry and health sectors.
- Inculcate insights in public health nutrition for employment in State and Central Government.
- Grow into knowledgeable and skilled human resources employable in food industries, hospitals and textile industries.
- Develop entrepreneurial skills in textiles and fashion.
- Comprehend the current techniques in food and nutrition and textile production and processing.
- Be able to establish centers for human welfare – crèche, early learning centers, guidance and counseling centers, foster cares, day care centers for both children and elderly citizens.

PROGRAMME OUTCOMES, PROGRAMME SPECIFIC OUTCOMES AND COURSE OUTCOMES

B.Sc. Home Science – 3 years Undergraduate programme

Programme Outcomes (PO)

PO1. The students will become well equipped with scientific & technical education of theoretical and practical knowledge of interdisciplinary subjects.

PO2. The students will be able to improve their life quality through all round personality development by learning essential life skills.

PO3. The students will be able to perform in varied professional careers leading to their socio-economic development through financial upliftment and improvement in socio-economic status.

PO4. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO5. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO6. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO7. The students will be able to demonstrate compassionate social concern and act with ancognizant awareness of issues to contribute in civic life by volunteeringimpartially towards national development and thereby deliver effective citizenship.

PO8. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO9. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO10. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

PO11. The undergraduate programme in Home Science is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Home Science becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

PO12. It is desired that undergraduate programme in Home Science besides teaching the basic concepts of Home Science should in addition have broader vision for students so that the students therefore be

exposed to societal interface of Home Science and the role of Home Science in the development of food, nutritional, textile and human development sciences & technologies.

Programme Specific Outcomes (PSO)

PSO1. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Fundamentals of Food and Nutrition. The students will be able to develop their scientific & technical acumen for food science & nutrition; food chemistry & food preservation.

PSO2. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Resource Management, Ecology & Environment.

PSO3. The students will be able to develop their scientific & technical acumen for Human Development & Family Dynamics.The students will be able to progress the scientific approach & understanding related to life span development; early childhood education & care; human development & family dynamics.

PSO4. The students will be able to grow a scientific & technical acumen for Textiles & Clothing, textile & laundry science; apparel & cloth designing, tailoring, embroidery & printing, art & design.

PSO5. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Community Development Perspective and Approaches Socio Economic Analysis of Communities.

PSO6. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Personal Empowerment & Computer Basic.The students will be able to develop a systematic & methodical approach aimed at communication process, computer basics and personal empowerment.

PSO7. The students will be able to develop their scientific & technical acumen for Nutritional Management in Health and Diseases.The students will be able to advance their systematic & scientific approach towards community nutrition & development; nutritional management and consumer economics.

PSO8. The students will be able to develop their scientific & technical acumen for Textile and Laundry Science.The students will be able to grow a scientific & technical acumen for Textiles & Clothing, textile & laundry science; apparel & cloth designing, tailoring, embroidery & printing, art & design.

PSO9. The students will be able to develop their scientific & technical acumen for Community Nutrition and Applied life Sciences.The students will be able to advance their systematic & scientific approach towards community nutrition & development; nutritional management and consumer economics.

PSO10. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Communication Process.The students will be able to develop a systematic & methodical approach aimed at communication process, computer basics and personal empowerment.

PSO11. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Life Span Development.The students will be able to progress the scientific approach & understanding related to life span development; early childhood education & care; human development & family dynamics.

PSO12. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Consumer Economics.The students will be able to advance their systematic & scientific approach towards community nutrition & development; nutritional management and consumer economics.

PSO13. The students will be able to develop their scientific & technical acumen for Nutritional Biochemistry.The students will be able to improve their scientific & technical acumen in human physiology, nutritional biochemistry, first aid & nursing.

PSO14. The students will be able to develop their scientific & technical acumen for Food Preservation.The students will be able to develop their scientific & technical acumen for food science & nutrition; food chemistry & food preservation.

PSO15. The students will be able to develop their scientific & technical acumen for Early Childhood Education.The students will be able to progress the scientific approach & understanding related to life span development; early childhood education & care; human development & family dynamics.

PSO16. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Extension Education.The students will be able to grow a logical, scientific & meticulous methodology for extension education and nursery school pedagogy.

PSO17. The students of undergraduate programme in Home Science will be able to cultivate a scientific temper towards Foundation of Art and Design.The students will be able to advance the aesthetic and organized methods for home décor production & interior decoration.

PSO18. The students will be able to develop their scientific & technical acumen for Apparel Making.The students will be able to grow a scientific & technical acumen for Textiles & Clothing, textile & laundry science; apparel & cloth designing, tailoring, embroidery & printing, art & design.

Course Outcomes (CO)

Course 1: Fundamentals of Food and Nutrition

CO1. This course will enable the student to understand the functions of food and the role of various nutrients, their requirements and the effects of deficiency and excess. Learn about the structure, composition, nutritional contribution and selection of different foodstuffs; be familiar with the different methods of cooking, their advantages and disadvantages, Develop an ability to improve the nutritional-quality of food.

CO2. The students after completing this course will be able to plan improvements in cooking & preservation methods and nutritional qualities of various foods & foodstuffs.

CO3. The students will be able to plan balanced diets & meals as per RDA. The students will be able to carry out dietary management for common ailments.

Course 2: Introduction to Resource Management, Ecology & Environment

CO1. The students after completing this course will be able to generate consciousness and management plans for natural resources, physical environment & its components.

CO2. The students after completing this course will be able to draw sustainable solutions forecological issues and reducing impact of human activities on the environment.

CO3. The students after completing this course will be able to deal with the management of resources in-the family with particular reference to mobilizing all the resources for achieving the family goals. It also deals with the factors motivating management and management applied to specific resources. The course intends to create awareness, appreciation and understanding of environment. The major environmental issues and problems are to be critically analyzed for inculcating environmental consciousness among the learners and to help them take individual/ household/community level

decision for making the physical environment conducive for family living. The course content has to be taught at an elementary level.

CO4. The students will be able to understand management in the family as well as the other systems. The students after completing this course will be able to recognize the importance of wise use of resources in order to achieve goals. The students will be able to understand physical environment and its components and the major issues. The students will be able to understand the impact of human activities on environment and the actions needed for checking environmental threats.

Course 3: Introduction to Human Development & Family Dynamics

CO1. The students after completing this course will be able to plan & predict individual's societal & cultural development, roles & relationships under Indian marriages & marital accords.

CO2. The students after completing this course will be able to chalk out management plans for family systems, family welfare measures and family distress & crisis and social systems.

CO3. The students after completing this course will be able to acquire knowledge and insights about the dynamics of contemporary marriage and family systems in India.

CO4. The students will become acquainted with the concept, goals and areas of adjustment, relationship within the family.

CO5. The students will become aware of the changing roles and relationships with the family.

CO6. The students will understand the dynamics of families in distress and crisis.

CO7. The students will understand human development-concept, dimensions and interrelations

CO8. The students will understand social and cross-culture contexts in human development.

CO9. The students will understand the interventions in the field of human development

Course 4: Introduction to Textile & Clothing

CO1. The students after completing this course will be able to make fabric choices, construct clothing and predict textile performances.

CO2. The students after completing this course will be able to improve textile finishing, textile designing, textile printing, textile coloring & dyeing and designing of various embroideries.

CO3. The students will become acquainted with proper notion regarding choice of fabrics.

CO4. The students will develop skills in clothing construction.

CO5. The students will become acquainted with different textiles and their performances.

CO6. The students will become acquainted with knowledge on different textiles finishes.

Course 5: Community Development Perspective and Approaches Socio Economic Analysis of Communities

CO1. The students after completing this course will be able to plan & improve community development and individual's role in community development.

CO2. The students after completing this course will be able to predict the role of non-Govt. organizations, role of socio-economic structures, role of rural & urban community systems and developmental changes in society.

CO3. The students will become acquainted with the approaches to development.

CO4. The students will be enabled to develop faith in the capacity of the people, to take responsibility for their own development.

CO5. The students will understand the existing support structures for development efforts.

CO6. The students will understand the role of non Govt. organizations in community development.

CO7. The students will understand the socio - economic structures and systems that make up the rural and urban communities.

CO8. The students will understand the meaning of social change through development plans and programs in the context of the exiting socio-economic structures and systems.

CO9. The students will understand own role in the development process.

Course 6: Personal Empowerment and Computer Basics

CO1. The students after completing this course will be able to make self-improvements for personal / professional / women empowerment and life quality improvement.

CO2. The students after completing this course will be able to plan for national development and empowerment as well as utilize computer education for information and research.

CO3. The student will become aware of the need, competencies and skills to be developed for empowerment and be motivated for self-improvement/self -enhancement.

CO4. The student will become aware of the role of empowerment of women from the perspectives of personal and national development.

CO5. The student will become aware of the interdisciplinarity of Home Science education and its potential for personal and professional enhancement.

CO6. The student will become sensitized to some pertinent contemporary issues that affect the quality of life of individuals, families and community.

CO7. The student will know the basics of computers and become enabled to use computers for education, information and research.

Course 7: Nutritional Management in Health & Diseases

CO1. The students after completing this course will be able to conceptualize an adequate diet and the importance of meal planning.

CO2. The students after completing this course will be able to identify the factors affecting the nutrient needs during a life cycle and the RDA for various age groups.

CO3. The students after completing this course will be able to perform dietary management for common ailments.

Course 8: Textile and Laundry Science

CO1. The students after completing this course will be able to make fabric choices, construct clothing and predict textile performances.

CO2. The students after completing this course will be able to improve textile finishing, textile designing, textile printing, textile coloring & dyeing and designing of various embroideries.

Course 9: Community Nutrition and Applied Life Sciences

CO1. The students after completing this course will be able to plan improvements in cooking & preservation methods and nutritional qualities of various foods & foodstuffs.

CO2. The students will be able to plan balanced diets & meals as per RDA.

CO3. The students will be able to carry out dietary management for common ailments.

Course 10: Communication Process in Development

CO1. The students after completing this course will be able to ascertain the process of communication in development work.

CO2. The students after completing this course will be able to develop skills in the use of communication methods and media.

CO3. The students will become responsible and sensitive to the interests and needs of the people and the power of the media and communication methods in catering to these needs and interests.

Course 11: Life Span Development, Methods and Material for Young Children

CO1. The students after completing this course will become acquainted with development stages from birth to old age.

CO2. The students after completing this course will be able to develop awareness of important aspects of development during the whole life span.

CO3. The students after completing this course will be able to realize the requirements of infant and toddler and develop skills to create play material and designing learning experience.

CO4. The students after completing this course will be able to ascertain the significance of various creativities and identify teacher's role in implementing them.

Course 12: Consumer Economics

CO1. The students after completing this course will be able to identify and deduce consumption economics.

CO2. The students after completing this course will be able to understand the measurement of living standards.

CO3. The students after completing this course will be able to understand the measurement of consumer income.

CO4. The students after completing this course will be able to identify the consumer markets.

CO5. The students after completing this course will be able to identify and measure adult rationing.

CO6. The students after completing this course will be able to identify and deduce consumer problems and consumer protection laws.

Course 13: Nutritional Biochemistry

CO1. The students after completing this course will be able to understand Nutritional Biochemistry, its definition, objectives, scope and interrelationship between Biochemistry and other biological sciences.

CO2. The students after completing this course will be able to understand about Carbohydrates, its definition, classification, functions and properties of Monosaccharaides - Glucose, Fructose, Galactose; Disaccharides - Maltose, Lactose, Sucrose; Polysaccharides - Dextrin, Starch, Glycogen.

CO3. The students after completing this course will be able to understand various metabolic pathways like Glycolysis, Krebs' Cycle, Gluconeogenesis, Glycogenesis, Glycogenolysis, Citric acid Cycle and Blood sugar regulation.

CO4. The students after completing this course will be able to understand about Lipids, its definition, composition, importance and classification and also about Fatty acids, its functions, properties and significance of Acid value, Iodine value and saponification value and also chemistry and function of Phospholipids, Glycolipids & sterols and Lipid Metabolism - Beta Oxidation.

CO5. The students after completing this course will be able to understand about various aspects of transports within the body like Passive diffusion, Facilitated diffusion, Active transport.

CO6. The students after completing this course will be able to understand about Proteins,its definition composition function, and classification and also about Amino acids- Essential & Non-essential and Protein Metabolism - Urea cycle, Nitrogen balance, and Amino acid pool.

CO7. The students after completing this course will be able to understand about Enzymes, its definition, properties, classification, Mode of action of enzymes, factors affecting velocity of enzyme catalyzed reactions, coenzymes.

CO8. The students after completing this course will be able to understand about Hormones especiallybiological roles of hormones of Pituitary, Adrenal cortex and medulla, Thyroid, Parathyroid, Pancreas, Sex glands and also know about Urine - Formation and Composition.

CO9. The students after completing this course will be able to understand about Energy,its definition, Unit, calorimeter, caloric value of foods, BMR, RQ, SDA of Foods.

CO10. The students after completing this course will be able to understand about Nucleic Acid and Nucleoproteins – Chemistry, composition, structure, and functions.

Course 14: Food Preservation

CO1. The students after completing this course will be able to understand about Food and its preservation, Home and community level including commercial operations, Principles of food Preservation & causes of spoilage of food.

CO2. The students after completing this course will be able to understand about Fresh Food Storage Principles, plant products Storage, animal products storage, Effect of Storage Condition on quality, Canning - Principles and methodology influence of canning on food quality, Storage of canned foods.

CO3. The students after completing this course will be able to understand about Pasteurization and itseffect on food quality, Storage of pasteurized foods.

CO4. The students after completing this course will be able to understand about Drying & Dehydration Methods used and effect on food quality, Types of driers, Storage and deterioration of dehydrated food products.

CO5. The students after completing this course will be able to understand about Use of low temperature, Refrigeration and freezing methods, principles and applications, Preparation of foods for freezing, influence of low temperature on food components and structure, Shelf-life of frozen foods.

CO6. The students after completing this course will be able to understand about Pickling, Pickles, chutneys, ketchups, sauces and Fermentation - Types, products, methods, uses;

CO7. The students after completing this course will be able to understand about Establishment of a small scale industry / cottage industry.

CO8. The students after completing this course will be able to understand about Chemical Preservatives, Preparation of Fruit - Juices, Squashes, Syrups, Cordials, Jam, Jelly.

CO9. The students after completing this course will be able to understand about High Acid & High Sugar Products – common defects, Preservation of crystalized and glazed fruits.

CO10. The students after completing this course will be able to understand about Nutritional Implications of food processing, Causes for loss of vitamins and minerals, Enrichment, Restoration and Fortification.

Course 15: Early Childhood Education

CO1. The students after completing this course will be able to understand the importance of early childhood care and significance of intervention programmes for early child development.

CO2. The students after completing this course will be able to understand the major theoretical approaches and implication for early child development.

CO3. The students after completing this course will become acquainted with current policies and programs in ECCE.

CO4. The students after completing this course will be able to understand the meaning of curriculum and various components to be included in the daily programmes to promote all round development of children.

CO5. The students after completing this course will be able to recognize the role of play in children's development.

CO6. The students after completing this course will be able to understand the goals, principles, factors and approaches used in programme planning.

CO7. The students after completing this course will be able to recognize the advantages of project method and learn to use integrated approach in the development of daily programme.

Course 16: Extension Education

CO1. The students after completing this course will be able to recognize the Concept of Education.

CO2. The students after completing this course will be able to understand the Meaning of Extension Education, Origin of Extension Education and Extension Education Process.

CO3. The students after completing this course will be able to recognize the Environment for learning.

CO4. The students after completing this course will be able to recognize the role of educator, role of the people participants and Communication Process.

Course 17: Foundation of Art & Design

CO1. The students after completing this course will be able to understand the foundation of Art & Design, Definition and types-: Structural and Decorative

C02. The students after completing this course will be able to recognize the Elements of Design :- Line, Size, Form, Structure, Space, Pattern, Shape, Light - characteristics and classification, Study of Colour - classification, dimensions, colour schemes and effect.

CO3. The students after completing this course will be able to understand the Principles of design - definition and their characteristics and types: - Balance, Harmony, Scale, Proportion,Rhythm and Emphasis.

CO4. The students after completing this course will be able to recognize Indian, regional, traditional and contemporary arts and their uses.

Course 18: Apparel Making & Fashion Designing

CO1. The students after completing this course will be able to understand the Importance of Clothing and Sociological & psychological aspects of clothing.

CO2. The students after completing this course will be able to recognize the Fabrics to be considered while selecting of fabric for different garment, Estimation of material required for different garments (cloth estimation), Study of fabric finishes - Meaning, objective facilities, General & special.

CO3. The students after completing this course will be able to understand the Fashion trends in India &its changes from time to time; Fashion Theories - Body measurements - Tailoring tools &Equipments - Methods of taking body measurements - For different garments - Importance - Pattern making techniques - Flat pattern - Drafting – Draping and Fashion Illustrations.

CO4. The students after completing this course will be able to understand the Fundamentals of Embroidery - Techniques, design colour, uses of different combination - threads; - embroidery stick – Types - Types of threads, needles used for different fabrics.

CO5. The students after completing this course will be able to recognize the traditional Embroideries of India: Kasida of Kashmiri, Kantha of Bengal, Chichenkari of Lucknow, Kutch & Kathiawar, Kasuti of Karnataka, Phulkari of Punjab, Gold & Silver (Zari work) of Banaras.

B.Com.– 3 years Undergraduate programme

Programme Outcomes (PO)

PO1. The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of commerce.

PO2. The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.

PO3. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO4. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO5. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO6. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO7. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO8. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO9. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with financial accounting.

PSO2. The students after the completion of this programme will become well versed with business communication.

PSO3. The students after the completion of this programme will be able to understand business mathematics.

PSO4. The students after the completion of this programme will be able to understand business regulatory framework.

PSO5. The students after the completion of this programme will be able to identify a business environment.

PSO6. The students after the completion of this programme will be able to understand the economics of a business.

PSO7. The students after the completion of this programme will be able to understand the essentials of corporate accounting.

PSO8. The students after the completion of this programme will be able to understand the essentials of company law.

PSO9. The students after the completion of this programme will be able to understand the essentials of cost accounting.

PSO10. The students after the completion of this programme will be able to understand the principles of business management.

PSO11. The students after the completion of this programme will be able to understand the essentials of business statistics.

PSO12. The students after the completion of this programme will be able to understand the fundamentals of entrepreneurship.

PSO13. The students after the completion of this programme will be able to understand the principles of direct taxation – income tax.

PSO14. The students after the completion of this programme will be able to recognize the procedures of auditing.

PSO15. The students after the completion of this programme will be able to understand the essentials, principles and procedures of indirect taxation and GST.

PSO16. The students after the completion of this programme will be able to understand the essentials of management accounting.

PSO17. The students after the completion of this programme will be able to understand the fundamentals of insurance.

PSO18. The students after the completion of this programme will be able to understand the essentials of banking and money management.

Course Outcomes (CO)

Course 1: Financial Accounting

CO1. The students after the completion of this course will be able to impart the knowledge of various accounting concepts.

CO2. The students after the completion of this course will be able to instill the knowledge about accounting procedures, methods and techniques & develop skills for computerized Accounting.

Course 2: Business Communication

CO1. The students after the completion of this course will be able to understand the concept, process and importance of communication.

CO2. The students after the completion of this course will be able to develop awareness regarding new trends in business communication.

CO3. The students after the completion of this course will be able to recognize various media of communication.

Course 3: Business Mathematics

CO1. The students after the completion of this course will be able to prepare for competitive exams.

CO2. The students after the completion of this course will be able to improve their calculating power & skills.

CO3. The students after the completion of this course will be able to understand the concept of simple interest, compound interest & concept of EMI.

Course 4: Business Regulatory Framework

CO1. The students after the completion of this course will be acquainted with the basic concepts, terms & Provisions of mercantile & Business Laws.

CO2. The students after the completion of this course will be able to develop the awareness regarding laws affecting business, trade & commerce.

Course 5: Business Environment

CO1. The students after the completion of this course will become aware about the Business Environment.

CO2. The students after the completion of this course will be able to create entrepreneurial awareness.

CO3. The students after the completion of this course will be able to motivate themselves for taking up entrepreneurship as career.

Course 6: Business Economics

CO1. The students after the completion of this course will be able to use various economic theories.

CO2. The students after the completion of this course will be able to apply economic reasoning to problems of business.

CO3. The students after the completion of this course will be able to understand the basic micro economic concepts.

Course 7: Corporate Accounting

CO1. The students after the completion of this course will be enabled to develop awareness about corporate accounting with the provisions of companies Act & Accounting as per Indian Accounting standards.

CO2. The students after the completion of this course will be enabled to develop conceptual aspect of corporate accounting & develop skills about accounting standards.

Course 8: Company Law

CO1. The students after the completion of this course will be able to impart the knowledge of fundamentals of company law.

CO2. The students after the completion of this course will be able to update the knowledge of provisions of the companies Act of 2013.

Course 9: Cost Accounting

CO1. The students after the completion of this course will be enabled with the knowledge of Basic cost concepts, Elements of cost, Ascertainment of materials & costing.

CO2. The students after the completion of this course will be able to understand various methods of costing & their applications.

Course 10: Principal of Business Management

CO1. The students after the completion of this course will be able to understand about business management concept.

CO2. The students after the completion of this course will be able to understand about various functions of business management.

Course 11: Business Statistics

CO1. The students after the completion of this course will be able to understand & apply the concepts of mean, mode & median.

CO2. The students after the completion of this course will be able to apply various methods of sampling & probability measurement.

Course 12: Fundamentals of Entrepreneurship

CO1. The students after the completion of this course will be able to create entrepreneurial temper.

CO2. The students after the completion of this course will be able to take up the cause of entrepreneurship.

Course 13: Income Tax

CO1. The students after the completion of this course will be able to understand the basic concept & acquire knowledge about computation of Income.

CO2. The students after the completion of this course will be enabled to submit Income Tax Returns, Advance Tax & Tax deducted at source

CO3. The students after the completion of this course will be able to identify the procedures of Tax collection authorities under Income Tax Act.

Course 14: Auditing

CO1. The students after the completion of this course will be able to acquaint themselves about concept & principles of Auditing, Audit process, Assurance standards & Tax Audit and Audit of computerized system.

CO2. The students after the completion of this course will be able to prepare Audit Reports.

Course 15: Indirect Taxes with GST

CO1. The students after the completion of this course will be able to understandand apply the concept of GST.

CO2. The students after the completion of this course will be able to understand and apply the concept of Excise duty, CENVAT.

CO3. The students after the completion of this course will be able to understand and apply the knowledge of Registration under GST including its procedures & the liable person for GST registration.

Course 16: Management Accounting

CO1. The students after the completion of this course will be able to understand and apply the basic knowledge of management accounting & its relevance in a business organization.

CO2. The students after the completion of this course will be able to understand and apply managerial behavior & control structures prevalent under varied business environment.

Course 17: Fundamental of Insurance

CO1. The students after the completion of this course will be able to understand and apply the fundamentals of insurance.

CO2. The students after the completion of this course will be able to understand and apply the knowledge of life Insurance, Fire Insurance & Marine Insurance.

CO3. The students after the completion of this course will be able to understand and apply the functions of Insurance agent.

Course 18: Money and Banking

CO1. The students after the completion of this course will be able to understand and apply the fundamentals of banking.

CO2. The students after the completion of this course will be able to understand and apply the banking business & practices.

CO3. The students after the completion of this course will be able to understand and apply the new concepts introduced in the banking system.

B.Sc. (Maths Group) – 3 years Undergraduate programme

Programme Outcomes (PO)

PO1. The undergraduate programme in Mathematics / Physics / Chemistry is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Mathematics / Physics / Chemistry becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

PO2. It is desired that undergraduate programme in Mathematics / Physics / Chemistry besides teaching the basic concepts of Mathematics / Physics / Chemistry should in addition have broader vision for students so that the students therefore be exposed to societal interface of Mathematics / Physics / Chemistry and the role of Mathematics / Physics / Chemistry in the development of physical, chemical and mathematical sciences &technologies.

PO3. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO4. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO5. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO6. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO7. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO8. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO9. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will be able to understand and apply the fundamentals of Mechanics, Oscillation and Properties of Matter.

PSO2. The students after the completion of this programme will be able to understand and apply the fundamentals of Electricity, Magnetism and Electromagnetic Theory.

PSO3. The students after the completion of this programme will be able to understand and apply the fundamentals of Thermodynamics, Kinetic Theory and Statistical Physics.

PSO4. The students after the completion of this programme will be able to understand and apply the fundamentals of Wave, Acoustics and Optics.

PSO5. The students after the completion of this programme will be able to understand and apply the fundamentals of Relativity, Quantum Mechanics, Atomic, Molecular and Nuclear Physics.

PSO6. The students after the completion of this programme will be able to understand and apply the fundamentals of Solid State Physics, Solid State Devices and Electronics.

PSO7. The students after the completion of this programme will be able to understand and apply the fundamentals ofAlgebra & Trigonometry.

PSO8. The students after the completion of this programme will be able to understand and apply the fundamentals of Calculus.

PSO9. The students after the completion of this programme will be able to understand and apply the fundamentals of Vector Analysis & Geometry.

PSO10. The students after the completion of this programme will be able to understand and apply the fundamentals of Advanced Calculus.

PSO11. The students after the completion of this programme will be able to understand and apply the fundamentals of Differential Equations.

PSO12. The students after the completion of this programme will be able to understand and apply the fundamentals of Mechanics.

PSO13. The students after the completion of this programme will be able to understand and apply the fundamentals of Analysis.

PSO14. The students after the completion of this programme will be able to understand and apply the fundamentals of Abstract Algebra.

PSO15. The students after the completion of this programme will be able to understand and apply the fundamentals of Advanced Discrete Mathematics.

PSO16. The students after the completion of this programme will be able to understand and apply the fundamentals of Inorganic Chemistry.

PSO17. The students after the completion of this programme will be able to understand and apply the fundamentals of Organic Chemistry.

PSO18. The students after the completion of this programme will be able to understand and apply the fundamentals of Physical Chemistry.

Course Outcomes (CO)

Course 1: Mechanics, Oscillation and Properties of Matter

CO1. The students after the completion of this course will be able to understand laws of motion and their application to various dynamical situations, notion of inertial frames and concept of Galilean invariance. Learn the concept of conservation of energy, momentum, angular momentum and apply them to basic problems.

CO2. The students after the completion of this course will be able to understand expression for the moment of inertia about the given axis of symmetry for different uniform mass distributions.

CO3. The students after the completion of this course will be able to understand and apply the principles of elasticity, viscosity and surface tension.

CO4. The students after the completion of this course will be able to understandand apply Kepler's law to describe the motion of planets and satellite in circular orbit, through the study of law of Gravitation.

CO5. The students after the completion of this course will be able to explain the phenomena of simple harmonic motion and the properties of systems executing such motions.

Course 2: Electricity, Magnetism and Electromagnetic Theory

CO1. The students after the completion of this course will be able todemonstrate Gauss law, Coulomb's law for the electric field, and apply it to systems of point charges as well as line, surface, and volume distributions of charges.

CO2. The students after the completion of this course will be able to demonstrate a working understanding of capacitors.

CO3. The students after the completion of this course will be able to describe the magnetic field produced by magnetic dipoles and electric currents and explain Faraday-Lenz and Maxwell laws to articulate the relationship between electric and magnetic fields.

CO4. The students after the completion of this course will be able to apply various network theorems and their applications.

Course 3: Thermodynamics, Kinetic Theory and Statistical Physics

CO1. The students after the completion of this course will be able to describe the basic concepts of laws of thermodynamics, the concept of entropy and the associated theorems, the thermodynamic potentials and their physical interpretations.

CO2. The students after the completion of this course will be able to describe about Maxwell's thermodynamic relations.

CO3. The students after the completion of this course will be able to describe the basic aspects of kinetic theory of gases, Maxwell-Boltzmann distribution law, equitation of energies, mean free path of molecular collisions etc.

CO4. The students after the completion of this course will be able to describe the about the real gas equations, Vander Waal equation of state, the Joule- Thompson effect etc.

Course 4: Wave, Acoustics and Optics

CO1. The students after the completion of this course will be able to describe the principle of superposition of waves and thus describe the formation of standing waves.

CO2. The students after the completion of this course will be able to apply basic knowledge of principles and theories about the behavior of light and the physical environment to conduct experiments.

CO3. The students after the completion of this course will be able to use the principles of wave motion and superposition to explain the physics of polarization, interference and diffraction.

CO4. The students after the completion of this course will be able to describe the working of selected optical instruments like biprism, interferometer, diffraction grating, and holograms.

CO5. The students after the completion of this course will be able to describe the spontaneous and stimulated emission of radiation, optical pumping and population inversion as well as Ruby laser and He-Ne laser.

Course 5: Relativity, Quantum Mechanics, Atomic, Molecular and Nuclear Physics

CO1. The students after the completion of this course will be able to describe the main aspects of the inadequacies of classical mechanics and understand historicaldevelopment of quantum mechanics and ability to discuss and interpret experiments thatreveal the dual nature of matter.

CO2. The students after the completion of this course will be able to describe the theory of quantum measurements, wave packets and uncertaintyprinciple.

CO3. The students after the completion of this course will be able to describe the central concepts of quantum mechanics and the Schrodinger equations.

CO4. The students after the completion of this course will be able to describe the properties of nuclei and structure of atomic nucleus.

CO5. The students after the completion of this course will be able to calculate the decay rates and lifetime of radioactive decays.

CO6. The students after the completion of this course will be able to describe the fission and fusion as well as nuclear processes to produce nuclear energy in nuclear reactor and stellar energy in stars.

Course 6: Solid State Physics, Solid State Devices andElectronics

CO1. The students after the completion of this course will be able to describe the crystalline and amorphous substances and diffraction of X-rays by crystalline materials.

CO2. The students after the completion of this course will be able to describe the lattice vibrations, phonons and in depth of knowledge of Einstein and Debye theory of specific heat of solids.

CO3. The students after the completion of this course will be able to describe the band theory of solids and must be able to differentiate insulators, conductors and semiconductors.

CO4. The students after the completion of this course will be able to describe the N- and P- type semiconductors, P-N junctions, application of PN junction for different type of rectifiers and voltage regulators.

CO5. The students after the completion of this course will be able to describe the PNP and NPN transistors and their applications as amplifiers and oscillators.

Course 7: Algebra & Trigonometry

CO1. The students after the completion of this course will be able to describe Group theory, Ring theory, Vector Space, Modules.

CO2. The students after the completion of this course will be able tofind the inverse of matrix, Canonical form and apply the Clayey – Hamilton theorem.

CO3. The students after the completion of this course will be able to describe that every problem can be solved as every theorem in Group theory and Ring theory has its proof and solution.

CO4. The students after the completion of this course will be able to apply de-moivre's theorem to solve related problems.

Course 8: Calculus

CO1. The students after the completion of this course will be able to test the continuity and differentiability of functions of one variable.

CO2. The students after the completion of this course will be able to calculate and solve the definite and indefinite integrals.

CO3. The students after the completion of this course will be able to find the Maclaurin and Taylor's series of functions at any value.

Course 9: Vector Analysis & Geometry

CO1. The students after the completion of this course will be able to determine &calculate vector and scalars, dot and cross products.

CO2. The students after the completion of this course will be able to solve and verify Gauss, Creeno and Stokes theorem.

CO3. The students after the completion of this course will be able to solve Vector Integration and differentiation.

CO4. The students after the completion of this course will be able to describe Cone, Sphere, Cylinder, Generating Lines, Straight line, Plane etc.

Course 10: Advanced Calculus

CO1. The students after the completion of this course will be able to determine the series and alternating series. Different types of tests to solve the series.

CO2. The students after the completion of this course will be able to determine Jacobian of two and three variables.

CO3. The students after the completion of this course will be able to find the limit of a function of one and two and test its continuity and differentiability.

CO4. The students after the completion of this course will be able to determine the Beta – Gamma functions and solve the double and triple integrations.

Course 11: Differential Equations

CO1. The students after the completion of this course will be able to solve the ordinary and partial differential equations.

CO2. The students after the completion of this course will be able to compute the Laplace and Inverse Laplace transformation of the given equation.

CO3. The students after the completion of this course will be able to describe and solve differential equations.

Course 12: Mechanics

CO1. The students after the completion of this course will be able to find the velocity and acceleration of a moving particle.

CO2. The students after the completion of this course will be able to compute the equilibrium condition of particle.

CO3. The students after the completion of this course will be able to describe the attraction and potential of different particles (Moving and Static)

Course 13: Analysis

CO1. The students after the completion of this course will be able to determine the Fourier series of full and half range of any function of one variable.

CO2. The students after the completion of this course will be able to apply Schwarz and Young's theorem on various functions.

CO3. The students after the completion of this course will be able to analyze all type of trigonometric real functions.

Course 14: Abstract Algebra

CO1. The students after the completion of this course will be able to use various forms of "Sylow theorem" to identify the whole structure of group.

CO2. The students after the completion of this course will be able to analyze Groups, Sub-groups, Normal Sub-groups, and Semi-groups etc.

CO3. The students after the completion of this course will be able to determine inner product of two Vectors, and Inner product space.

CO4. The students after the completion of this course will be able to analyze Vector space, Ring, their types, modules, ideals etc.

Course 15: Advanced Discrete Mathematics

CO1. The students after the completion of this course will be able to describe Graphs, Trees, Spanning Trees, Circuits, finite state machine and their types.

CO2. The students after the completion of this course will be able to describe the difference between Mealy and Moore machine.

CO3. The students after the completion of this course will be able to compute the output of a finite state machine corresponding to their next state of the given input.

Course 16: Inorganic Chemistry

CO1. The students after the completion of this course will be able to describe Atomic Structure, Periodic Properties.

CO2. The students after the completion of this course will be able to describe Chemical Bonding.

CO3. The students after the completion of this course will be able to describe S-Block Elements, Chemistry of Noble Gases.

CO4. The students after the completion of this course will be able to describe P-Block Elements, Inorganic Chemical Analysis.

CO5. The students after the completion of this course will be able to describe Chemistry of Elements of First Transition Series.

CO6. The students after the completion of this course will be able to describe Chemistry of Elements of Second & Third Transition Series.

CO7. The students after the completion of this course will be able to describe Oxidation and Reduction, Coordination Compounds.

CO8. The students after the completion of this course will be able to describe Chemistry of Lanthanide Elements, Chemistry of Actinides.

CO9. The students after the completion of this course will be able to describe Acids and Bases, Non-Aqueous Solvents.

CO10. The students after the completion of this course will be able to describe Metal-Ligand Bonding in Transition Metal Complexes.

CO11. The students after the completion of this course will be able to describe Magnetic Properties of Transition Metal Complexes.

CO12. The students after the completion of this course will be able to describe Organometallic Chemistry.

CO13. The students after the completion of this course will be able to describe Bioinorganic Chemistry.

CO14. The students after the completion of this course will be able to describe Hard and Soft Acids and Bases (HSAB).

Course 17: Organic Chemistry

CO1. The students after the completion of this course will be able to describe Electronic structure & bonding, mechanism of organic reactions.

CO2. The students after the completion of this course will be able to describe Stereochemistry of organic compounds.

CO3. The students after the completion of this course will be able to describe Aliphatic and aromatic ring compounds.

CO4. The students after the completion of this course will be able to describe Alkenes, dienes and alkynes.

CO5. The students after the completion of this course will be able to describe Arenes and aromaticity.

CO6. The students after the completion of this course will be able to describe Alcohols, phenols, epoxides.

CO7. The students after the completion of this course will be able to describe Aldehydes and ketones.

CO8. The students after the completion of this course will be able to describe Carboxylic acids, substituted carboxylic acids, and carboxylic acid derivatives.

CO9. The students after the completion of this course will be able to describe Organic compounds of nitrogen.

CO10. The students after the completion of this course will be able to describe Heterocyclic compounds, amino acids and peptides.

CO11. The students after the completion of this course will be able to describe organometallic compounds, organosulphur compounds, and organic synthesis via enolates.

CO12. The students after the completion of this course will be able to describe Biomolecules, carbohydrates, proteins and nucleic acids.

CO13. The students after the completion of this course will be able to describe Synthetic polymers, synthetic dyes.

CO14. The students after the completion of this course will be able to describe Spectroscopy, mass spectroscopy, infra-red spectroscopy, uv-visible spectroscopy, nmr-spectroscopy, cmr-spectroscopy, magnetic resonance imaging (MRI).

Course 18: Physical Chemistry

CO1. The students after the completion of this course will be able to describe Mathematical concepts for chemist and computer.

CO2. The students after the completion of this course will be able to describe Molecular velocities.

CO3. The students after the completion of this course will be able to describe Liquid state.

CO4. The students after the completion of this course will be able to describe Liquid crystals, colloidal state, and solid state.

CO5. The students after the completion of this course will be able to describe Chemical kinetics, catalysis.

CO6. The students after the completion of this course will be able to describeThermo chemistry.

CO7. The students after the completion of this course will be able to describeLaws of thermodynamics.

CO8. The students after the completion of this course will be able to describe Phase equilibrium.

CO9. The students after the completion of this course will be able to describe Electrochemistry.

CO10. The students after the completion of this course will be able to describe Electrochemical cell or galvanic cell.

CO11. The students after the completion of this course will be able to describe Quantum mechanics.

CO12. The students after the completion of this course will be able to describe Quantum mechanical approach of molecular orbit theory.

CO13. The students after the completion of this course will be able to describe Spectroscopy, electromagnetic radiation, vibrational spectra, and Raman spectra.

CO14. The students after the completion of this course will be able to describe Electronic spectra, photo-chemistry.

CO15. The students after the completion of this course will be able to describe Thermodynamics, physical properties and molecular structure, magnetic properties.

B.Sc. (Bio Group) – 3 years Undergraduate programme

Programme Outcomes (PO)

PO1. The undergraduate programme in Zoology / Botany / Microbiology is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Zoology / Botany / Microbiology becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

PO2. The undergraduate programme in Zoology / Botany / Microbiology besides teaching the basic concepts of Zoology / Botany / Microbiology should in addition have broader vision for students so that the students therefore be exposed to societal interface of Zoology / Botany / Microbiology and the role of Zoology / Botany / Microbiology in the development of biological sciences.

PO3. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO4. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO5. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO6. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO7. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO8. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO9. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will be able to understand and apply the knowledge of Cell Biology & Invertebrates.

PSO2. The students after the completion of this programme will be able to understand and apply the knowledge of Vertebrates & Embryology.

PSO3. The students after the completion of this programme will be able to understand and apply the knowledge of Anatomy & Physiology.

PSO4. The students after the completion of this programme will be able to understand and apply the knowledge of Vertebrate Endocrinology, Reproductive Biology Behavior, Evolution and Applied Zoology.

PSO5. The students after the completion of this programme will be able to understand and apply the knowledge of Ecology, Environmental biology; Toxicology; Microbiology and Medical Zoology.

PSO6. The students after the completion of this programme will be able to understand and apply the knowledge of Genetics, Cell Physiology, Biochemistry, Biotechnology and Bio-techniques.

PSO7. The students after the completion of this programme will be able to understand and apply the knowledge of General Diversity of Microbes and Cryptogams.

PSO8. The students after the completion of this programme will be able to understand and apply the knowledge of Cell Biology and Genetics.

PSO9. The students after the completion of this programme will be able to understand and apply the knowledge of Diversity of Seed Plants and their Systematics.

PSO10. The students after the completion of this programme will be able to understand and apply the knowledge of Structure Development and Reproduction in Flowering Plants.

PSO11. The students after the completion of this programme will be able to understand and apply the knowledge of Plant Physiology, Biochemistry and Biotechnology.

PSO12. The students after the completion of this programme will be able to understand and apply the knowledge of Ecology and Utilization of Plants.

PSO13. The students after the completion of this programme will be able to understand and apply the knowledge of General Microbiology.

PSO14. The students after the completion of this programme will be able to understand and apply the fundamentals of Biochemistry and Immunology.

PSO15. The students after the completion of this programme will be able to understand and apply the fundamentals of Microbial Physiology and Genetics.

PSO16. The students after the completion of this programme will be able to understand and apply the fundamentals of Principles of Bioinstrumentation and Techniques.

PSO17. The students after the completion of this programme will be able to understand and apply the fundamentals of Molecular Biology and Genetic Engineering.

PSO18. The students after the completion of this programme will be able to understand and apply the fundamentals of Environmental and Medical Microbiology.

Course Outcomes (CO)

Course 1: Cell Biology & Invertebrates

CO1. The students after the completion of this course will be able to describe Prokaryotic & Eukaryotic Cells.

CO2. The students after the completion of this course will be able to describe Cell divisions (Mitosis & Meiosis).

CO3. The students after the completion of this course will be able to describe general characteristics &classification of invertebrates.

CO4. The students after the completion of this course will be able to describe Helminthes &Annelida.

CO5. The students after the completion of this course will be able to describe Mollusca, Protochordata.

Course 2: Vertebrates & Embryology

CO1. The students after the completion of this course will be able to describe the origin and classification of Chordates.

CO2. The students after the completion of this course will be able to describe Fishes, Amphibia & Reptilia.

CO3. The students after the completion of this course will be able to describe Aves & Mammals.

CO4. The students after the completion of this course will be able to describe Gametogenesis, Fertilization &Parthenogenesis, and Development of frog upto formation of three germ layers.

CO5. The students after the completion of this course will be able to describe development of Chick upto formation of three germ layers, Extra embryonic membranes, Placenta in mammals.

Course 3: Anatomy & Physiology

CO1. The students after the completion of this course will be able to describe anatomy of various organ systems of vertebrates - Integument and its derivatives, structure of scales, hair and feathers; Alimentary canal and digestive glands in vertebrates; Respiratory Organs, Gills and lungs; Air-Sac in birds.

CO2. The students after the completion of this course will be able to describe endoskeleton-limbs, girdles and vertebrae; Circulatory System - Evolution of heart and aortic arches; Urogenital System - Kidney and excretory ducts.

CO3. The students after the completion of this course will be able to describe nervous system - general plan of brain and spinal cord; Endocrine glands - classification and histology; Gonads and genital ducts.

CO4. The students after the completion of this course will be able to describe digestion and absorption of dietary components; physiology of heart, cardiac cycle and ECG; blood coagulation; respiration-mechanism and control of breathing.

CO5. The students after the completion of this course will be able to describe physiology of excretion, osmoregulation; physiology of muscle contraction; physiology of nerve impulse; synaptic transmission; ear and eye - structure and function.

Course 4: Vertebrate Endocrinology, Reproductive Biology Behavior, Evolution and Applied Zoology

CO1. The students after the completion of this course will be able to describe general characters of hormones, hormone receptors, biosynthesis and secretion of thyroid, adrenal, ovarian and testicular hormones, endocrine disorder due to hormones and other glands.

CO2. The students after the completion of this course will be able to describe reproductive cycle in vertebrates, menstruation, lactation and pregnancy, mechanism of parturition, hormonal regulation of gametogenesis, extra embryonic membrane.

CO3. The students after the completion of this course will be able to describe evidences of organic evolution, theories of organic evolution, variation, mutation, isolation and natural selection, evolution of horse.

CO4. The students after the completion of this course will be able to describe ethology, patterns of behavior taxes, reflexes, drives and stereotyped behavior, reproductive behavioral patterns, hormones, drugs and behavior.

CO5. The students after the completion of this course will be able to describe aquaculture, sericulture, apiculture, pisciculture, poultry keeping, elements of pest control - chemical control &biological control.

Course 5: Ecology, Environmental biology; Toxicology; Microbiology and Medical Zoology

CO1. The students after the completion of this course will be able to describe aims and scopes of ecology, major ecosystems of the world, population- characteristics and regulation of densities, communities and ecosystems, biogeochemical cycles, air and water pollution, ecological succession.

CO2. The students after the completion of this course will be able to describe environmental biology, laws of limiting factors, food chain in a freshwater ecosystem, energy flow in ecosystem-trophic levels, conservation of natural resources, environmental impact assessment.

CO3. The students after the completion of this course will be able to describe toxicology, definition of toxicity, classification of toxicants, principle of systematic toxicology, toxic agents and their action-metallic and inorganic agents, animal poisons - snake-venom, scorpion and bee poisoning, food poisoning.

CO4. The students after the completion of this course will be able to describe microbiology, general and applied microbiology, microbiology of domestic water and sewage, microbiology of milk and milk products, industrial microbiology.

CO5. The students after the completion of this course will be able to describe medical microbiology, brief introduction to pathogenic micro-organisms, rickettsia, spirochaetes and bacteria, brief account of life-history and pathogenicity of the following pathogens with reference to man; prophylaxis and treatment -

pathogenic protozoans - entamoeba, trypanosoma, and giardia, pathogenic helminths–schistosoma, nematode pathogenic parasites of man, vector insects.

Course 6: Genetics, Cell Physiology, Biochemistry, Biotechnology and Bio-techniques

CO1. The students after the completion of this course will be able to describe genetics, linkage and linkage maps, varieties of gene expression - multiple alleles; lithogenesis; pleiotropic genes; gene interaction; epistasis, sex-chromosome systems, and sex-linkage, mutation and chromosomal alterations; meiotic consequences, human genetics - chromosomal and single gene disorders (somatic cell genetics).

CO2. The students after the completion of this course will be able to describe cell physiology, general idea about pH and buffer, transport across membrane - cell membrane; mitochondria and endoplasmic reticulum, active transport and its mechanism; active transport in mitochondria and endoplasmic reticulum, hydrolytic enzymes - their chemical nature, activation and specificity.

CO3. The students after the completion of this course will be able to describe biochemistry, amino acids and peptides - basic structure and biological function, carbohydrate and its metabolism - glycogenesis; gluconeogenesis; glycolysis, glycogenolysis; Kreb's cycle, lipid metabolism - oxidation of glycerol; oxidation of fatty acid, protein metabolism - deamination,transamination, transmethylation; biosynthesis of protein.

CO4. The students after the completion of this course will be able to describe biotechnology - scope and importance, recombinant DNA and gene cloning,cloned genes and other tools of biotechnology, applications of biotechnology in pharmaceutical industry, and food processing industry.

CO5. The students after the completion of this course will be able to describe biotechniques principles and techniques of pH meter, colorimeter, microscopy-light microscopes, phase contrast and electron microscopes, centrifugation, separation of biomolecules by chromatography and electrophoresis, biochemical methods for determination of protein, lipids, and carbohydrates.

Course 7: General Diversity of Microbes and Cryptogams

CO1. The students after the completion of this course will be able to describe Viruses and Bacteria: General account of viruses and mycoplasma; bacteria structure; nutrition, reproduction and economic importance; general account of cyanobacteria.

CO2. The students after the completion of this course will be able to describe Algae: General characters, classification and economic importance; important features and life history of Chlorophyceae-Volvox, Oedogonim, Coleochaete; Xanthophyceae- Vaucheria; Phaeophyceae- Ectocarpus, Sargassum; Rhodophyceae- Polysiphonia.

CO3. The students after the completion of this course will be able to describe Fungi: General characters, classification and economic importance; important features and life history of Mastigomycotina-Pythium, Phytophthora; Zygomycotina- Mucor, Ascomycotina-Saccharomyces, Eurotium, Chaetomium, Peziza; Basidiomycotina- Puccinia, Agaricus; Deuteromycotina-Cercospora, Colletotrichum; general account of Lichens.

CO4. The students after the completion of this course will be able to describe Bryophyta: Amphibians of plant kingdom displaying alternation of generations; structure, reproduction and classification of Hepaticopsida (e.g. RicciaMarchantia); Anthocerotopsida (e.g. Anthoceros), Bryopsida (e.g. Funaria)

CO5. The students after the completion of this course will be able to describe Pteridophyta: The first vascular plants; important characteristics of Psilopsida, Lycopsida, Sphenopsida and Pteropsida; structure, Reproduction in Rhynia, LycopodiumSelaginella, Equisetum, Pteris and Marsilea.

Course 8: Cell Biology and Genetics

CO1. The students after the completion of this course will be able to describe the Cell: Envelope; Plasma membrane; bilayer lipid structure; functions; the cell wall, Ultra structure and function of nucleus: nuclear membrane; nucleolus and other organelles: Golgi bodies, ER, peroxisomes, Vacuoles.

CO2. The students after the completion of this course will be able to describe Chromosome organization: Morphology; centromere and telomere; chromosome alterations; deletions, duplications, translocations, inversions; variations in chromosome number aneuploidy, polyploidy; sex chromosomes, Cell division: Mitosis; meiosis.

CO3. The students after the completion of this course will be able to describe DNA the genetic material: DNA structure; replication; DNA- protein interaction; the nucleosome model; genetic code; satellite and repetitive DNA, Extra nuclear genome: Presence and function of mitochondrial and plastid DNA; plasmids.

CO4. The students after the completion of this course will be able to describe Gene expression: Structure of gene; transfer of genetic information; transcription, translation, protein synthesis; tRNA; ribosomes; regulation of gene expression in prokaryotes and eukaryotes; proteins - 1D, 2D and 3D structures.

CO5. The students after the completion of this course will be able to describe Genetic Variations: Mutations, spontaneous and induced; transposable genetic elements; DNA damage and repair: Genetic inheritance: Mendelism; laws of segregationand independent assortment: linkage analysis; allelic and non-allelic interactions.

Course 9: Diversity of Seed Plants and their Systematics

CO1. The students after the completion of this course will be able to describe characteristics of seed plants; evolution of the seed habit; seed plants with (angiosperms) and without (gymnosperms) fruits; fossil and living seed plants, general features of gymnosperms and their classification; evolution and diversity of gymnosperms; geological time scale, fossilization and fossil gymnosperms.

CO2. The students after the completion of this course will be able to describe morphology of vegetative and reproductive parts; anatomy of roots, stem and leaf, reproduction and life cycle of Pinus, Cycas and Ephedra.

CO3. The students after the completion of this course will be able to describe angiosperms: origin and evolution, some examples of primitive angiosperms, angiosperms taxonomy: brief history, aims and fundamental components; identification, keys taxonomic literature, botanical nomenclature: principles and rules; taxonomic ranks; type concept; principle of priority.

CO4. The students after the completion of this course will be able to describe classification of angiosperms; salient features of the systems proposed by Bentham and Hooker and Engler and Prantl, major contributions of cytology, phytochemistry and taximetrics to taxonomy.

CO5. The students after the completion of this course will be able to describe diversity of flowering plants: general account of the families- Ranunculaceae, Brassicaceae, Malvaceae, Rutaceae, Fabaceae, Apiaceae, Acanthaceae, Apocynaceae, Asclepiadaceae, Solanaceae, Lamiaceae, Chenopodiaceae, Euphorbiaceae, Liliaceae and Poaceae.

Course 10: Structure Development and Reproduction in Flowering Plants

CO1. The students after the completion of this course will be able to describe the basic body plan of a flowering plant: modular type of growth, diversity in plant form in annuals, biennials and perennials;

convergence of evolution of tree habit in gymnosperms, monocotyledons and dicotyledons; trees-largest and longest-lived organisms.

CO2. The students after the completion of this course will be able to describe the shoot system: the shoot apical meristem and its histological organization; vascularization of primary shoot in monocotyledons and dicotyledons; formation of internodes, branching pattern; monopodial and sympodial growth canopy architecture; cambium and its functions; formation of secondary xylem, a general account of wood structure in relation to conduction of water and minerals; characteristics of growth rings, sapwood and heart wood; role of woody skeleton; secondary phloem – structure, function, relationships, periderm.

CO3. The students after the completion of this course will be able to describe leaf: origin, development, arrangement and diversity in size and shape; internal structure in relation to photosynthesis and water loss; adaptations to water stress; senescence and abscission, the root system: the root apical meristem; differentiation of primary and secondary tissues and their roles; structural modification for storage, respiration, reproduction and for interaction with microbes.

CO4. The students after the completion of this course will be able to describe flower: a modified shoot; structure, development and varieties of flower, functions, structure of anther and pistil, the male and female gametophytes; types of pollination; attractions and rewards for pollinators; pollen-pistil interaction, self incompatibility, double fertilization, formation of seed-endosperm and embryo; fruit development and maturation.

CO5. The students after the completion of this course will be able to describe significance of seed: suspended animation; ecological adaptation; unit of genetic recombination and replenishment, dispersal strategies, vegetative reproduction: vegetative propagation, grafting, economic aspects.

Course 11: Plant Physiology, Biochemistry and Biotechnology

CO1. The students after the completion of this course will be able to describe plant-water relations: importance of water to plant life; physical properties of water; diffusion and osmosis; absorption, transport of water and transpiration; physiology of stomata, mineral nutrition: essential macro and micro-elements and their role; mineral uptake; deficiency and toxicity symptoms.

CO2. The students after the completion of this course will be able to describe transport of organic substances: mechanism of phloem transport; source-sink relationship; factors affecting translocation, basic of enzymology: discovery and nomenclature; characteristics of enzymes; concept of holoenzyme, apoenzyme, coenzyme and cofactors; regulation of enzyme activity, mechanism of action, photosynthesis: significance; historical aspects; photosynthetic pigments; action spectra and enhancement effects; concept of two photosystems; Z-scheme; photo-phosphorylation; Calvin cycle; C4 pathway; CAM plants; photorespiration.

CO3. The students after the completion of this course will be able to describe respiration: ATP - the biological energy currency; aerobic and anaerobic respiration; Kreb's cycle, electron transport mechanism (chemi-osmotic theory); redox potential; oxidative phosphorylation; pentose phosphate pathway, Nitrogen and lipid metabolism: Biology of nitrogen fixation;importance of nitrate reductase and its regulations; ammonium assimilation; structure and function of lipids; fatty acid biosynthesis; Beta-oxidation; saturated and unsaturated fatty acids; storage and mobilization of fatty acids.

CO4. The students after the completion of this course will be able to describe growth and development: definitions; phases of growth and development; kinetics of growth, seed dormancy, seed germination and factors of their regulation; plant movements; the concept of photoperiodism; physiology of flowering; florigen concept; biological clocks; physiology of senescence, fruit ripening; plant hormones auxins, gibberellins, cytokinins, abscisic acid and ethylene, history of their discovery, biosynthesis and

mechanism of action; photomorphogenesis; phytochromes and cryptochromes, their discovery, physiological role and mechanism of action.

CO5. The students after the completion of this course will be able to describe genetic engineering: tools and techniques of recombinant DNA technology; cloning vectors; genomic and cDNA library; transposable elements; techniques of gene mapping and chromosome walking, biotechnology: functional definition; basic aspects of plant tissue culture; cellular totipotency, differentiation and morphogenesis; biology of Agrobacterium; vectors for gene delivery and marker genes; salient achievements in crop biotechnology.

Course 12: Ecology and Utilization of Plants

CO1. The students after the completion of this course will be able to describe plants and environment: atmosphere (gaseous composition), water (properties of water cycle), light (global radiation, photosynthetically active radiation), temperature, soil (development, soil profiles, physico-chemical properties), and biota, Morphological, anatomical and physiological responses of plants to water (hydro-phytes and xerophytes), temperature (thermoperiodicity), light (photoperiodism, heliophytes and sciophytes) and salinity.

CO2. The students after the completion of this course will be able to describe community ecology: community characteristics, frequency, density, cover, life forms biological spectrum; ecological succession, ecosystems: structure, abiotic and biotic components; food chain, food web, ecological pyramids, energy flow; biogeochemical cycles of carbon, nitrogen and phosphorus.

CO3. The students after the completion of this course will be able to describe population ecology: growth curves; ecotypes;ecads, biogeographical regions of India, Vegetation types of India: Forests and grasslands.

CO4. The students after the completion of this course will be able to describe utilization of plants food plants: rice, wheat, maize, potato, sugarcane, fibers: cotton and jute, vegetable oils: groundnut, mustard and coconut, general account of sources of firewood, timber and bamboos.

CO5. The students after the completion of this course will be able to describe Spices, Medicinal plants, Beverages- Tea and coffee, Rubber.

Course 13: General Microbiology

CO1. The students after the completion of this course will be able to describe unity of microbial world, scope of microbiology, microbiology and human health, beneficial and harmful microbes, development of microbiology (contributions and pioneers).

CO2. The students after the completion of this course will be able to describe diversity of microbial world: principle of classification, classification of viruses, bacteria (including cyanobacteria) algae and fungi (including yeast) and protozoa.

CO3. The students after the completion of this course will be able to describe methods of studying microorganism: origin of microbes, microscopy, pure culture techniques, sterilization, aseptic techniques, isolation of pure culture, conditions and media for growth of microorganisms in the laboratory.

CO4. The students after the completion of this course will be able to describe general organization of microbes; structural functional organization and economic importance of algae (Nostoc, anabaena, Ocillitoria), fungi (Rhizopus, Penicillium, Aspergillus), yeast and lichens.

CO5. The students after the completion of this course will be able to describe structure, functional organization and economic importance of bacteria (Gram +ve and Gram -ve), viruses (plant and animal) and protozoa (Ciliates, Flagellates and Sporozoans).

Course 14: Biochemistry and Immunology

CO1. The students after the completion of this course will be able to describe structure and properties of mono and disaccharides, amino acids and peptides, bases; purines and pyrimidines, sugars; ribose, deoxyribose and nucleoside and nucleotide; general account of lipids.

CO2. The students after the completion of this course will be able to describe the concept of macromolecules; structural and functional organization of polysaccharides (starch, glycogen, cellulose, mucopolysaccharides), proteins and nucleic acids (DNA, RNA).

CO3. The students after the completion of this course will be able to describe enzymes; historical account, classification, co-enzymes and their role, enzyme action, enzyme kinetics, km, vm and enzyme inhibition, allosteric enzyme and isoenzyme, extracellualar enzymes and their role.

CO4. The students after the completion of this course will be able to describe metabolism; general concept of metabolism (anabolism, catabolism and amphibolism), glycolysis,TCA Cycle and HMP Shunt, Anaerobic catabolism of glucose; alpha, beta and gamma oxidation of fatty acids.

CO5. The students after the completion of this course will be able to describe concept of immunity, innate and acquired immunity, brief account of cells and organs of immune system, antigen and antigenicity, antibody structure and function, antigen-antibody reaction.

Course 15: Microbial Physiology and Genetics

CO1. The students after the completion of this course will be able to describe plasma membrane and transport across membrane, energy transformation, physiology of bacterial growth, phases of growth, growth conditions, differentiation in bacterial cells-sporulation, germination; bacterial cell division replication of chromosome, partition of chromosome into daughter cell.

CO2. The students after the completion of this course will be able to describe primary and secondary metabolism.

CO3. The students after the completion of this course will be able to describe bacterial plasmids; structure and properties, replication, incompatibility, plasmid amplification, bacteriophages; lytic development cycle - T4; lytic and lysogenic development of phage, single stranded DNA phage, transposition; structure of bacterial transposons, types of bacterial transponsons, mechanism of antibiotic resistance and spread of antibiotic resistance.

CO4. The students after the completion of this course will be able to describe genetic recombination; requirements, molecular basis, genetic analysis of recombination in bacteria.

CO5. The students after the completion of this course will be able to describe DNA repair and restriction; types of repair systems, restriction endonuclease, various types of restriction enzymes, dam and dcmmethylases.

Course 16: Principles of Bioinstrumentation and Techniques

CO1. The students after the completion of this course will be able to describe colorimetry and spectrophotometry, spectrofluorimetry, turbidometry, nepholometry, luminometry, pH meter.

CO2. The students after the completion of this course will be able to describechromatography; adsorption partition, column, gas, ion-exchange, gel filtration, and affinity chromatographies, HPLC, FPLC.

CO3. The students after the completion of this course will be able to describe centrifugation and ultracentrifugation, microscopy- light, phase-contrast, fluorescence, dark field, electron microscopy, laser, confocal, microscopy and digital image analysis.

CO4. The students after the completion of this course will be able to describe tissue culture techniques; principal and requirements of animal tissue culture, decontamination, sterilization and disinfection.

CO5. The students after the completion of this course will be able to describe electrophoreses techniques- types and their application; electrophoresis of proteins and mucleicacids,immune-electrophoresis sequencing of proteins and nucleic acids, radioisotope techniques; nature of radioactivity, detection measurement, counter, safety aspects, enzyme purification and assay techniques.

Course 17: Molecular Biology and Genetic Engineering

CO1. The students after the completion of this course will be able to describe history of molecular biology, model systems, concepts of molecular biology, early history of genetic engineering, genetic engineering concepts, ethical issue.

CO2. The students after the completion of this course will be able to describe mutation; spontaneous and induced, base pair change, frame shift, deletion, inversion, random duplication, insertion, useful phenotypes (auxotrophs, conditional lethal, resistance), revertion vs. suppression, Ame's test.

CO3. The students after the completion of this course will be able to describe function of macromolecules; early observation on the mechanism of heredity, DNA as genetic material; basic mechanism of replication, enzymes involved in replication, enzymes involved in transcription translation, genetic code, regulation of gene expression-transcription, translation and control of gene expression in microbes.

CO4. The students after the completion of this course will be able to describe DNA repair and restriction, types of repair systems, restriction modification systems, types of restriction enzymes, properties and uses, methylation, biology of plasmids, bacteriophages, lytic vs. lysogenic phages, single standard DNA phages, M 13, restriction modification systems, restriction enzymes.

CO5. The students after the completion of this course will be able to describe plasmid and phage vectors, restriction and ligation of vector and passenger DNA, transformation of host cells, selection vs. screening of recombinant colonies, analysis of recombinant clones, DNA sequencing, protein separation and identification methods.

Course 18: Environmental and Medical Microbiology

CO1. The students after the completion of this course will be able to describe aerobiology; definition, droplet nuclei, aerosol assessment of air quality, some important air borne diseases caused by bacteria (Diptheria, Peneumonia, Meningitis), virus (Influenza, Chicken pox, Measles) and fungi (mycosis); their symptoms and preventive measures.

CO2. The students after the completion of this course will be able to describe soil microbiology: physical and chemical characteristics and micro flora of various soil types, rhizosphere, phyllosphere, brief account of microbial interactions: symbiosis, mutualism, commensalism, competition, amensalism, synergism, parasitism, and predation. biofertilizers - biological nitrogen fixation, nitroginase enzyme, nif genes, symbiotic nitrogen fixation, and non-symbiotic nitrogen fixation (Azotobacter, Azospirillum), VAM-ecto-endo-ectendomycorrhizae.

CO3. The students after the completion of this course will be able to describe aquatic microbiology; ecosystem, fresh water (ponds, lakes, stream) and marine, water zonation: upwelling, entrophication, potability of water - microbial assessment of water quality, brief account of water borne diseases (Typhoid, Dysentery, Cholera, Hepatitis) and preventive measures.

CO4. The students after the completion of this course will be able to describe food spoilage and food borne infections, biodegradation, xenobiotics, bioaccumulation, biopestisides and deterioration, general concept of industrial microbiology and their applications.

CO5. The students after the completion of this course will be able to describe waste treatment: types of wastes, characterization of solid and liquid waste, waste treatment solid saccharification, gasification, composting, liquid waste treatment - aerobic, anaerobic primary, secondary and tertiary methods, useful byproducts, mushroom, fuel, fertilizer, biodegradation of industrial waste.

B.A.– 3 years Undergraduate programme

Programme Outcomes (PO)

PO1. The undergraduate programme in Hindi Literature / English Literature / Economics / Political Science / History / Sociology / Geography / Music / Home Science / Psychology / Dance / Drawing is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Hindi Literature / English Literature / Economics / Political Science / History / Sociology / Geography / Music / Home Science / Psychology / Dance / Drawingbecomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

PO2. The undergraduate programme in Hindi Literature / English Literature / Economics / Political Science / History / Sociology / Geography / Music / Home Science / Psychology / Dance / Drawingbesides teaching the basic concepts of Hindi Literature / English Literature / Economics / Political Science / History / Sociology / Geography / Music / Home Science / Psychology / Dance/ Drawingshould in addition have broader vision for students so that the students therefore be exposed to societal interface of Hindi Literature / English Literature / Economics / Political Science / History / Sociology / Geography / Music / Home Science / Psychology / Dance/ Drawingand the role of Hindi Literature / English Literature / Economics / Political Science / History / Sociology / Geography / Music / Home Science / Psychology / Dance/ Drawingin the development of arts and social sciences.

PO3. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO4. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.

PO5. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO6. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO7. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO8. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO9. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will be able to understand and apply the knowledge of i,tvhu fgǐnh wtO;.

PSO2. The students after the completion of this programme will be able to understand and apply the knowledge of fgǐnh wFtt ltfgč;.

PSO3. The students after the completion of this programme will be able to understand and apply the knowledge of 5vtZvhu fgǐnh wtO;.

PSO4. The students after the completion of this programme will be able to understand and apply the knowledge of fgǐnhfua˙/t aFtt ×| fv/tt,˙.

PSO5. The students after the completion of this programme will be able to understand and apply the knowledge of vuinh; भाषाltfgč; (Nčahlx6.h).

PSO6. The students after the completion of this programme will be able to understand and apply the knowledge of fgǐnhभाषा-ltfgč; wt7fagtlaFttwtO;t˙xfvv`vu.

PSO7. The students after the completion of this programme will be able to understand and apply the knowledge of Literature in English From 1550-1750 A.D.

PSO8. The students after the completion of this programme will be able to understand and apply the knowledge of Literature in English From 1750-1900 A.D.

PSO9. The students after the completion of this programme will be able to understand and apply the knowledge of Modern English Literatures - I.

PSO10. The students after the completion of this programme will be able to understand and apply the knowledge of Modern English Literatures – II.

PSO11. The students after the completion of this programme will be able to understand and apply the knowledge of Indian Writing in English.

PSO12. The students after the completion of this programme will be able to understand and apply the knowledge of American Literature.

PSO13. The students after the completion of this programme will be able to understand and apply the knowledge of Micro Economics.

PSO14. The students after the completion of this programme will be able to understand and apply the knowledge of Indian Economy.

PSO15. The students after the completion of this programme will be able to understand and apply the knowledge of Macro Economics.

PSO16. The students after the completion of this programme will be able to understand and apply the knowledge of Money, Banking and Public Finance.

PSO17. The students after the completion of this programme will be able to understand and apply the knowledge of Development and Environmental Economics.

PSO18. The students after the completion of this programme will be able to understand and apply the knowledge of Statistical Methods.

PSO19. The students after the completion of this programme will be able to understand and apply the knowledge of Political Theory.

PSO20. The students after the completion of this programme will be able to understand and apply the knowledge of Indian Government and Politics.

PSO21. The students after the completion of this programme will be able to understand and apply the knowledge of Western Political Thought.

PSO22. The students after the completion of this programme will be able to understand and apply the fundamentals of Comparative Politics and Government.

PSO23. The students after the completion of this programme will be able to understand and apply the knowledge ofInternational Politics.

PSO24. The students after the completion of this programme will be able to understand and apply the knowledge ofPublic Administration.

PSO25. The students after the completion of this programme will be able to understand and apply the knowledge of History of India from the Beginning to 1206 A.D.

PSO26. The students after the completion of this programme will be able to understand and apply the knowledge of World History from 1453 to 1789 A.D.

PSO27. The students after the completion of this programme will be able to understand and apply the knowledge of History of India from 1206 to 1761 A.D.

PSO28. The students after the completion of this programme will be able to understand and apply the knowledge of World History from 1789 to 1871 A.D.

PSO29. The students after the completion of this programme will be able to understand and apply the knowledge of History of India from 1761to 1950 A.D.

PSO30. The students after the completion of this programme will be able to understand and apply the knowledge of World History from 1871 to 1945 A.D.

PSO31. The students after the completion of this programme will be able to understand and apply the knowledge of Introduction to Sociology.

PSO32. The students after the completion of this programme will be able to understand and apply the knowledge of Contemporary Indian Society.

PSO33. The students after the completion of this programme will be able to understand and apply the knowledge of Society in India.

PSO34. The students after the completion of this programme will be able to understand and apply the knowledge of Crime and Society.

PSO35. The students after the completion of this programme will be able to understand and apply the knowledge of Sociology of Tribal Society.

PSO36. The students after the completion of this programme will be able to understand and apply the knowledge of Social Research Methods.

PSO37. The students after the completion of this programme will be able to understand and apply the knowledge of Physical Geography - Elements of Geomorphology.

PSO38. The students after the completion of this programme will be able to understand and apply the knowledge of Introduction to Geography and Human Geography.

PSO39. The students after the completion of this programme will be able to understand and apply the knowledge of Physical Geography - Climatology and Oceanography.

PSO40. The students after the completion of this programme will be able to understand and apply the knowledge of Regional Geography with Special Reference to North America.

PSO41. The students after the completion of this programme will be able to understand and apply the knowledge of Geography - Resources and Environment.

PSO42. The students after the completion of this programme will be able to understand and apply the knowledge of Geography of India (with special reference to Chhattisgarh).

PSO43. The students after the completion of this programme will be able to understand and apply the knowledge of Theory of Indian Music-I.

PSO44. The students after the completion of this programme will be able to understand and apply the knowledge of Theory of Indian Music-II.

PSO45. The students after the completion of this programme will be able to understand and apply the knowledge of Theory of Indian Music, Vocal / Instrumental - I.

PSO46. The students after the completion of this programme will be able to understand and apply the knowledge of Theory of Indian Music, Vocal / Instrumental - II.

PSO47. The students after the completion of this programme will be able to understand and apply the knowledge of Theory of Indian Music, Vocal / Instrumental - III.

PSO48. The students after the completion of this programme will be able to understand and apply the knowledge of Theory of Indian Music, Vocal / Instrumental - IV.

PSO49. The students after the completion of this programme will be able to understand and apply the knowledge of Anatomy, Physiology & Hygiene

PSO50. The students after the completion of this programme will be able to understand and apply the knowledge ofHome Science - Extension Education.

PSO51. The students after the completion of this programme will be able to understand and apply the knowledge of Fabric & Cloth Science.

PSO52. The students after the completion of this programme will be able to understand and apply the knowledge of Family Resource Management.

PSO53. The students after the completion of this programme will be able to understand and apply the knowledge ofHome Science - Human Development.

PSO54. The students after the completion of this programme will be able to understand and apply the knowledge of Food & Nutrition Science.

PSO55. The students after the completion of this programme will be able to understand and apply the knowledge ofBasic Psychological Process.

PSO56. The students after the completion of this programme will be able to understand and apply the knowledge ofPsychopathology.

PSO57. The students after the completion of this programme will be able to understand and apply the knowledge ofSocial Psychology.

PSO58. The students after the completion of this programme will be able to understand and apply the knowledge ofPsychological Assessment.

PSO59. The students after the completion of this programme will be able to understand and apply the knowledge of Psychology - Human Development.

PSO60. The students after the completion of this programme will be able to understand and apply the knowledge ofPsychological Statistics.

PSO61. The students after the completion of this programme will be able to understand and apply the knowledge ofDance (BharatNatyam) -I.

PSO62. The students after the completion of this programme will be able to understand and apply the knowledge ofDance (BharatNatyam) -II.

PSO63. The students after the completion of this programme will be able to understand and apply the knowledge ofDance (BharatNatyam) -III.

PSO64. The students after the completion of this programme will be able to understand and apply the knowledge ofDance (BharatNatyam) -IV.

PSO65. The students after the completion of this programme will be able to understand and apply the knowledge ofDance (BharatNatyam) -V.

PSO66. The students after the completion of this programme will be able to understand and apply the knowledge ofDance (BharatNatyam) -VI.

PSO67. The students after the completion of this programme will be able to understand and apply the knowledge of Theory Fundamental of Painting (Art)– Still Life.

PSO68. The students after the completion of this programme will be able to understand and apply the knowledge of Theory Fundamental of Painting (Art) –Basic Design.

PSO69. The students after the completion of this programme will be able to understand and apply the knowledge of History of Indian Painting– Portrait from Head.

PSO70. The students after the completion of this programme will be able to understand and apply the knowledge of History of Indian Painting– Composition.

PSO71. The students after the completion of this programme will be able to understand and apply the knowledge of History of Indian Painting– Copy from Indian Miniature Painting.

PSO72. The students after the completion of this programme will be able to understand and apply the knowledge of History of Indian Painting– Creative Composition.

Course Outcomes (CO)

Course 1: ïTvhu fgĭnh wTO;

CO1. The students after the completion of this course will be able to contemplate and comprehend wahz (wahz–wTfaw¸æTz v"u).

CO2. The students after the completion of this course will be able to contemplate and comprehend vT;Ih–l'fęTlaiùTva–";TælnznTluTxæahfv;TxvoTu.

CO3. The students after the completion of this course will be able to contemplate and comprehend lwz (&T¸æz xha Tz– l˙. 5TvT;ZzTævĭn,).

CO4. The students after the completion of this course will be able to contemplate and comprehend a¸alh- 'zTævfzaæTuI'.

CO5. The students after the completion of this course will be able to contemplate and comprehend ?TuTuĭn (?TuTuĭn-l.˙विश्वनाथi,lTnfæJ).

CO6. The students after the completion of this course will be able to contemplate and comprehend fv|TifIa.

CO7. The students after the completion of this course will be able to contemplate and comprehend zghæ.

CO8. The students after the completion of this course will be able to contemplate and comprehend zI[TTu.

Course 2: fgĭnh wFTT Ifgć;

CO1. The students after the completion of this course will be able to contemplate and comprehend ï¸æv˙n-xau

CO2. The students after the completion of this course will be able to contemplate and comprehend ïæv˙n-wwu

CO3. The students after the completion of this course will be able to contemplate and comprehend v;श˙wzi,lTn-5TwTशInhi

CO4. The students after the completion of this course will be able to contemplate and comprehend woThशIvzuTFTz`oT¸-B`l

CO5. The students after the completion of this course will be able to contemplate and comprehend 6T`guzTw`श-æav`wTæTfaw

CO6. The students after the completion of this course will be able to contemplate and comprehend &ThषælTguh-vhwwhnTva

CO7. The students after the completion of this course will be able to contemplate and comprehend zTv`ĭn ;Tnv–fazTnzhaTgz

CO8. The students after the completion of this course will be able to contemplate and comprehend zTx`; zT?Tv-xna

CO9. The students after the completion of this course will be able to contemplate and comprehend 7i`ĭn,uTFT5श्Iw, 2. aTaश्ITT"fzz`7¸7h s. fश्ITvuh

Course 3: 5vTZvhu fgĭnh wt0;

CO1. The students after the completion of this course will be able to contemplate and comprehend æ"fFTahश्IzoTx¸la-&TTza-&TTzah wh wfvaT,˙

CO2. The students after the completion of this course will be able to contemplate and comprehend lw;Zwt˙a f=iTBhfuzTah–lf[T alĭa5T;T,vz n`, vhoTTvTfnuhvz n˙,fgĭnh w` l¸æuT˙ w` ifa i=,aT7.ah-ičFTz,zTv` u` 5iuh z[TvTahwhı

CO3. The students after the completion of this course will be able to contemplate and comprehend l¸fæ=Tu˙nui˙a–aTna,ifzvaZu,[TTaaT 7/TzvĭæaT`vu,5TvwTn¸[T wawT5TYgTn,aTv,>˙>T æ`˙uhæ,&TTzaæTaTı

CO4. The students after the completion of this course will be able to contemplate and comprehend 6TT[TuaTava¸ŷZnh-ŏfai˙FThl`,LTT˙>5Tz6T`aw wh FTTi˙,æ"˙a`vzghg˙w, ngh,7aTguT,fu:"TL= l`uTuhı

CO5. The students after the completion of this course will be able to contemplate and comprehend ▮.gh. vĭčL;T;u5y`; –▮a`z`7BTaT /Twi f[TahFTh,▮TæTx,hwTu"v`| nTu,?Tz,PTn˙uhvhaT˙,nwvT˙vaı

CO6. The students after the completion of this course will be able to contemplate and comprehend 5;T/;T fl˙g 7iT/;T; ''gfz5T/T'',l¸&Tn,Tw,æTzhvTgTu,JhwTavæTı

Course 4: fgĭnhfua˙/T aFTT x| fv/TT,˙

CO1. The students after the completion of this course will be able to contemplate and comprehend uTVw-5˙/T`zhuxzh-&TTza`un¸gfzश्Ivĭn,

CO2. The students after the completion of this course will be able to contemplate and comprehend fua˙/T w¸T`/T -5TvT;ZzTævĭn,श्IT¸ua,alĭa-7T˘. gvTzhi,lTn f}v`nh,7▮ 5æzT7Z u˙ zTæ–zTæwghg"–7T˙. fv|TfuvT▮fæJ,wt0;`2t¸utV¸;æ z6;æ¸ -ctcwx¸atczt;,a`7ZæTuh wh iza-gfzश्IT˙wzizlT7Zı

CO3. The students after the completion of this course will be able to contemplate and comprehend ,˙wTwh-5TzX˙v`a wh 5Tf[TzhzTa–7T. zTæw¸æTzvæTZ,LVªT7Zw-&T¸u`श्Ivz,,w fnu- aęæhuTzT;oT fæJ,nlgvTz-7n;श्I˙wz&TV¸V,æ6æhBw¸zT7Zu-7T˘. aęæhuTzT;oT aTa

CO4. The students after the completion of this course will be able to contemplate and comprehend zTg¸a▮T˙w¸č;T;u,ægTn`vhvæT˙,gahaauvhz

Course 5: vuinh; भाषा ▮Tfgč; (Nčahlx6.h)

CO1. The students after the completion of this course will be able to contemplate and comprehend zvuT,˙-i,TvhuwfvI˙a /TæŻnT▮–x¸w i7˙;TaTxT˙uTæ a[TTnhvT˙gT˙,u"u5Tx` [;Ta ?Tu`zT,&TvuwzT˙&TT7Zz`, 57luauiT; w` ı

CO2. The students after the completion of this course will be able to contemplate and comprehend a[TuaTax¸lawT x|–LTuiTu

CO3. The students after the completion of this course will be able to contemplate and comprehend 5vTZvhuzvuTwTz7T˙. lč;&TTæT5Tf7azfva x| -lh[T ▮h[T w` xT˙B

CO4. The students after the completion of this course will be able to contemplate and comprehend 7T˘. fvu; iTBw wh wfvaT,˙-a˙; 7BFT▮▮¸wv7FT,,w fwflæ w` fu;Tv

CO5. The students after the completion of this course will be able to contemplate and comprehend æ¸w¸ĭnwT“शIa-Nčahlx6. xva ’’ N“ fačaT w` æu[T n`[TT`` ..... I`-æNzhæuaT[T a`FT`’’

CO6. The students after the completion of this course will be able to contemplate and comprehend l¸ĭnzata atætZ,wfvauTFTwश;i,zTævĭn,n`शTæ¸[T (z˙xwæhZ)

Course 6: fgĭnhभाषा–lTfgč; wT7fagTlaFTTwT0;T˙xfvv`vu

CO1. The students after the completion of this course will be able to contemplate and comprehend fgĭnh &TTषTwTLvwifvwTl- fgĭnh wz7čifča, fgĭnh wh æwa5Twz&TTषT,˙aFTTfvf&Tĭufv&TTषT5T``wTfvwTl ı fgĭnh &TTषT w` fvf&Tĭu wi–aTavTa wh &TTषT,zvuTčæw&TTषt,zt2Vª &ttषT,zTv&TTषT,l6iwZ&TTषT,l˙vTz&TTषT

CO2. The students after the completion of this course will be able to contemplate and comprehend fgĭnh wt atŏn&to7tz-ačlæ, an¸&tv, n’’Tv, 5TxaaTŏnTvahı

CO3. The students after the completion of this course will be able to contemplate and comprehend fgĭnh ▌TfgČ; wT7fagT▌ :-5TfnwTa, ĭwl æ/;wTa, 7čaz æ/;wTa5Tz5T/TfuwwTawhlTætfvw, ▌T˙Lw¸faw ĭ¸2B&twfæ, i,æ¸[t ;¸xĭ,v¸fča;t˙, fvf’’T2VzvuTwTz5Tz7uwhi,fafuf/T w¸fa;T, ▌Tfgfč;wfv’’T2TaT,˙ı

CO4. The students after the completion of this course will be able to contemplate and comprehend wT0;Tx–wT0; wTLvwlT ,v˙i,;T`vuız▌ w` fvf&TĭU&Tn, fvf&Tĭu5˙xg, fv&TTvTfnaFTT7nTgzoTl nt`gt, lt`zBt, vt“ĭt7Z, w¸o7fa;t˙, lv“;tı atŏnta˙wtz–5u¸i¸t▌, ;æw, aa`2t, vw,t`fua, i¸uwfuai,wt’’TI 5FTTZa˙wTz–7ĭiæT, wlTw, 7či¸ęTT, 5fa’’;Tfua, &T¸Tfaæ Tuı

CO5. The students after the completion of this course will be able to contemplate and comprehend ztv&tt2tt fgĭnh -æfawæt`g6æn

CO6. The students after the completion of this course will be able to contemplate and comprehend fgĭnh &tt2tt-7t˘. &TT˙aTuTFTfavTzhı

Course 7: Literature in English from 1550-1750 A.D.

CO1. The students after the completion of this course will be able to demonstrate knowledge of the major texts and traditions of English literature.

CO2. The students after the completion of this course will be able to contemplate and comprehend different periods of literature and important authors like Shakespeare, Milton, etc of English literature.

Course 8: Literature in English from 1750-1900 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and become familiar with representative literacy and cultural texts with in a significant number of historical and cultural contexts.

CO2. The students after the completion of this course will be able to contemplate and comprehend and form an idea about the various stages in the development of English literature.

Course 9: Modern English Literatures - I

CO1. The students after the completion of this course will be able to contemplate and comprehend and develop critical thinking through long and short fictions of English literature.

CO2. The students after the completion of this course will be able to write and appreciate different types of prose of English literature.

Course 10: Modern English Literatures – II

CO1. The students after the completion of this course will be able to familiarize with the plays of master-dramatists and will have developed the ability to appreciate and evaluate different types of plays of English literature.

CO2. The students after the completion of this course will be able to appreciate and evaluate different types of plays of English literature.

Course 11: Indian Writing in English

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the various phases of the evolution of Indian writing in English.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the thematic concern, genres and trends of Indian writing in English.

Course 12: American Literature

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the cultural themes, literary periods and key artistic features of American Literature.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the various aspects of American Society through a critical examination of the literary texts representing different periods and culture.

Course 13: Micro Economics

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the definitions, nature and scope of economics.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the theory of production and cost.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the market structure.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize factor pricing.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize welfare economics.

Course 14: Indian Economy

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize pre and post independent Indian economy.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in population and human development.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in agriculture.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in industry.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in foreign external sector.

Course 15: Macro Economics

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize national income & social accounts.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in consumption function.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the nature and characteristics of trade cycle.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in international trade.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize the functions of IMF, World Bank and WTO.

Course 16: Money, Banking and Public Finance

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize basic concepts of money.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the role of economics in commercial banking.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the meaning and scope of public finance.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the sources of public revenue and taxation.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize public debt and financial administration.

Course 17: Development and Environmental Economics

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize economic growth and development.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the relationship between economics and population problem & growth.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize Harrods and Domar growth model.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize therelationship between economics and environment & ecology.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize the concept of intellectual capital.

Course 18: Statistical Methods

CO1. The students after the completion of this course will be able to comprehend and apply statistical methods in economics.

CO2. The students after the completion of this course will be able to comprehend and apply the measurement of central tendency in economics.

CO3. The students after the completion of this course will be able to comprehend and apply the methods & tools of dispersion in economics.

CO4. The students after the completion of this course will be able to comprehend and apply coefficient of correlation in economics.

CO5. The students after the completion of this course will be able to comprehend and apply index number and measurement of trend in economics.

Course 19: Political Theory

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the nature and scope of political theory.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the concept of state, nation and civil society.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the meaning of organs of government and theory of separation of power.

Course 20:Indian Government and Politics

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the salient features in making of Indian Constitution.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize and appreciate the fundamental rights and duties and the directive principle of state policy.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize and evaluate the evolution, functioning and consequences of political parties in India.

Course 21:Western Political Thought

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the nature, methods and significance of political thought.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize and appreciate various social and political ideas of political thinkers.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize and demonstrate the knowledge of political thinkers and political concepts.

Course 22:Comparative Politics and Government

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize and critically assess presidential and parliamentary system.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the difference between federal and unitary systems of government.

Course 23:International Politics

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize and critically assess the international political system.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the relations of India with neighboring countries.

Course 24:Public Administration

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize and critically assess the administrative system of the nation.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize various concepts in public administration.

Course 25: History of India from the Beginning to 1206 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize India's geographical structure, historical and archeological sources, Stone Age, Harappa civilization.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize Vedic era, Mahajanapada era, Jainism, Buddhism, Alexander's Invasion, rise of Magadha, Mauraya dynasty.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize Chola dynasty, Pandian dynasty, Gupta dynasty, Pallava dynasty, Chalukya dynasty, Vardhan dynasty.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize historical relation between India & Srilanka, invasions by Mohammad Bin Kasim, Mohammad Ghazhvani, Mohammad Gauri, caste system, societal status of women – marriage system, sati system, pardah system, devdasi system, dasa system.

CO5. Students will be able to demonstrate a breadth of training across historical time and space.Students will be able to develop an in-depth understanding of a field, theme or region.

CO6. Students will be able to demonstrate an historical awareness of the diversity of the human experience across time and space.Students will be able to apply, assess and debate the major historical schools of thought, methodology and types of sources that historians use to make original arguments.Students will acquire basic historical research skills, and the effective use of libraries, archives, and databases.

CO7. Students will learn to organize and express their thoughts clearly and coherently both in writing and orally.Students will be able to formulate historical arguments and communicate those arguments in clear and persuasive prose.

Course 26: World History from 1453 to 1789 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize end of feudalism, Renaissance, religious reforms, rise of nation states – England, France, Spain, Russia, division of Poland.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize modern western world – revolution in commerce & trade - Capitalism, industrial revolution.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize beginning of colonialism, civil war in England, glorious revolution, rule of Louis 14th, America's war of Independence, French revolution and national assembly.

Course 27: History of India from 1206 to 1761 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize Sultanate rule, Slave dynasty, Khilji dynasty, Tughlaq dynasty, Taimur's Invasion.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize Babur's Mughal dynasty, Sher Shah Suri administration, policies of Akbar to Aurangzeb, Mughal administration.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize socio-economic aspects of Sultanate era, socio-economic aspects of Mughal era, religious and cultural aspects of medieval era – Bhakti movement, Sufism, art & establishment in Sultanate era, art & establishment in Mughal era, education & literature in Sultanate era, education & literature in Mughal era.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize Vijaya Nagar Kingdom – Raja Krishnadeva Raya, Chhatrapati Shivaji kingdom, Battle of Panipat.

Course 28: World History from 1789 to 1871 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize French revolution – National convention, Napoleon Bonaparte – rise & fall.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize Vienna Congress – combined system of Europe, Conservatism.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize revolutions of 1830 & 1848, Industrial revolution, England's Liberalism.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize reforms of 1832 & 1867, achievements of Napoleon IIIrd, rise of east, Greece's war of Independence, battle of Creamia, Russia – Czar Alexander IInd, unification of Italy, unification of Germany.

Course 29: History of India from 1761 to 1950 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize expansion of British rule – war & diplomacy – battle of Karnataka, Plasi, Buxor, alliance treaties.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize reforms in British rule, Capitalism – fall of industries & trade, fall of Agriculture and farmer's revolution, land revenue system.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize Indian renaissance – Brahma samaj, Aryasamaj, Ram Krishna mission, Theosophical society, Aligarh movement.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize progress of western education and Press, social classification of farmers, labors, middle class and women, rise of Nationalism and revolution of 1857.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize Indian National Congress – Moderates & Extremists, Gandhi's freedom movement, Communalism – rise & progress, Subhash Chandra Bose & Azad Hind Fauj, India's Constitutional development – 1919-1935 – Federal system – Provincial autonomy, India's Independence and Indian Constitution.

Course 30: World History from 1871 to 1945 A.D.

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the third republic of France, Bismarck – foreign policy, WilliamIInd – foreign policy, division of Africa.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize modernization of Japan, Japan-Russia war, Chinese revolution.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize Young Turk movement, Balkan war, World War – I.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize Russian revolution-1917, Warsaw Treaty.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize Italy's Fascism – Mussolini, Germany's Nazism – Hitler, Japan's Imperialism – Tajo, World War – II.

CO6. The students after the completion of this course will be able to contemplate and comprehend and recognize United Nations Organization (UNO) – establishment, composition, achievements.

Course 31:Introduction to Sociology

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the nature and scope of sociology.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the basic concepts of society, community, institution, association etc.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize different social groups.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize various social processes.

Course 32:Contemporary Indian Society

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the classical view about Indian Society and Varna Vyavastha.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the structure and composition of Indian society.

Course 33:Society in India

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize various social problems like Casteism, Regionalism, and Communalism etc.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize various social problems like Dowry, Domestic Violence, Divorce etc.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize basic Institutions of society.

Course 34:Crime and Society

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize social structure and anomalies.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize meanings, causes, consequences and remedies of Terrorism.

Course 35:Sociology of Tribal Society

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize classification of tribal people.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize socio cultural profile of tribe.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize various tribal problems.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize various tribal movements.

Course 36:Social Research Methods

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize & apply social survey and research.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize & apply research design.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize & apply techniques of data collection and statistics.

Course 37:Physical Geography - Elements of Geomorphology

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the effect of rotation and revolution the earth.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the interior structure of the earth.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize theory regarding of origin of continents and oceans.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the formation of rocks.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize the work of internal and external forces and their associated land forms.

Course 38:Introduction to Geography and Human Geography

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the relationship of man and environment.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the races of man kinds.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the modes of life of pigmy, Bushman, Eskimos, Masai, Gond and Nagar.

Course 39:Physical Geography - Climatology and Oceanography

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the weather and climate.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognizethe atmospheric moisture.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognizethe air masses and fronts.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the surface configuration of the ocean floor.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognizethe circulation of oceanic water.

CO6. The students after the completion of this course will be able to contemplate and comprehend and recognizethe marine deposits, coral reefs.

Course 40:Regional Geography with Special Reference to North America

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize theregional concept, bases of regionalization.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the structure, relief, climate and soils of North America.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the mineral and energy resources, Forests and North America.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the Agriculture belts, line stock and dairy forming in North America.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize the Industries and Regions of North America.

Course 41:Geography - Resources and Environment

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the resources: meaning, nature and components.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the distribution and utilization of resources.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the man environment interrelations.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the environmental conservation and management.

Course 42: Geography of India (with special reference to Chhattisgarh)

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize thegeo-physical features of India.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize thedrainage, climate of India.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the resources, geo-cultural features of India.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize thegeo-physical features, geo-cultural features of Chhattisgarh.

Course 43: Theory of Indian Music-I

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the different types of principles and history of Indian Classical Music like "Time theory of Ragas" by Acharya Bharat etc. which increase their knowledge about Classical Music.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Naad, Shruti, Swara, Saptak, Purvang, Uttarang, Vadi, Samvadi, Vivadi, Anuvadi, Alankar, That, Mind, Soota, Bol, Alap, Tan, Tihai, pakad.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Dhrupad, Dhamar, khyal, Thumari, Tarana, Tappa, Hori, Chaturang, Geet, bhaion, Ghazal.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize thecontributions of Musicians like Ameerkhusroi, Swami Haridas, Tansen, NayakBaiju, NayakGopal, Tyagraja.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize themerits and demerits of Musicians according to the Shastras.

CO6. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice theoretical details of prescribed Ragas like Yaman, Bhupali, AllhaiyaBilawal, Bhairav, Kafi, Khamaj, Brindavani - sarang, Durga (Bilawal That).

Course 44: Theory of Indian Music-II

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize the different types of Ragas and learn from those Ragas to how to sing and perform the style of classical music because every Raga has its own colour, own effect and wonderful chemistry of different swaras.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the Hindustani Music and Karnataka Music, short history, similarities and Differences.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize the Notation Systems - Pt. Bhatkhande and Pt. Paluskar.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize the time theory of the Ragas, Purva Raga, Utlar Raga, SandhiPrakash Raga.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize the formation of Ragas, Sampurna, Shadav, Audawa, Jati, That or Mel Theory.

CO6. The students after the completion of this course will be able to contemplate and comprehend and recognize the definition of Tala, Matra, Avartan, Bol, Vibhag, Khali, Bhari, Vilambit, Madhya and Drutlaya Writing of the Talas in Notation with Dugan.

Course 45: Theory of Indian Music, Vocal / Instrumental – I

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Graha, Ansha, NayasSwara, ParyayanshaSwara, Alpatava-Bahutva, Aavirbhava-Tirobhava, Gandharva- Gan, Nibaddha-AnibaddhaGan, Jamjama, Ghaseet, Krintan, Shuddha, Chayalag, Sankirna Raga, SwasthanNiyam, Ragalap, Aalapti, Akshiptika, Samvadatva.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize the contributions ofMusicianslikeSharangdeva, Acharya Bharat, Aahobal, Venkatmakhi, Sadarang-Adarang. Aalauddin Khan, Faiyaz Khan, Imdad Khan, Pt. Ravi Shankar.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Notation of Talas with Dugun and ChaugunLayakaries, Roopak, Teevra, Sultal, Deepchandi, Jhumra, Adachautal, Dhamar, Tilwara.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice KarnatakTaal System, Hindustani Taal System.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Vaggeyakar, UttamVageyakar, AdhamVaggeyakar, Classification of Instruments :- Tat, Vitat, Ghan, Shushir.

Course 46: Theory of Indian Music, Vocal / Instrumental - II

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize elementary of Medium-Sound, Musical Sound and Noise, Vibratory motions, Frequency, Pitch, Magnitude and Timber, Major Tone, Minor Tone, Semi Tone.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice 72 Melas of VenkatMukhi, 32 Thatas of V.N. Bhatkhande.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize history of Indian Music - Origin of Music, Vedic, Pauranik and Gupta Period.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Kajari, Chaiti, RabindraSangeet, Tribal Music, Lawani, Garba, Baul, Bhatiyali, Mand, Merits of a good listener, Qualities of a good listener to make any music programme a success.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice theoretical details of Ragas: Bihag, Kedar, Desh, Bageshwari, Malkauns, Jaunpuri, Bhairavi, Hameer, Kalingda, Kamod, Chhayanat, writing in notation of songs (Bandish) or gats, writing of a critical appreciation of Radio or T.V. Music (Classical) program.

Course 47: Theory of Indian Music, Vocal / Instrumental - III

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize Shruti, Gram, Murchana, Jaati, Sadaj-PanchamBhav, Sadaj-MadhyamBhav, Sada-jantarBhav, ChatuhSarana by Acharya Bharat, PramanShruti, KakuBhed, Jhala, Razakhani gat, Maseetkhani gat, Toda, Harmony and Melody Characteristics and comparative study of Harmony and Melody.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice methods of Placement of swars: method of placing shudha and Vilkrit Swaras on Veena by Ahobal, Pt. Srinivas and Pt. V.N. Bhatkhande, ShrutiSwar system of different granthakars (authors) Ancient, Medieval and Modern period.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice SwarSaptaka of western and Indian scales: Pythagorean Scale, Scale from Sadaj-PanchamBhav, Scale from Sadaj-MadhyamBhav, Equally tempered Scale, Diatonic Scale, Mean tempered Scale, Concept of Acharya Bharat and BilawalThata, Chromatic Scale.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognizeGharana and their history: Gwalior, Agra, Kirana, Patiyala, Jaipur, SeniaGharana of Instrumental Music.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Gram and Gram Bhed - Sadaj Gram, Madhyam Gram, Gandhar Gram and their Swaras.

CO6. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice writing of Talas in Natation with Dugun and Chaugunlayakaris in all the Talas.

Course 48: Theory of Indian Music, Vocal / Instrumental - IV

CO1. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice theoretical details of Ragas prescribed for practical course and their comparative study.

CO2. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice writing in notation of Bandish / Gat of prescribed Ragas.

CO3. The students after the completion of this course will be able to contemplate and comprehend and recognize contributions of the musicians likeHaddu - Hassu khan, InayatKan, PanditOmkarNath Thakur, Matang, Ramamatya, Srinivas, Lochan, Hrideya Narayan Dev, Somnath, BhavBhatta.

CO4. The students after the completion of this course will be able to contemplate and comprehend and recognize history of Indian Music: Medieval and Modern period; Analytical study of the styles, position and effects of granthkaras and eminent musician of medieval and modern Period.

CO5. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Classical Music and Folk Music: Comparative study of Classical and Folk music, Intensive study of the Folks of Chhattisgarh.

CO6. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice Voice-Culture: Definition, Importance and utility of voice-culture, Construction of throat and production of sound, General scientific methods of voice-culture.

CO7. The students after the completion of this course will be able to contemplate and comprehend and recognize & practice guided listening to Radio and T.V. national programs of Indian classical Music and ability to write their critical appreciation.

Course 49: Anatomy, Physiology & Hygiene

CO1. The students after the completion of this course will be able to describeanatomical structure &physiological functions of cell, tissue and their functions skeletal system - Types of bones, classification general structure & functions of bones, Muscular system - General structure, types and function.

CO2. The students after the completion of this course will be able to describeanatomical structure &physiological functions of Circulatory system - General structure of organs and functions, composition of blood & function, Respiratory system - General structure of organs and functions.

CO3. The students after the completion of this course will be able to describeanatomical structure &physiological functions of Digestive system - General introduction of Nutrients, Liver and spleen organs of digestion their general structure and function, Excretory system- organs of excretion, Kidney & skin - structure & function.

CO4. The students after the completion of this course will be able to describeanatomical structure &physiological functions of Nervous system - Central nervous system structure and function, Senses and Sensory organs - ear and eye structure & function.

CO5. The students after the completion of this course will be able to describeand apply principles of Hygiene - Personal Hygiene, social Hygiene, Environmental and Industrial Hygiene, Water - its importance and purification, Air - its importance and purification, First aid home nursing - Principles, qualities of nurse, responsibilities, selection of sick room, care of the patient,some common accidents and their aid, poison, bleeding, burns and scalds, fracture sprain, dislocation.

Course 50: Home Science - Extension Education

CO1. The students after the completion of this course will be able to describe, recognize and apply inHome Science - Concepts, goals and Areas of Home Science & their inter relationship with extension, Principles and methods of home science extension education general concepts of extension work, Objectives of extension education in qualities of extension workers, extension education process.

CO2. The students after the completion of this course will be able to describe, recognize and apply principles of community development organization and function of community development, Role of home scientists in community development, programmes of extension education for community, programmes of community development at central, state, district, block and village level, Family planning programme, Community problems, child marriage, Dowry system, pardapratha, rural indebtedness unemployment.

CO3. The students after the completion of this course will be able to describe, recognize and apply methods of learning - Discussion, demonstration, observation and their application to home science teaching, Extension Methods - their scope advantages and application, Scope and use in Home Science teaching, Extension Methods - their scope advantages and application.

CO4. The students after the completion of this course will be able to describe, recognize and apply in attitude towards Home Science, Motivation towards Home Science, Application of Home Science towards improvement in family living, Job opportunities in Home Science, National and International agencies and their collaboration with Home Science, Official organization Home Science Association of India, W.H.O. FAG, CARE, ICAR, ICDS, ICSSR, ICMR, IRDP, Adult education.

CO5. The students after the completion of this course will be able to describe, recognize and apply basic concept of curriculum planning, components of curriculum planning, implementation, evaluation and improvement required in the existing system of H.Sc. education policy and its relevance to H.Sc. Programme planning-concept, principles, objectives and steps in programme planning.

Course 51: Fabric & Cloth Science

CO1. The students after the completion of this course will be able to describe, recognize and apply in fabric science and its testing, cloth weaving and its styling.

CO2. The students after the completion of this course will be able to describe, recognize and apply textile ornamentation, selection of dyes and fabrics.

CO3. The students after the completion of this course will be able to describe, recognize and apply textile & cloth printing and its types, tie & dye methods.

CO4. The students after the completion of this course will be able to describe, recognize and apply laundry methods for various fabrics and cloth materials, stain removal.

CO5. The students after the completion of this course will be able to describe, recognize and apply dress designing, fashion designing according to personality types, types of dress designing & ornamentation.

Course 52: Family Resource Management

CO1. The students after the completion of this course will be able to describe, recognize and apply in Home management process, role of home-maker, decision making.

CO2. The students after the completion of this course will be able to describe, recognize and apply in Home decoration, interior designing, selection of colors for home, furniture selection, flower decoration.

CO3. The students after the completion of this course will be able to describe, recognize and apply in family resource management, time management, man-power management, income management, family income and budget, family savings, standard of living, account / book keeping.

CO4. The students after the completion of this course will be able to describe, recognize and apply in Kitchen planning & management, modernization of kitchen and kitchen space, use of alternative energy sources like solar, water distribution system, ventilation, lighting and storage.

CO5. The students after the completion of this course will be able to describe, recognize and apply in simplification of work, process charts, tools and methods for saving time, energy, labor and money.

Course 53: Home Science - Human Development

CO1. The students after the completion of this course will be able to describe, recognize and apply in child growth and development, different aspects of growth, principles of development, factors affecting child development, heredity and environment.

CO2. The students after the completion of this course will be able to describe, recognize and apply in stages of development - Physiology of pregnancy, Prenatal - Reproductive system, Prenatal development, Infancy, Early infancy, Babyhood, Childhood, Early childhood, Late childhood, Adolescence, Early adolescence, Late adolescence, prenatal growth and development - Sources of studying prenatal life, Stages of growth prenatal and development, Factors affecting prenatal and development growth, Mother's food, Health of mother, Narcotics, Age of parents, Effect of season, Emotion of mother.

CO3. The students after the completion of this course will be able to describe, recognize and apply in effect of normal and caesarean delivery, Adjustment to new environment – Temperature, Respiration, Food consumption, Excretion, Physical development of infant-Physical proportion, Height, Weight, Pulse rate, Respiration rate, Bodytemperature, Frequency of hunger, Sensory development of infant – Light, Sound, Taste, Smell, Skin sensitivity, Motor activity of infants -Mass activities, Specific activities -Reflex activities, Advantages of reflex action, Emotions of infants -Types of emotions, Significance of emotions, Characteristics of infant behavior– Dependency, Individual difference, Adjustment.

CO4. The students after the completion of this course will be able to describe, recognize and apply in childhood : Adolescence, Characteristics of this stage, Factors affecting growth and development during childhood and adolescence, Physical growth height, weight, body proportion, teeth, Growth and development of internal organs – Nervous, Mental, Circulatory system, Digestive system, Respiratory system, Tissues and muscles systems, Development of motor abilities, Types of motor abilities, importance and characteristics of motor abilities in childhood, Development of motor skills, Types of motor skills, Delayed motor development.

CO5. The students after the completion of this course will be able to describe, recognize and apply in development of emotional behavior-characteristics special emotions (affection, anger, fear, jealousy and worries) factors affecting emotional behavior, Social developments stages - during infancy, nursery school period, elementary school period, Factor affecting social development, Development of intelligence - Types according to Thorndike, theories regarding intelligence.

CO6. The students after the completion of this course will be able to describe, recognize and apply in Play, work and play, theories of play, characteristics of children's play, types of play, factors effecting play and importance of play, Habits : Definition, Functions performed by habits, Habits and learning, Laws of habit formation-identical to laws of learning, Habit formation, Principles of habit formation, Rules for habit formation, Children delinquency-Types causes and remedial measures.

Course 54: Food & Nutrition Science

CO1. The students after the completion of this course will be able to describe, recognize and apply the principles and components of nutrition like carbohydrates, lipids, proteins, minerals, vitamins & water and their sources, RDA, metabolism and deficiency.

CO2. The students after the completion of this course will be able to describe, recognize and apply the principles and components of foods like food groups, cereals & grains, pulses & legumes, milk & dairy products, vegetables & fruits, egg, meat, fish & poultry, sugar, jiggery & honey, beverages & spices and their types, composition, nutrition, cooking and processing.

CO3. The students after the completion of this course will be able to describe, recognize and apply the principles and components of food preservation, food spoilage, food toxicity, food adulteration, food hygiene and food storage.

CO4. The students after the completion of this course will be able to describe, recognize and apply the principles and components of dietary management & menu planning, RDA, economics of menu planning, infant nutrition, pediatric nutrition, child nutrition, student & youth nutrition, nutrition during pregnancy and lactation, geriatric nutrition.

CO5. The students after the completion of this course will be able to describe, recognize and apply the principles and components of therapeutic nutrition, therapeutic nutrition for - diabetics, under-weight & over-weight, anemic, vitamin deficiency, protein energy malnutrition, liver diseases, peptic ulcer, indigestion, diarrhea, constipation, hypertension.

Course 55: Basic Psychological Process

CO1. The students after the completion of this course will be able to describe, recognize and apply thebasic human behavior like thinking, learning, sensations, perception, attention, intelligence and personality traits.

Course 56: Psychopathology

CO1. The students after the completion of this course will be able to describe, recognize and apply theknowledge about mental illness or mental distress or the dysfunctional behavior indicative of psychological impairment.

CO2. The students after the completion of this course will be able to describe, recognize the underlying causes in respect of genetics, psychological or social factors and understand the treatment.

Course 57: Social Psychology

CO1. The students after the completion of this course will be able to describe, recognize and apply the know-how of people's thoughts, feelings and behaviors being influenced in social setting.

Course 58: Psychological Assessment

CO1. The students after the completion of this course will be able to describe, recognize and apply the process and types of testing that uses tools to measure and conclude person's behavior in personal, social and occupational setting.

Course 59: Psychology - Human Development

CO1. The students after the completion of this course will be able to describe, recognize and apply the knowledge of biological and psychological development of the human being throughout the life span.

Course 60: Psychological Statistics

CO1. The students after the completion of this course will be able to describe, recognize and apply the formulas, theorems, numbers and laws to understand human psychology.

Course 61: Dance (BharatNatyam) –I

CO1. The students after the completion of this course will be able to describe and recognize the ancient history of dance during Indus valley civilization, Vedic era, Ramayana era and Mahabharata era.

CO2. The students after the completion of this course will be able to describe and recognize the ancient history of UmaShankar's various dance related tales& legends.

CO3. The students after the completion of this course will be able to describe and recognize the ancient history of Natwar Shri Krishna's various dance related tales & legends.

CO4. The students after the completion of this course will be able to describe and recognize the ancient history of origin of BharatNatyam dance form and BharatNatyam Shastra.

CO5. The students after the completion of this course will be able to describe and recognize the tradition of religious folklore dance drama forms like Ramleela, Raasleela, Bhavai, Raii, Mach.

Course 62: Dance (BharatNatyam) –II

CO1. The students after the completion of this course will be able to describe, recognize and practice the Taal and its different scales and frequencies.

CO2. The students after the completion of this course will be able to describe, recognize and practice the traditional celebratory folk dances of Chhattisgarh like Karsa, Dadariya, Suva, Reena.

CO3. The students after the completion of this course will be able to describe, recognizethe significance and role of dance in music.

CO4. The students after the completion of this course will be able to describe, recognize and practice the significance and role of dance in body movements.

CO5. The students after the completion of this course will be able to describe, recognize and practice the significance of Guru Vandana in BharatNatyam tradition.

Course 63: Dance (BharatNatyam) –III

CO1. The students after the completion of this course will be able to describe and recognize the history of dance from Panini era to Gupta era.

CO2. The students after the completion of this course will be able to describe, recognize and practicevarious forms of acts during dance.

CO3. The students after the completion of this course will be able to describe and recognize various Indian Classical dance forms.

CO4. The students after the completion of this course will be able to describe, recognize and practice traditional south Indian Taal system.

CO5. The students after the completion of this course will be able to describe, recognize and practice the tradition of religious folklore dance drama forms like Jatra, Garba, DandiyaRaas etc.

Course 64: Dance (BharatNatyam) –IV

CO1. The students after the completion of this course will be able to describe and recognize the basic qualities and faults of a danseuse artist.

CO2. The students after the completion of this course will be able to describe, recognize and practice stages / phases of BharatNatyam.

CO3. The students after the completion of this course will be able to describe and recognize the biographies and contributions of veteran BharatNatyam danseuse artists like Srimati Gauri Amma and Sri Meenakshi Sundaram Pillai.

Course 65: Dance (BharatNatyam) –V

CO1. The students after the completion of this course will be able to describe and recognize the history of dance from Gupta era to modern era.

CO2. The students after the completion of this course will be able to describe and recognize the history of traditional changes & reforms in Indian classical dance forms.

CO3. The students after the completion of this course will be able to describe and recognize the history of BharatNatyam Shastra.

Course 66: Dance (BharatNatyam) –VI

CO1. The students after the completion of this course will be able to describe and recognize the traditional Tandava and Lakshya forms of BharatNatyam.

CO2. The students after the completion of this course will be able to describe, recognize and practice the tradition of religious folklore dance drama forms like YakshaGana, Kucchipudi etc.

CO3. The students after the completion of this course will be able to describe, recognize and practice the traditional celebratory folk dances like Kolaattam, Pinnal Kola Pattam, Kucchipudi etc.

CO4. The students after the completion of this course will be able to describe and recognize the significance of Taal in Indian dance forms.

CO5. The students after the completion of this course will be able to describe and recognize the biographies of classical Indian dance artists like Srimati Rukmini Devi, Sri Shambhu Maharaj, Sri Lachchu Maharaj, Srimati Bala Saraswati etc.

Course 67: Theory Fundamental of Painting (Art) – Still Life

CO1. The students after the completion of this course will be able to describe, recognize and practice the creativity depth of any object, shades, light and measurements.

CO2. The students after the completion of this course will be able to describe, recognize and practice the Art, Classification of Art, Elements of painting - Line, Form, Colour, Tone, Texture, Space, Shadang - Rupa Veda, Pramanani, Bhava, Labanya, Yojan, Sadrusya, Varnika Bhang.

Course 68: Theory Fundamental of Painting (Art) –Basic Design

CO1. The students after the completion of this course will be able to describe, recognize and practice to develop some decorative designs of natural objects like Flower, Leaf etc. which will be used in poster, pots or apparel designing.

CO2. The students after the completion of this course will be able to describe, recognize and practice the form of natural element and later object will be decorated and repeated, Forms like Flower, leaf, fruits, pot, Ball and Geometrical design will be drawn and painted with water colour and poster colour.

Course 69: History of Indian Painting – Portrait from Head

CO1. The students after the completion of this course will be able to describe, recognize and practice to develop skill of making portrait of a person with the use of shades & light.

CO2. The students after the completion of this course will be able to describe, recognize and practice to develop skill of making plaster or cement head portrait.

Course 70: History of Indian Painting – Composition

CO1. The students after the completion of this course will be able to describe, recognize and practice to develop the skill of making human figures with composition.

CO2. The students after the completion of this course will be able to describe, recognize and practice to develop the skill of drawing human figure with poster color.

Course 71: History of Indian Painting – Copy from Indian Miniature Painting

CO1. The students after the completion of this course will be able to describe and recognize the contributions of Bengal school's Rabindranath Tagore, Nandlal Bose.

CO2. The students after the completion of this course will be able to describe and recognize the contributions of Modern age's Raja Ravi Verma, Amrita Sher Gill, Yamini Ray.

CO3. The students after the completion of this course will be able to describe and recognize the contributions of progressive art group's M.F. Hussain, S.H. Raza.

CO4. The students after the completion of this course will be able to describe, recognize and practice to develop the skill of Indian miniature painting style Mughal, Pahadi, Rajasthani.

Course 72: History of Indian Painting – Creative Composition

CO1. The students after the completion of this course will be able to describe, recognize and practice to develop the skill of experimenting with any media and forms.

Course Outcomes (CO) of the Courses common to all the UG Programmes mentioned above

Course: Foundation course English Language

CO1. The student will be able to write a paragraph with a topic sentence, support and concluding sentence.

CO2. The student will be able to produce appropriate vocabulary and correct word forms.

CO3. The student will be able to use grammatical structures accurately.

CO4. The student will be able to broaden their vocabularies and develop an appreciation of language.

CO5. The student will be able to be competent to write a report or idea expansion.

CO7. The student will be able to summarize and paraphrase information in a text.

Course: Environmental Studies and Human Rights

CO1. The students after the completion of this course will be able to describe, recognize and practice multi disciplinary nature of environmental studies, natural resources: renewable and non-renewable resources - forest resources, deforestation, timber extraction, mining, dams and their effects on forests and tribal people and relevant forest act, water resources, surface and ground water, floods drought, conflicts over water, dams benefits and problems and relevant act, mineral resources, environmental

effects of extracting and using mineral resources, food resources, world food problems, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, energy resources, renewable and non-renewable energy sources, use of alternate energy sources, land resources, land degradation, man induced landslides, soil erosion and desertification.

CO2. The students after the completion of this course will be able to describe, recognize and practice ecosystem - producers, consumers and decomposers, energy flow in ecosystem, ecological succession, food chains, food webs and ecological pyramids, structure and function of forest, grass, desert and aquatic ecosystem.

CO3. The students after the completion of this course will be able to describe, recognize and practice biodiversity and its conservation, genetic, species and ecosystem diversity, bio-geographical classification of India, value of biodiversity: consumptive use, productive use, social ethics, aesthetic and option values, biodiversity at global, national and local levels, India as mega-diversity nation, hot spots of biodiversity, threats to biodiversity, habitat loss, poaching of wildlife, man-wild life conflict, endangered and endemic species of India, conservation of biodiversity: in situ and ex-situ conservation of biodiversity..

CO4. The students after the completion of this course will be able to describe, recognize and practice pollution: causes, effect and control measures for – air, water, soil, marine, noise, nuclear pollution and human population, solid waste management, urban and industrial wastes, disaster management: floods, earthquake, cyclone and landslides, environmental management - from unsustainable to sustainable development, water conservation, rain water harvesting, water shed management, resettlement and rehabilitation of people, environmental ethics, climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, wasteland reclamation, environment protection act, environmental legislation, information technology in environment and human health.

CO5. The students after the completion of this course will be able to describe, recognize and practice concepts of human rights, classification of human rights, protection of human rights under the UNO charter, protection of human rights under the universal declaration of human rights, 1948 convention on the elimination of all forms of discrimination against women, convention on the rights of the child, 1989.

CO7. The students after the completion of this course will be able to describe, recognize and practice human rights norms in India, human rights under the constitution of India, fundamental rights under the constitution of India, directive principles of state policy under the constitution of India, enforcement of human rights in India, protection of human rights under the human rights act, 1993- national human rights commission, state human rights commission and human rights court in India, fundamental duties under the constitution of India.

M.A. SOCIOLOGY – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. Students would be able to think critically on societal issues and its national & global implications.

PO2. Students would be able to shoulder social and ethical responsibilities in its true form and hence develop into a better citizen.

PO3. Students would be able to perceive social issues both objectively and subjectively.

PO4. Students would be able to develop better social interaction skills for greater exchange of thoughts and ideas.

PO5. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO6. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO7. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO8. The students will be able to demonstrate compassionate social concern and act with a cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO9. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO10. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO11. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Tradition. Students would be able to understand sociological phenomena of individuals, socio-ethnic structures, socio-cultural institutions and socio-economic inequality.

PSO2. The students after the completion of this programme will be able to contemplate and comprehend Philosophical and Conceptual Foundation of Social Research. Students would be able to effectively communicate and draft sociological concepts and theories associated with real life situations.

PSO3. The students after the completion of this programme will be able to contemplate and comprehend Social Change in India. Students would be able to perform analytical thinking on the basis of survey, census & research of qualitative and quantitative data & information.

PSO4. The students after the completion of this programme will be able to contemplate and comprehend Rural Sociology. Students would be able to become a thorough professional with social intellect so as to have career opportunities galore social welfare, rural development, public policy, governance, business, social foundations, NGO and academia.

PSO5. The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Thinkers.

PSO6. The students after the completion of this programme will be able to contemplate and comprehend and apply Quantitative Research Techniques in Sociology.

PSO7. The students after the completion of this programme will be able to contemplate and comprehend Sociology of Development.

PSO8. The students after the completion of this programme will be able to contemplate and comprehend Indian Rural Society.

PSO9. The students after the completion of this programme will be able to contemplate and comprehend Classical Sociological Theories.

PSO10. The students after the completion of this programme will be able to contemplate and comprehend Social Movements in India.

PSO11. The students after the completion of this programme will be able to contemplate and comprehend Perspectives of Study to Indian Society.

PSO12. The students after the completion of this programme will be able to contemplate and comprehend Industry and Society in India.

PSO13. The students after the completion of this programme will be able to contemplate and comprehend Criminology.

PSO14. The students after the completion of this programme will be able to contemplate and comprehend Modern Sociological Theories.

PSO15. The students after the completion of this programme will be able to contemplate and comprehend Comparative Sociology.

PSO16. The students after the completion of this programme will be able to contemplate and comprehend Contemporary issues in Industry.

Course Outcomes (CO)

Course 1: Classical Sociological Tradition

CO1. Students will be able to make sense of modernity by identifying the emergence of sociology as a discipline.

CO2. Students will be able to understand critically and comparatively the methodological preferences of the founders of sociology.

Course 2: Philosophical and Conceptual Foundation of Social Research

CO1. Students will be able to recognize various issues in social research.

CO2. Students will be able to undertake research by selectively choosing and formulating a social research problem.

Course 3: Social Change in India

CO1. Students will be able to perceive disciplinary & inter-disciplinary ideas about the sociology and social change in India.

CO2. Students will be able to recognize the various factors of sociology and social change in India.

Course 4: Rural Sociology

CO1. Students will be able to assimilate the theoretical and empirical knowledge of the past and present rural scenario and approach in rural sociology.

CO2. Students will be able to identify with the various changes and development in rural sociology.

Course 5: Classical Sociological Thinkers

CO1. Students will be able to explain the major themes of Marxian and Weberian perspectives on the social world.

CO2. Students will be able to compare and differentiate between Marxian and Weberian perspectives on the social world.

Course 6: Quantitative Research Techniques in Sociology

CO1. Students will be able to assess, interlink, correlate and use the measures of central tendency and measures of variation involved in social research.

Course 7: Sociology of Development

CO1. Students will be able to distinguish development theory from development as project and relate project development to environmental degradation and social use/abuse.

Course 8: Indian Rural Society

CO1. Students will be able to absorb the theoretical and empirical knowledge of the past and present rural scenario and intricacies of social fabric in India.

Course 9: Classical Sociological Theories

CO1. Students will be able to recognize the role of a sociological theory in the application of conceptual frameworks in a social research progress.

CO2. Students will be able to comprehend various sociological theories like structuralism and exchange theory.

Course 10: Social Movements in India

CO1. Students will be able to understand the nature and types of social movements in India.

CO2. Students will be able to comprehend the theoretical perspectives of social movements in India.

Course 11: Perspectives of Study to Indian Society

CO1. Students will be able to explain the major methods and concepts used in the systematic study of Indian society, its social classes, its social fabric and its sociological issues.

Course 12: Industry and Society in India

CO1. Students will be able to identify the trends of Industrial disputes in Indian society and their impacts on Indian social classes & sociology.

Course 13: Criminology

CO1. Students will be able to familiarize with mainstream criminological theories.

CO2. Students will be able to apply theories of crime and criminal justice to explain actual and hypothetical scenarios, behaviors and trends.

Course 14: Modern Sociological Theories

CO1. Students will be able to debate on modern sociological theories.

CO2. Students will be able to identify the origin and development of modern sociological theories.

Course 15: Comparative Sociology

CO1. Students will be able to compare the historical and social context of emergence of sociology.

CO2. Students will be able to identify various theoretical concerns in comparative sociology.

Course 16: Contemporary issues in Industry

CO1. Students will be able to ascertain the history, objectives and functions of trade unionism in India.

CO2. Students will be able to contemplate on Industrialization in the third world countries.

M.A. English Literature – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. Students would be able to think critically on contemporary literary issues of English literature and its national & global implications.

PO2. Students would be able tosignify theinfluence of English literature on contemporary societal causes and hence develop into a better citizen.

PO3. Students would be able to perceive contemporaryliterary issues of English literature both objectively and subjectively.

PO4. Students would be able to develop better social interaction skills for greater exchange of thoughts and ideas.

PO5. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO6. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.

PO7. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO8. The students will be able to demonstrate compassionate social concern and act with an cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO9. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO10. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO11. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will be able to contemplate and comprehend Poetry in English literature.

PSO2. The students after the completion of this programme will be able to contemplate and comprehend Drama in English literature.

PSO3. The students after the completion of this programme will be able to contemplate and comprehend Prose in English literature.

PSO4. The students after the completion of this programme will be able to contemplate and comprehend Fiction in English literature.

PSO5. The students after the completion of this programme will be able to contemplate and comprehend History of English Literature.

PSO6. The students after the completion of this programme will be able to contemplate and comprehend Critical Theory in English literature.

PSO7. The students after the completion of this programme will be able to contemplate and comprehend Indian Writing in Englishliterature.

PSO8. The students after the completion of this programme will be able to contemplate and comprehend the influence of American literature on English literature.

PSO9. The students after the completion of this programme will be able to contemplate and comprehend the influence of Colonial and Post-Colonial Studieson English literature.

PSO10. The students after the completion of this programme will be able to contemplate and comprehend the influence of Linguisticson English literature.

Course Outcomes (CO)

Course 1: Poetry

CO1. Students would be able to identify a variety of forms and genres of poetry from diverse cultures and historic periods, such as sonnets, ballads, dramatic monologues, epic and pastoral, free verse, Elegy etc.

CO2. Students will be able to recognize the rhythms metrics and other musical aspects of poetry.

Course 2: Drama

CO1. Students would be able to identify and understand the insights, genres, conventions and experimentations associated with English Drama.

CO2. Students will be able to explore how writers use the resources language's creativity to explore the entire range of human experience through dramas as a literary form.

Course 3: Prose

CO1. Students would be able to identify and understand a literary text in different contexts, and be aware of socio-political and economic conditions of the society from different periods.

CO2. Students will be able to write precisely with brevity.

Course 4: Fiction

CO1. Students would be able to identify and understand various cultures and construction of gender, nation and race throughout the history.

CO2. Students will be able to learn human values and the behavioral patterns from great work of art.

CO3. Students will be able to develop the ability to understand human race.

Course 5: History of English Literature

CO1. Students would be able to identify and delineate major writers and their works in chronological order.

CO2. Students will be able to compare English literature of one period with that of another.

CO3. Students will be able to classify all major literary works.

Course 6: Critical Theory

CO1. Students would be able to debate the nature of literary criticism based on classical Greek paradigms and trace the historical development of criticism.

CO2. Students will be able to develop an aptitude for critical analysis of literary works.

Course 7: Indian Writing in English

CO1. Students would be able to become aware of social, political and cultural issues reflected in Indian writing in English.

CO2. Students will be able to develop awareness for Indian social reformations, freedom struggle, women education and empowerment in nineteenth century.

CO3. Students will be able to to discuss major class / Caste issues in the context of Indian Literature.

Course 8: American Literature

CO1. Students would be able to inculcate a rhetorical approach to the literary study of American texts and also the conceptions, generalization, myths and beliefs about American cultural history.

CO2. Students will be able to develop awareness of the social, historical, literary and cultural elements of the changes in American literature.

CO3. Students will be able to analyze literary works of eminent American writers.

Course 9: Colonial and Post-Colonial Studies

CO1. Students would be able to explore and understand ways in which literary theory applies to their own lives and cultures in Post-Colonial literature.

CO2. Students will be able to develop understanding and assessment of various mainstream and subaltern cultures and appreciate them.

Course 10: Linguistics

CO1. Students would be able to identify the symbols of all the 44 English sounds, and transcription of the sounds.

CO2. Students will be able to improve the fluency in spoken English and neutralize mother tongue influence.

M.A. Political Science – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. Students would be able to think critically on political issues and its national & global implications.

PO2. Students would be able to shoulder socio-political responsibilities in its true form and hence develop into a better citizen.

PO3. Students would be able to perceive political issues both objectively and subjectively.

PO4. Students would be able to develop better socio-political awareness and interaction skills for greater exchange of political thoughts and socio-political ideas.

PO5. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO6. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO7. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO8. The students will be able to demonstrate compassionate social concern and act with a cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO9. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO10. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO11. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will be able to proactively contemplate and comprehend Indian Political Thought.

PSO2. The students after the completion of this programme will be able to proactively contemplate and comprehend Indian Government and Politics.

PSO3. The students after the completion of this programme will be able to proactively contemplate and comprehend Comparative Politics.

PSO4. The students after the completion of this programme will be able to proactively contemplate and comprehend International Organization.

PSO5. The students after the completion of this programme will be able to critically contemplate and comprehend Western Political Thought.

PSO6. The students after the completion of this programme will be able to proactively contemplate and comprehend and actively participate inState Politics in India.

PSO7. The students after the completion of this programme will be able to critically contemplate and comprehend Comparative Politics of Developing Countries.

PSO8. The students after the completion of this programme will be able to critically contemplate and comprehend Indian Foreign Policy.

PSO9. The students after the completion of this programme will be able to deeply contemplate and comprehend Principles of International Politics.

PSO10. The students after the completion of this programme will be able to proactively contemplate and comprehend and critically gauge Public Administration – I.

PSO11. The students after the completion of this programme will be able to proactively contemplate and comprehend and apply the principles of Research Methodology - I in political issues.

PSO12. The students after the completion of this programme will be able to proactively and critically contemplate and comprehend and perform a participatory role in Government and Politics of Chhattisgarh.

PSO13. The students after the completion of this programme will be able to critically contemplate and comprehend Contemporary of International Politics.

PSO14. The students after the completion of this programme will be able to proactively contemplate and comprehend and critically gauge Public Administration – II.

PSO15. The students after the completion of this programme will be able to proactively contemplate and comprehend and apply the principles of Research Methodology - II in political issues.

PSO16. The students after the completion of this programme will be able to critically and proactively contemplate and comprehend Political Ideologies and Modern Political Thought and choose the best suitable one for individual's, society's, state's and nation's uprising.

Course Outcomes (CO)

Course 1: Indian Political Thought

CO1. The students will be able to critically contemplate and comprehend on Indian Political thought and philosophical thinkers.

CO2. The students will be able to critically contemplate and comprehend about the new thinkers like Nehru, DeendayalUpadhyay, AbdulKalam etc.

Course 2: Indian Government and Politics

CO1. The students will be able to critically explain the politics, governance and authority of India.

CO2. The students will be able to critically assess the information about racism, regionalism, communalism, criminalization and corruption and be refrained from such politics and politicians.

Course 3: Comparative Politics

CO1. The students will be able to critically judge the useful information about the probable consequences of different political order.

CO2. The students will be able to critically assess the constitutions or party systems of different countries and voluntary participate to bring positive changes in Indian political atmosphere.

Course 4: International Organization

CO1. The students will be able to critically decide upon the scope and subject matter of International relation.

CO2. The students will be able to critically assess the basic concepts like Globalization in contemporary world order.

Course 5: Western Political Thought

CO1. The students will be able to critically understand the dominant feature of ancient western political thought.

CO2. The students will be able to critically assess features of medieval political thought.

Course 6: State Politics in India

CO1. The students will be able to critically understand the State Legislature and State Executives.

CO2. The students will be able to critically assess the demand for State Autonomy.

Course 7: Comparative Politics of Developing Countries

CO1. The students will be able to critically understand the classification of Government.

CO2. The students will be able to critically assess the political development, political Elites, Political socialization, Political Modernization.

Course 8: Indian Foreign Policy

CO1. The students will be able to critically ascertain the increasing India's influence in the international platform.

CO2. The students will be able to critically assess India's foreign policy and India's engagement with the rest of the world.

CO3. The students will be able to critically examine India's foreign relations with her neighbors.

Course 9: Principles of International Politics

CO1. The students will be able to critically assess the evolution of International politics.

CO2. The students will be able to critically contemplate the theories of International politics.

CO3. The students will be able to critically examine the nature and developments in International politics.

Course 10: Public Administration – I

CO1. The students will be able to critically ascertain the concept of administration in India.

CO2. The students will be able to critically compare traditional approach and new approaches.

CO3. The students will be able to critically examine the structure and operation of public organizations.

Course 11: Research Methodology – I

CO1. The students will be able to critically ascertain and apply various research methods used in social science by drawing upon a range of theoretical and empirical research in survey studies of political science.

CO2. The students will be able to critically examine the theoretical aspects comprising an exploration of various theories, concepts and term that are part of the research methodologyin survey studies of political science.

Course 12: Government and Politics of Chhattisgarh

CO1. The students will be able to critically ascertain and comprehend the main determining factors and features of state politics in Chhattisgarh.

CO2. The students will be able to critically assess the various national movements in Chhattisgarh and major social reformist and political leaders.

Course 13: Contemporary of International Politics

CO1. The students will be able to critically ascertain and comprehend the fundamental theories and themes of contemporary International politics.

CO2. The students will be able to critically think, analyze information, and express their ideas clearly in the practice of International politics.

Course 14: Public Administration – II

CO1. The students will be able to critically ascertain the importance of public administration in India.

CO2. The students will be able to critically examine the characteristics of public administrationin India.

CO3. The students will be able to critically assess the operations of public organizationsin India.

Course 15: Research Methodology – II

CO1. The students will be able to perform the critical review of published political science literature and research for advancement of new research and development in political science.

CO2. The students will be able to critically examine the research methodology used in survey studies of political science.

CO3. The students will be able to critically analyze the data used in survey studies of political science and comprehend the data based conclusive interpretations for political survey studies in India.

Course 16: Political Ideologies and Modern Political Thought

CO1. The students will be able to perform the critical comprehension, review and assessment of various concepts like Individualism, Existentialism, Feminism, Liberalism, Socialism etc prevalent in national and international political scene.

CO2. The students will be able to critically contemplate, assess and review of political thinkers like Antonio Gramsci, Jean Paul Sartre and their political views and opinions.

M.Com. – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. The Master of Commerce (M.Com.) semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of commerce by providing systematic learning of managerial economics, advance accounting, income tax law & account, statistical analysis, corporate legal framework, business economics, specialized accounting, tax planning & management, advanced statistics, business law, management concept, organizational behavior, advanced cost accounting, management accounting, accounting for managerial decisions, principles of marketing, advertising & sales management, marketing research, international marketing and research project work. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.

PO2. The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of commerce.

PO3. The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments,

industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.

PO4. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO5. The students will be able to communicate effectively throughspeaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO6. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO7. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO8. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO9. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO10. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Managerial Economics.

PSO2. The students after the completion of this programme will become well versed with Advance Accounting.

PSO3. The students after the completion of this programme will be able to understand Income Tax Law and Account.

PSO4. The students after the completion of this programme will be able to understand Statistical Analysis.

PSO5. The students after the completion of this programme will be able to identify a Corporate Legal Framework.

PSO6. The students after the completion of this programme will be able to understand the Business Economics.

PSO7. The students after the completion of this programme will be able to understand the essentials of Specialized Accounting.

PSO8. The students after the completion of this programme will be able to understand the essentials of Tax Planning and Management.

PSO9. The students after the completion of this programme will be able to understand the essentials of Advanced Statistics.

PSO10. The students after the completion of this programme will be able to understand the principles of Business Law.

PSO11. The students after the completion of this programme will be able to understand the essentials of Management Concept.

PSO12. The students after the completion of this programme will be able to understand the fundamentals of Organizational Behaviour.

PSO13. The students after the completion of this programme will be able to understand the principles of Advance Cost Accounting.

PSO14. The students after the completion of this programme will be able to recognize the procedures of Management Accounting.

PSO15. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Accounting for Managerial Decisions.

PSO16. The students after the completion of this programme will be able to understand the Principles of Marketing.

PSO17. The students after the completion of this programme will be able to understand the procedures ofAdvertising and Sales Management.

PSO18. The students after the completion of this programme will be able to understand the essentials and fundamentals of Marketing Research.

PSO19. The students after the completion of this programme will be able to understand the essentials and fundamentals of International Marketing.

PSO20. The students after the completion of this programme will be able to do Project Work in various fields of commerce studies.

Course Outcomes (CO)

Course 1: Managerial Economics

CO1. The students after the completion of this course will be able to comprehend with the basic concepts, terms &provisions of managerial economics.

CO2. The students after the completion of this course will be able to determine the prices under different market forms.

CO3. The students after the completion of this course will be able to comprehend with the concepts of inflation, slowdown, deflation, stagflation and recession in an economy.

Course 2: Advance Accounting

CO1. The students after the completion of this course will be able to comprehend with the basic accounting structure of companies.

CO2. The students after the completion of this course will be able to find out how a company can dissolve by liquidating its assets or through bankruptcy and insolvency.

CO3. The students after the completion of this course will be able to comprehend with the viable and operational accounting format of companies.

Course 3: Income Tax Law and Account

CO1. The students after the completion of this course will be able to compute total income and define tax compliances & strictures.

CO2. The students after the completion of this course will be able to file IT return on individual basis.

CO3. The students after the completion of this course will be able to comprehend with the amendments made from time to time in finance Act.

Course 4: Statistical Analysis

CO1. The students after the completion of this course will be able to independently calculate basic statistical parameters applied in commerce and accounting.

CO2. The students after the completion of this course will be able to comprehend probability theory and probability distributions in relation to general statistical analysis done in commerce and accounting.

Course 5: Corporate Legal Framework

CO1. The students after the completion of this course will be able to comprehend the commercial and accounting concepts of a company and its shares for public listings.

CO2. The students after the completion of this course will be able to comprehend the use of M/A and prospectus in a company of commerce and accounting.

CO3. The students after the completion of this course will be able to get acquainted with the negotiable instruments (Cheque, Holder and Holder in due course).

Course 6: Business Economics

CO1. The students after the completion of this course will be able to comprehend the causes and consequences of business cycle.

CO2. The students after the completion of this course will be able to comprehend the factors in commerce and accounting that contribute to and detract from long-term economic growth.

Course 7: Specialized Accounting

CO1. The students after the completion of this course will be able to ascertain the knowledge of Banking and insurance companies accounts.

CO2. The students after the completion of this course will be able to comprehend the systems of double account system and maintenance accounts.

CO3. The students after the completion of this course will be able to get acquainted with the basic concepts of royalty and Investments account.

Course 8: Tax Planning and Management

CO1. The students after the completion of this course will be able to ascertain the concepts of TDS and advance payment of tax.

CO2. The students after the completion of this course will be able to comprehend the provisions of various taxes rebates& reliefs and procedure to file IT return.

CO3. The students after the completion of this course will be able to get acquainted with the concept of recovery and refund of tax.

Course 9: Advanced Statistics

CO1. The students after the completion of this course will be able to ascertain the concepts of the statistical decision theory &statistical estimations in commerce and accounting.

CO2. The students after the completion of this course will be able to comprehend the provisions of statistical quality control & the procedures of sampling methodsin commerce and accounting.

CO3. The students after the completion of this course will be able to interpret the meaning of the calculated statistical indicators in commerce and accounting.

Course 10: Business Law

CO1. The students after the completion of this course will be able to ascertain the consumer rights under consumer protection Act 1986.

CO2. The students after the completion of this course will be able to comprehend the international trade concepts used in global market decisions.

CO3. The students after the completion of this course will be able to comprehend and interpret the legal environments for security markets.

Course 11: Management Concept

CO1. The students after the completion of this course will be able to ascertain the objectives of managerial reporting.

CO2. The students after the completion of this course will be able to fulfill the reporting requirements at different levels of management.

CO3. The students after the completion of this course will be able to get acquainted with the objectives of managerial reporting and reporting requirements.

CO4. The students after the completion of this course will be able to comprehend and interpret the requirements of management.

Course 12: Organizational Behaviour

CO1. The students after the completion of this course will be able to develop an understanding regarding the role of leaders in decision making process.

CO2. The students after the completion of this course will be able to fulfill the requirementsof communication skills at different levels of leadership.

CO3. The students after the completion of this course will be able to analyze the challenges and opportunities in the field of organizational behavior.

Course 13: Advance Cost Accounting

CO1. The students after the completion of this course will be able to develop the impact knowledge of basic cost concepts, elements of cost, ascertainment of materials and labor cost.

CO2. The students after the completion of this course will be able to analyze the various methods of costing and their applications.

CO3. The students after the completion of this course will be able to determine various levels of material cost i.e. – reorder level, minimum level, EOQ for managing working capital.

Course 14: Management Accounting

CO1. The students after the completion of this course will be able to get acquainted with a separate branch of accounting.

CO2. The students after the completion of this course will be able to analyze the management accounting and its relevance in a business organization.

CO3. The students after the completion of this course will be able to familiarize with the management control system.

CO4. The students after the completion of this course will be able to fulfill the requirements of management sense and responsibilities.

Course 15: Accounting For Managerial Decisions

CO1. The students after the completion of this course will be able to ascertain the applicability of certain techniques of management i.e. – Target costing, ABC costing, Value chain analysis.

CO2. The students after the completion of this course will be able to analyze the essentials of capital budgeting and use different techniques of capital budgeting.

CO3. The students after the completion of this course will be able to familiarize with contemporary issues in management.

CO4. The students after the completion of this course will be able to fulfill the requirements of accounting management sense and responsibilities.

Course 16: Principles of Marketing

CO1. The students after the completion of this course will be able to ascertain the applicability of certain principle techniques and fundamentals of marketing.

CO2. The students after the completion of this course will be able to analyze product life-aide.

CO3. The students after the completion of this course will be able to familiarize with the significance & contribution of marketing to the business enterprise.

Course 17: Advertising and Sales Management

CO1. The students after the completion of this course will be able to ascertain the applicability of concepts of advertising, media of advertising &its influence on buying habits of consumers.

CO2. The students after the completion of this course will be able to promote sales by applying the methods and techniques of sales promotion.

Course 18: Marketing Research

CO1. The students after the completion of this course will be able to ascertain the applicability of concepts of marketing research.

CO2. The students after the completion of this course will be able to apply & promote marketing research procedures, methods & techniques.

CO3. The students after the completion of this course will be able to ascertain the significance, importance and requirements for introduction of new productsand new markets.

Course 19: International Marketing

CO1. The students after the completion of this course will be able to ascertain the applicability of concepts of EXIM policy, International transport system & International product life cycle.

CO2. The students after the completion of this course will be able to apply & promote themselves for employment as well as self employment in international businesses dealing with variety of innovative products & services.

Course 20: Project Work

CO1. The students after the completion of this course will be able to ascertain the applicability of concepts of Research and Research Methodology.

CO2. The students after the completion of this course will be able to represent data in tabular and graphic manner for convenient interpretation.

CO3. The students after the completion of this course will be able to familiarize with Research and Research problems.

CO4. The students after the completion of this course will be able to develop skills to write Research papers.

CO5. The students after the completion of this course will be able to comprehend and apply the quantitative methods of Research.

M.A. Geography – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. The M.A. Geography semester wise programme offered by the College accomplishes the students to possess in-depth insights, critical knowledge of basic concepts, clear understanding at par with international standards & peers, and familiarization at the minutest level of the issues pertaining to geographical nature, bodies, regions, morphology, environment, climate & atmosphere of mother earth gained through systematic learning of Geomorphology, Climatology, Geographical Thought, Geography of India, Economic and Natural Resource Management, Oceanography, Regional Development and Planning, Social Geography, Population Geography, Settlement Geography, Biogeography and Ecosystem, Research Methodology, Urban Geography, Agricultural Geography, and Environmental Geography. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in the diverse fields of application of geographical studies and technologies.

PO2. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO3. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO4. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO5. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO6. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO7. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO8. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

PO9. The students will be able to inculcate values to become life-long environment conscious and nature volunteers, warriors and preservers.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Geomorphology.

PSO2. The students after the completion of this programme will become well versed with Climatology.

PSO3. The students after the completion of this programme will be able to understand Geographical Thought.

PSO4. The students after the completion of this programme will be able to understand Geography of India.

PSO5. The students after the completion of this programme will be able to identify Economic and Natural Resource Management.

PSO6. The students after the completion of this programme will be able to understand Oceanography.

PSO7. The students after the completion of this programme will be able to understand the essentials of Regional Development and Planning.

PSO8. The students after the completion of this programme will be able to understand the essentials of Social Geography.

PSO9. The students after the completion of this programme will be able to understand the essentials of Population Geography.

PSO10. The students after the completion of this programme will be able to understand the principles of Settlement Geography.

PSO11. The students after the completion of this programme will be able to understand the essentials of Biogeography and Ecosystem.

PSO12. The students after the completion of this programme will be able to understand the fundamentals of Research Methodology.

PSO13. The students after the completion of this programme will be able to understand the principles of Urban Geography.

PSO14. The students after the completion of this programme will be able to recognize the principles of Agricultural Geography.

PSO15. The students after the completion of this programme will be able to understand the essentials, and principles of Environmental Geography.

PSO16. The students after the completion of this programme will be able to do Field Work in various fields of geographical studies.

Course Outcomes (CO)

Course 1: Geomorphology

CO1. The students after the completion of this course will be able to comprehend with the nature and scope of geomorphology.

CO2. The students after the completion of this course will be able to determine the interior of the earth.

CO3. The students after the completion of this course will be able to comprehend the movement of the earth.

CO4. The students after the completion of this course will be able to comprehend the exogenic processes and concept of graduation.

CO5. The students after the completion of this course will be able to comprehend the geological structures and land forms.

Course 2:Climatology

CO1. The students after the completion of this course will be able to comprehend with the nature and scope of climatology.

CO2. The students after the completion of this course will be able to determine the composition of atmosphere.

CO3. The students after the completion of this course will be able to comprehend the movement of general circulation of Jet stream, El-Nino and La-Nino.

CO4. The students after the completion of this course will be able to comprehend the climate classification and climate changes.

CO5. The students after the completion of this course will be able to comprehend the uses of applied climatology.

Course 3:Geographical Thought

CO1. The students after the completion of this course will be able to comprehend the prehistory of geographical ideas in different durations from Greek's, Roman's, Arab's and impact of exploration & discoveries.

CO2. The students after the completion of this course will be able to determine the modern Geographical thoughts and contribution of eminent geographers.

CO3. The students after the completion of this course will be able to comprehend the beginning of modern geography fundamental concepts and models in geography.

CO4. The students after the completion of this course will be able to comprehend the present status and application of modern techniques and it's uses in climatology, geomorphology, economic geography and population geography.

Course 4:Geography of India

CO1. The students after the completion of this course will be able to comprehend with the geological structure, relief, climate, drainage, vegetation and soils of India.

CO2. The students after the completion of this course will be able to determine the nature of agriculture and agricultural regions of India.

CO3. The students after the completion of this course will be able to comprehend the geographical-regional division of India and various land forms in India.

CO4. The students after the completion of this course will be able to determine the stratosphere of India.

CO5. The students after the completion of this course will be able to determine the presence of various water bodies in India.

Course 5:Economic and Natural Resource Management

CO1. The students after the completion of this course will be able to comprehend with the nature and scope of economic geography.

CO2. The students after the completion of this course will be able to determine the world pattern of major natural resources.

CO3. The students after the completion of this course will be able to comprehend the conservation and management of resources.

CO4. The students after the completion of this course will be able to determine the policy making for resource management.

CO5. The students after the completion of this course will be able to determine the need for sustainable development of resources.

Course 6:Oceanography

CO1. The students after the completion of this course will be able to comprehend with the nature and scope of oceanography.

CO2. The students after the completion of this course will be able to determine the physical and chemical properties of sea water.

CO3. The students after the completion of this course will be able to comprehend the conservation and management of oceanic resources.

CO4. The students after the completion of this course will be able to determine the impact of Human on the marine environment.

CO5. The students after the completion of this course will be able to determine the need for sustainable development of oceanic resources.

Course 7:Regional Development and Planning

CO1. The students after the completion of this course will be able to determine the nature of various regions, types of regions.

CO2. The students after the completion of this course will be able to comprehend with theregional development theories.

CO3. The students after the completion of this course will be able to comprehend the regional planning in India.

CO4. The students after the completion of this course will be able to determine the center-state relations and multilevel planning in India.

Course 8:Social Geography

CO1. The students after the completion of this course will be able to comprehend with the nature, scope of social geography and its relationship with other social sciences.

CO2. The students after the completion of this course will be able to determine the concept of society.

CO3. The students after the completion of this course will be able to comprehend the social development planning.

CO4. The students after the completion of this course will be able to determine the impact of public policy and social planning in India.

Course 9:Population Geography

CO1. The students after the completion of this course will be able to comprehend with historical development of population geography.

CO2. The students after the completion of this course will be able to determine the scope of population geography.

CO3. The students after the completion of this course will be able to comprehend the distribution of population.

CO4. The students after the completion of this course will be able to determine the impact of migration of populationand population composition.

CO5. The students after the completion of this course will be able to determine the population resource regions and population policies of India.

Course 10:Settlement Geography

CO1. The students after the completion of this course will be able to comprehend with the objectives and scope of settlement geography.

CO2. The students after the completion of this course will be able to determine the evolution and growth of urban settlements.

CO3. The students after the completion of this course will be able to comprehend the central place theory.

CO4. The students after the completion of this course will be able to determine the impact of city-country relationship.

CO5. The students after the completion of this course will be able to determine the impact of rural-urban fringe.

Course 11:Biogeography and Ecosystem

CO1. The students after the completion of this course will be able to comprehend with the biogeography and ecosystem that provides information about the world forests, plants, niche energy and nutrients in the ecosystem.

CO2. The students after the completion of this course will be able to determine the scope of biodiversity and its conservation.

CO3. The students after the completion of this course will be able to comprehend the environmental laws in India.

CO4. The students after the completion of this course will be able to determine the impact of environment legislation.

Course 12:Research Methodology

CO1. The students after the completion of this course will be able to examine research motivation, types of research, significance of research, research process and criteria of good research.

CO2. The students after the completion of this course will be able to determine the scope, types of data and methods of data collection, processing and analysis of data using different statistical methods.

CO3. The students after the completion of this course will be able to comprehendresearch report, types of reports and oral presentation mechanics of writing a research report.

CO4. The students after the completion of this course will be able to determine the interpretation and report writing techniques and precautions of interpretation layout.

Course 13:Urban Geography

CO1. The students after the completion of this course will be able to comprehend with the objectives and scope of urban geography.

CO2. The students after the completion of this course will be able to determine the internal structures, morphology and land use of city.

CO3. The students after the completion of this course will be able to comprehend the urban issues and urban planning.

CO4. The students after the completion of this course will be able to determine the urban functions.

CO5. The students after the completion of this course will be able to determine theurban and metropolitan planning in India.

Course 14:Agricultural Geography

CO1. The students after the completion of this course will be able to comprehend with the nature, scope and development of agricultural geography.

CO2. The students after the completion of this course will be able to determine the world's agricultural system and types of agriculture.

CO3. The students after the completion of this course will be able to comprehend the agricultural regionalization and modes in agricultural geography and the classification of agricultural models and theories of agricultural geography.

CO4. The students after the completion of this course will be able to determine the agricultural statistics and land use survey techniques and agricultural revolution, meaning & merit and demerit of green revolution and white revolution.

Course 15:Environmental Geography

CO1. The students after the completion of this course will be able to comprehend with the fundamental concepts related to environment, structure, types, and components.

CO2. The students after the completion of this course will be able to determine the nature, scope, basic concepts of interdisciplinary science and study methods.

CO3. The students after the completion of this course will be able to comprehend the environmental global problems such as deforestation, depletion of Ozone, global warming.

CO4. The students after the completion of this course will be able to determine the role of environmental legislation laws and acts for environment protection and conservation.

CO5. The students after the completion of this course will be able to determine the environmental planning and management for future and also understand the climatic changes and its effect on environment and human being.

Course 16:Field Work

CO1. The students after the completion of this course will be able to perform diverse technical works in various fields of geographical studies like climatology, geomorphology, economic geography, population geography, settlement geography, urban geography, agricultural geography, climate change etc.

M.A. Economics – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. The M.A. Economics semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of economics by providing systematic learning of Economics – Micro, Macro, Quantitative, Indian, Industrial, Research, Indian policy, Labor, Growth, International, Public, Environmental, Demography, Development & Planning,

Social sector and Viva-Voce. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors, policy making etc.

PO2. The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of economics.

PO3. The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors, policy making etc.

PO4. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO5. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people,media and technology.

PO6. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO7. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO8. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO9. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO10. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Micro Economics-I.

PSO2. The students after the completion of this programme will become well versed with Macro Economics-I.

PSO3. The students after the completion of this programme will be able to understand Quantitative Methods.

PSO4. The students after the completion of this programme will be able to understand Indian Economy.

PSO5. The students after the completion of this programme will be able to identify Industrial Economics.

PSO6. The students after the completion of this programme will be able to understand the Micro Economics-II.

PSO7. The students after the completion of this programme will be able to understand the essentials of Macro Economics-II.

PSO8. The students after the completion of this programme will be able to understand the essentials of Research Methodology and Computer Application.

PSO9. The students after the completion of this programme will be able to understand the essentials of Indian Economic Policy.

PSO10. The students after the completion of this programme will be able to understand the principles of Labor Economics.

PSO11. The students after the completion of this programme will be able to understand the essentials of Economics of Growth.

PSO12. The students after the completion of this programme will be able to understand the fundamentals of International Trade.

PSO13. The students after the completion of this programme will be able to understand the principles of Public Finance.

PSO14. The students after the completion of this programme will be able to recognize the procedures of Environmental Economics.

PSO15. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Demography.

PSO16. The students after the completion of this programme will be able to understand the principles of Economics of Development and Planning.

PSO17. The students after the completion of this programme will be able to understand the procedures of International Economics.

PSO18. The students after the completion of this programme will be able to understand the essentials and fundamentals of Public Economics.

PSO19. The students after the completion of this programme will be able to understand the essentials and fundamentals of Economics of Social Sector.

PSO20. The students after the completion of this programme will be able to do Viva-Voce in various fields of commerce studies.

M.A. Home Science – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. The M.A. Home Science semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of Home Science by providing systematic learning of basics of food & nutrition, clinical & therapeutic nutrition, extension education, research methodology, textile & clothing, textile designing, statistics & computer application, human development, nutrition of women & children, health & fitness, resource management, food preservation, and entrepreneurship. The students after the completion of this programme become well prepared to

take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like hospitals, hotels, food processing sector, nutrition & dietetics sector, hospitality sector, pedagogy & education sector, research & development sector, health & fitness sector, policy making, fashion sector, textile sector etc.

PO2. The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of home science.

PO3. The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like hospitals, hotels, food processing sector, nutrition & dietetics sector, hospitality sector, pedagogy & education sector, research & development sector, health & fitness sector, policy making, fashion sector, textile sector etc.

PO4. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO5. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.

PO6. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO7. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO8. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO9. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO10. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

PO11. The students will become well equipped with scientific & technical education of theoretical and practical knowledge of interdisciplinary subjects.

PO12. The students will be able to improve their life quality through all round personality development by learning essential life skills.

PO13. The students will be able to perform in varied professional careers leading to their socio-economic development through financial upliftment and improvement in socio-economic status.

PO14. The postgraduate programme in Home Science is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Home Science becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

PO15. It is desired that postgraduate programme in Home Science besides teaching the basic concepts of Home Science should in addition have broader vision for students so that the students therefore be exposed to societal interface of Home Science and the role of Home Science in the development of food, nutritional, textile and human development sciences & technologies.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Basics of Food & Nutrition.

PSO2. The students after the completion of this programme will become well versed with Clinical & Therapeutic Nutrition.

PSO3. The students after the completion of this programme will be able to understand Extension Education -I.

PSO4. The students after the completion of this programme will be able to understand Research Methodology.

PSO5. The students after the completion of this programme will be able to identify Textile & Clothing.

PSO6. The students after the completion of this programme will be able to understand the Textile Designing.

PSO7. The students after the completion of this programme will be able to understand the essentials of Extension Education -II.

PSO8. The students after the completion of this programme will be able to understand the essentials of Statistics & Computer Application.

PSO9. The students after the completion of this programme will be able to understand the essentials of Human Development -I.

PSO10. The students after the completion of this programme will be able to understand the principles of Human Development -II.

PSO11. The students after the completion of this programme will be able to understand the essentials of Nutrition of Women & Children.

PSO12. The students after the completion of this programme will be able to understand the fundamentals of Health & Fitness.

PSO13. The students after the completion of this programme will be able to understand the principles of Resource Management-I.

PSO14. The students after the completion of this programme will be able to recognize the procedures of Resource Management-I.

PSO15. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Food Preservation.

PSO16. The students after the completion of this programme will be able to understand the principles of Entrepreneurship.

M.Sc. Home Science (Food & Nutrition) – 4 Semesters Postgraduate programme

Programme Outcomes (PO)

PO1. The M.Sc. Home Science (Food & Nutrition) semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of Food & Nutrition by providing systematic learning of research methodology, physiology, food microbiology, problems in human nutrition, statistics and computer application, food science, food chemistry, therapeutic nutrition, advanced nutrition, nutritional biochemistry, nutrition for health of women and children, methods of investigation, nutrition for health and fitness, public nutrition, geriatric nutrition, and institution management. The students after the completion of this programme become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like hospital sector, hospitality sector, food processing sector, nutrition & dietetics sector, pedagogy & education sector, research & development sector, health & fitness sector, policy making etc.

PO2. The students after the completion of this programme will be enabled to overcome the challenges and cash in the opportunities in the field of food & nutrition.

PO3. The students after the completion of this programme will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like hospital sector, hospitality sector, food processing sector, nutrition & dietetics sector, pedagogy & education sector, research & development sector, health & fitness sector, policy making etc.

PO4. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives.

PO5. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one Indian language and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.

PO6. The students will be able to interact socially and stimulate views, reconcile disagreements and help reach consensual conclusions.

PO7. The students will be able to demonstrate compassionate social concern and act with cognizant awareness of issues to contribute in civic life by volunteering impartially towards national development and thereby deliver effective citizenship.

PO8. The students will be able to ethically recognize different value systems, understand the moral dimensions of individual decisions and accept responsibility for them.

PO9. The students will be able to recognize the issues of environmental perspectives and appreciate sustainable development for long term environmental sustainability.

PO10. The students will be able to engage themselves in life-long self-determining and learning in the comprehensive background of socio-technological changes for continued self-directed and life-long learning.

PO11. The students will become well equipped with scientific & technical education of theoretical and practical knowledge of interdisciplinary subjects.

PO12. The students will be able to improve their life quality through all round personality development by learning essential life skills.

PO13. The students will be able to perform in varied professional careers leading to their socio-economic development through financial upliftment and improvement in socio-economic status.

PO14. The postgraduate programme in food & nutrition is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated model curricula in Home Science becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

PO15. It is desired that postgraduate programme in food & nutrition besides teaching the basic concepts of food & nutrition should in addition have broader vision for students so that the students therefore be exposed to societal interface of food & nutrition and the role of food & nutrition in the development of food, nutritional, biochemical, therapeutical sciences & technologies.

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Research Methodology.

PSO2. The students after the completion of this programme will become well versed with Physiology.

PSO3. The students after the completion of this programme will be able to understand Food Microbiology.

PSO4. The students after the completion of this programme will be able to understand the Problems in Human Nutrition.

PSO5. The students after the completion of this programme will be able to understand Statistics and Computer Application.

PSO6. The students after the completion of this programme will be able to understand the principles and fundamentals of Food Science.

PSO7. The students after the completion of this programme will be able to understand the principles and fundamentals of Food Chemistry.

PSO8. The students after the completion of this programme will be able to understand the essentials of Therapeutic Nutrition.

PSO9. The students after the completion of this programme will be able to understand the essentials of Advanced Nutrition.

PSO10. The students after the completion of this programme will be able to understand the principles, essentials and fundamentals of Nutritional Biochemistry.

PSO11. The students after the completion of this programme will be able to understand the principles of Nutrition for Health of Women and Children.

PSO12. The students after the completion of this programme will be able to understand the principles and procedures of Methods of Investigation.

PSO13. The students after the completion of this programme will be able to understand the fundamentals of Nutrition for Health and Fitness.

PSO14. The students after the completion of this programme will be able to understand the principles of Public Nutrition.

PSO15. The students after the completion of this programme will be able to recognize the procedures of Geriatric Nutrition.

PSO16. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Institution Management.

Course Outcomes (CO)

CO1. The students after the completion of this course will be able to comprehend, determine, interpret and apply the significance of research methodology in food & nutrition research, types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design.

CO2. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of human physiology, integrated function of all systems and the grounding of nutritional science in Physiology. Understand alterations of structure and function in various organs and systems in disease conditions.

CO3. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of basic techniques used in Studies and Research in Nutritional Sciences, methods of estimating nutrient requirements, planning of metabolic studies.

CO4. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of statistics and research methodology in food & nutrition research, types, tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design, appropriate statistical technique to the measurement scale and design, role of statistics and computer application in research, statistical techniques to research data for analysis and interpreting data meaningfully.

CO5. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of composition of various foodstuffs, changes occurring in various foodstuffs as a result of processing and cooking, theoretical knowledge in various applications and food preparations.

CO6. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of the physiological and metabolic role of various nutrients and their interactions in human nutrition, basis of human nutritional requirement and recommendations through the life cycle, pharmacological actions of nutrients and their implications, recent advances in nutrition.

CO7. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of principles of biochemical methods used for analysis of food and biological samples, biological analysis with accuracy and reproducibility.

CO8. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of the components of health and fitness and the role of nutrition, nutritional, dietary and physical activity recommendations to achieve fitness and wellbeing.

CO9. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of the multifaceted aspects of ageing, nutritional and health care of the elderly.

CO10. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of field trips and management of canteen.

CO11. The students after the completion of this course will be able to comprehend, determine, interpret and apply the understanding of dissertation in any field of food science, nutrition and systematic writing of report along with statistical analysis of data, current trends in food and nutrition, collection and compilation of latest reviews.

M.Sc. Zoology – 4 Semesters Postgraduate programme

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Biosystematics, Taxonomy and Biodiversity.

PSO2. The students after the completion of this programme will become well versed with Structure and Function of Invertebrates.

PSO3. The students after the completion of this programme will be able to understand Population Genetics and Evolution.

PSO4. The students after the completion of this programme will be able to understand the Tools & Techniques in Biology.

PSO5. The students after the completion of this programme will be able to understand Molecular Cell Biology and Biotechnology.

PSO6. The students after the completion of this programme will be able to understand the principles and fundamentals of General Physiology and Endocrinology.

PSO7. The students after the completion of this programme will be able to understand the principles and fundamentals of Development Biology.

PSO8. The students after the completion of this programme will be able to understand the essentials of Quantitative Biology and Computer Application.

PSO9. The students after the completion of this programme will be able to understand the essentials of Comparative Anatomy of Vertebrates.

PSO10. The students after the completion of this programme will be able to understand the principles, essentials and fundamentals of Animal Behavior.

PSO11. The students after the completion of this programme will be able to understand the principles of Environment Physiology and Population Ecology.

PSO12. The students after the completion of this programme will be able to understand the principles and procedures of Immunology and Parasitism.

PSO13. The students after the completion of this programme will be able to understand the fundamentals of Biochemistry.

PSO14. The students after the completion of this programme will be able to understand the principles of Neurophysiology.

PSO15. The students after the completion of this programme will be able to recognize the procedures of Fish (ichthyology) structure and function.

PSO16. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Cell biology.

PSO17. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Entomology.

PSO18. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Wild life conservation.

PSO19. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Biology of Vertebrate immune system.

PSO20. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Pisciculture and economic importance of fishes (Ichthyology).

PSO21. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Cellular organization and molecular organization.

PSO22. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Applied entomology.

PSO23. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Environment and Biodiversity conservation.

PSO24. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Molecular endocrinology and reproductive technology.

M.Sc. Botany – 4 Semesters Postgraduate programme

Programme Specific Outcomes (PSO)

PSO1. The students after the completion of this programme will become well versed with Cytology.

PSO2. The students after the completion of this programme will become well versed with Genetics.

PSO3. The students after the completion of this programme will be able to understand Microbiology, Phycology and Mycology.

PSO4. The students after the completion of this programme will be able to understand the Bryophyte, Pteridophyta and Gymnosperm.

PSO5. The students after the completion of this programme will be able to understand Taxonomy and diversity of plants.

PSO6. The students after the completion of this programme will be able to understand the principles and fundamentals of Molecular Biology.

PSO7. The students after the completion of this programme will be able to understand the principles and fundamentals of Plant physiology.

PSO8. The students after the completion of this programme will be able to understand the essentials of Plant metabolism.

PSO9. The students after the completion of this programme will be able to understand the essentials of Plant development and plant resources.

PSO10. The students after the completion of this programme will be able to understand the principles, essentials and fundamentals of Plant Ecology– I (Ecosystem and vegetation ecology).

PSO11. The students after the completion of this programme will be able to understand the principles of Biotechnology I (Genetic engineering of plants & microbes).

PSO12. The students after the completion of this programme will be able to understand the principles and procedures of Molecular plant pathology-I.

PSO13. The students after the completion of this programme will be able to understand the fundamentals of Limnology-I.

PSO14. The students after the completion of this programme will be able to understand the principles of Ethno botany I.

PSO15. The students after the completion of this programme will be able to recognize the procedures of Plant reproduction and plant resources utilization.

PSO16. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Plant Ecology II (Pollution and biodiversity conservation).

PSO17. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Biotechnology II (Plant cell, tissue culture & organ culture).

PSO18. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Molecular plant pathology-I.

PSO19. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Limnology-II.

PSO20. The students after the completion of this programme will be able to understand the essentials, principles and procedures of Ethno botany - II.

M.Sc. Mathematics– 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

Class	Paper Name	Outcome
M.Sc.- I & II Sem.	Advanced Abstract Algebra	1. Students will learn Group theory, Ideals, Ring theory, Modules, Vector space, Normal Group, Abelian group etc. 2. Students Skills to solve any theorem by using the properties of the given group, Ring, Ideal or field. 3. Students compute different theorems and learn how to find the Galois group of any given group.
	Real Analysis	Students will be able to know the sequence and series of real numbers, convergence and divergence of both sequence and series. Determine the Riemann integrability.
	Topology	Students Skill to:- 1. Understand various basic topologies and topological spaces. 2. Understand the countability and

		uncountability of spaces and sets and their types. 3. Understand the concept of connectedness, compactness, completeness of spaces. 4. Understand the topological and hereditary property 5. Learns the separation axioms.
	Complex Analysis	Students will learn to:- 1. Analyze sequence and series of complex numbers and analytical function. 2. Apply the concept of Cauchy-Riemann equations for analytic function. 3. Compute complex contour integrals and apply the cauchy Integral formula in various versions. 4. Understand the concept of Harmonic functions.
	Advanced Discrete Mathematics	1. Students will know about the finite state machine, their outputs corresponding to their next state of input. 2. Students will learn the conjunctives and disjunctive Canonical form of two, three, four variables. 3. Students learn to formulate the output of Mealy and Moore machine, parallel and series circuits. 4. Students will have the knowledge of graphs, Trees, Spanning trees etc.
M.Sc.- III & IV Sem.	Integration Theory and Functional Analysis	Students Skill to:- 1. Learn the concept of linear and bounded linear transformation. 2. Understands the Function spaces and conjugate of Function Spaces. 3. Understand the concept of Dual linear spaces. 4. Learns to compute the real and complex functions.
	PDE and Mechanics	Students will have the knowledge and Skills to:- 1. Form the partial differential equations and solve them. 2. Learn the wave equations and heat equations and form their solutions. 3. Solve the problems on first order and higher degree partial differential equations and its application.
	Fuzzy Sets and their Applications	1. Students learn the fundamentals of fuzzy set theory. 2. Students Skill to compute operations with fuzzy sets, extension principle, fuzzy logic, fuzzy probability. 3. Students acquire knowledge of important parts of fuzzy set theory which will enable them to create effective mathematical models of technical phenomena.
	Operations Research	1. Students will be able to model LPP and solve them.

		2. Students will understand the feasibility, infeasibility, basic, bounded, unbounded, optimal solutions of the problem. 3. Students will understand the Game theory. Modify a primal problem and obtain its solution.
	Programming In 'C'	Students will learn to:- 1. Code programs in 'C' of different types. 2. Understand different type of preprocessors in 'C'. 3. Struct basic structure of C-program and learns how to compile and run a C-program.

M.Sc. Chemistry– 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

Class	Paper Name	Outcome
M.Sc. – I Sem.	Group Theory and Chemistry of Metal Complexes	The Purpose of this paper is to give description about symmetry and its elements and splitting of d-orbital.
	Concept in Organic Chemistry	In this paper students learn about reaction intermediates and stereo chemical and conformational analyses.
	Quantum Chemistry, Thermodynamics and Chemical dynamics - I	In this paper student learn about rate of reaction and different model system.
	Theory and Application of Spectroscopy - I	In this paper student learn about different electromagnetic radiations and their application in day to day life.
M.Sc. – II Sem.	Transition Metal Complex	The purpose of this paper is to give detailed description of electronic spectra of metal complexes and their reaction mechanism.
	Reaction Mechanism	Student learns about the Mechanism of substitution reactions and effect on reactivity.
	Quantum Chemistry, Thermodynamics and Chemical Dynamics – II	The purpose of this paper is to give Knowledge about different interface, statistical Thermodynamics and their approximate method.
	Theory and Application of Spectroscopy	In this paper student learn about Fragmentation techniques of molecules and study of nuclear magnetic resonance.
M.Sc. – III Sem.	Resonance, Spectroscopy, Photochemistry and Organocatalyses	In this paper student learn about photo chemical reaction and different process of organocatalyses.
	Chemistry of Biomolecules	In this paper student learn about enzyme model, structure of all membrane and different-types of transport system.
	Catalyses, Solid State and Surface Chemistry	In this paper student learn about solid state Chemistry, Surfactant and aid – base reaction.
	Analytical Techniques and Data Analysis	In this paper student learn about how sampling of objects done, their separation techniques by

		chromatography and thermal analysis.
M.Sc. – IV Sem.	Instrumental Method of Analysis	Student learn about different techniques of chromatography and atomic absorption spectroscopy.
	Natural Product and Medicinal Chemistry	To give knowledge about drug design, structure activity relation, anti Materials, alkaloids, terpenoids.
	Material and Nuclear Chemistry	To give knowledge about syntheses of macro molecules, nuclear fission & fusion.
	Environmental and Applied Chemical Analysis	Student learn how to Monitor Air Quantity Level, Soil Pollution and Food Analyze.

M.Sc. Physics – 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

Semester-I

PAPER –I MATHEMATICAL PHYSICS

In this course the student will:

1 Learn about special type of matrices that are relevant in physics and then learn about tensors.

2 Get introduced to Special functions like Delta function, Dirac delta function, Bessel functions and their recurrence relations.

4 Learn the fundamentals and applications of Fourier series, Fourier and Laplace transforms their inverse.

3 Learn different ways of solving second order differential equations and familiarized with singular points and Frobenius method transforms etc.

5 Know the method of contour integration to evaluate definite integrals of varying complexity.

6 To become familiar with the method of Green's function to solve linear differential equations with inhomogeneous term.

PAPER –II CLASSICAL MECHANICS

This paper enables the students to understand

1 The Lagrangian and Hamiltonian approaches in classical mechanics.

2 The classical background of Quantum mechanics and get familiarized with Poisson brackets and Hamilton -Jacobi equation.

3 Kinematics and Dynamics of rigid body in detail and ideas regarding Euler's equations of motion.

4 Theory of small oscillations in detail along with basis of Free vibrations.

5 Basic ideas about Non linear equations and chaos.

PAPER –III ELECTRODYNAMICS AND PLASMA PHYSICS

After successful completion of the course, the student is expected to:

1 Have gained a clear understanding of Maxwell's equations and electromagnetic boundary conditions.

2 Know that laws of reflection, refraction are outcomes of electromagnetic boundary conditions.

3 Have grasped the idea of electromagnetic wave propagation through wave guides and transmission lines.

4 Extend their understanding of special theory of relativity by including the relativistic electrodynamics.

5 Understand the rather complex physical phenomena observed in plasma.

PAPER –IV ELECTRONIC

On completion of this course the student will learn about

1 Field Effect Transistors, their principles and applications.

2 Photonic devices like LED, Laser diode, photodetectors, solar cells etc and their working in detail.

3 Basic operational amplifier characteristics, OPAMP parameters ,applications as inverter, integrator, differentiator etc.

4 Digital electronics baiscsusing logic gates and working of major digital devices like flip flops, CMOS , CCD etc.

5 Study the Organization and internal architecture of the Intel 8085.

Semester-II

PAPER –I QUANTUM MECHANICS -I

After successful completion of this paper, the student will be well-versed in

1 Linear vector spaces, Hilbert space, concepts of basis and operators and bra and ket notation.

2 Both schrodinger and Heisenberg formulations of time development and their applications.

3 Theory of angular momentum and spin matrices, orbital angular momentum and Clebsh Gordan Coefficient.

4 Space-time symmetries and conservation laws, theory of identical particles.

5 Theory of scattering and calculation of scattering cross section, optical theorem, Born approximation, partial wave analysis etc.

PAPER –II STATISTICAL MECHANICS

The students should be able to,

1 Explain statistical physics and thermodynamics as logical consequences of the postulates of statistical mechanics.

2 Apply the principles of statistical mechanics to selected problems.

3 Grasp the basis of ensemble approach in statistical mechanics to a range of situations.

4 To learn the fundamental differences between classical and quantum statistics and learn about quantum statistical distribution laws.

5 Study important examples of ideal Bose systems and Fermi systems.

PAPER –III ELECTRONICS & PHOTONICS DEVICES & OPTICAL MODULATORS

The students should be able to,

1 To learn the Special Bipolar Devices: Diac &Triac, SCR, UJT etc.

2 Explain the Unipolar Devices : JFET, MOSFET, MESFET etc.

3 Learn common applications of Photonic Devices.

4 Study the Optical modulator and display devices like luminescence , LCD etc.

PAPER –IV COMPUTATIONAL PHYSICS & COMPUTER PROGRAMMING

The students should be able to,

1Learn about the linear and nonlinear algebraic equation and their solution.

2 Apply the Newton cotes formula , Gauss method in polynomial equation.

3 Numerical solution of ordinary differential equation.

4 Elementary information about the digital computer principle and FORTRAN Programs.

Semester-III

PAPER –I QUANTUM MECHANICS – II

This course will enable the student to have basic knowledge about advanced techniques like

1 Approximation methods for time-independent problems like the WKB approximation.

2 The variational equation and its application to ground state of the hydrogen and Helium atom.

3 Perturbation theory and Interaction of an atom with the electromagnetic field.

4 Relativistic Quantum Mechanics using Dirac equation, Dirac matrices. The Klein Gordon equation etc.

PAPER –II ATOMIC & MOLECULAR SPECTROSCOPY

After successful completion of the course, the student is expected to:

1 Know about different atom model and will be able to differentiate different atomic systems, different coupling schemes and their interactions with magnetic and electric fields.

2 Have gained ability to apply the techniques of microwave and infrared spectroscopy to elucidate the structure of molecules.

3 Be able to apply the principle of Raman spectroscopy and its applications in the different field of science & Technology.

4 To become familiar with different resonance spectroscopic techniques and its applications.

5 To find solutions to problems related different spectroscopic systems.

PAPER –III SOLID STATE PHYSICS - I

After successful completion of the course, the student is expected to

1 Have a basic knowledge of crystal systems and spatial symmetries.

2 Know what phonons and be able to perform estimates of their dispersive and thermal properties , be able to calculate thermal and electrical properties in the free-electron model.

3 Know Bloch's theorem and what energy bands are and know the fundamental principles of semiconductors.

4 Know the fundamentals of dielectric and ferroelectric properties of materials.

5 Be able to explain superconductivity using BCS theory.

PAPER –IV ELECTRONICS

The students should be able to,

1 To learn about the Microwave devices like, Klystron, Magnetron.

2 Explain the Microwave wave guide & components with their modes.

3 Use Microwave cavities in communication system and explain Transferred Electrons devices.

4 Learn about the Radar System.

5 Know Satellite Communication through the orbital satellite, geostationary satellite etc.

Semester-IV

PAPER –I NUCLEAR AND PARTICLE PHYSICS

After successful completion of the course, the student is expected to

1 Have a basic knowledge of nuclear size , shape , bindingenergy.etc and also the characteristics of nuclear force in detail.

2 Be able to gain knowledge about various nuclear models and potentials associated.

3 Acquire knowledge about nuclear decay processes and their outcomes. Have a wide understanding regarding beta and gamma decay.

4 Grasp knowledge about Nuclear reactions, Fission and Fusion and their characteristics.

5 Understand the basic forces in nature and classification of particles and study in detail conservations laws and quark models in detail.

PAPER –II LASER PHYSICS AND APPLICATIONS

After successful completion of the course, the student is expected to

1 Have a basic knowledge of laser physics and their working process.

2 Learn about the many types of laser system such as solid state laser, gas laser, etc.

3 Study advanced in laser physics like giant pulse dynamic harmonic generation, optical mixing etc.

4 Explain the multi-photon processes.

5 Be able to gain knowledge about various application of laser.

PAPER –III SOLID STATE PHYSICS- II

This paper enables the students to understand

1 Grape knowledge about Plasmon's, Polaritons.

2 Study the dielectric and ferroelectrics materials.

3 Learn about the advance in magnetism theory.

4 Have a gain the knowledge about the ferromagnetism and anti ferromagnetism.

5 Explain the optical processes and excitons and defects in crystal structure.

PAPER –IV ELECTRONICS

The students should be able to,

1 Be able to gain knowledge about the digital communication.

2 Explain the digital modulation techniques.

3 Study the Noise in Digital communication.

4 Learn about data transmission through PSK, FSK etc.

5 Understand the basic knowledge of PCM Transmission.

M.A. Hindi – 4 Semesters Postgraduate programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

,e- ,- fgUnh - izFke lssesLVj

izFke iz'u i= - fgUnh lkfgR; dk bfrgkl

bfrgkl ,sfrgkfld *kVukvksa vkSj o`rkUrksa dk ys[kk-tks[kk gh ughaa izLrqr djrk] bfrgkl dk fuekZ.k Hkh djrk gSA bfrgkl dk Lo:i dks le>uk ljy dk;Z ugha gSA bfrgkl ls euq'; dk lacaa/k iqjkuk gSA gekjk laLdkj] gekjh laLdfr] gekjh uhfr vrhr ls vu'kkflr ,d vuojr /kkjk gSA vrhr dh ifjizs{; esa orZeku dk le> ldr gSA vr: fo4kfFkZ;ksa dh fy, ;g lokZf/kd mi;ksxh ikB~;dze gSA

f}rh; iz'u i= - izkphu ,oa e/;dkyhu dk0;

izkphu ,oa e/;dkyhu dk0; esa lekt dk fn'kk funsZ'k nsus dh lkFk /kkfeZd ,oa ,sfrgkfld rF;ksa ls yksxksa dks voxr djuk lkfgR; dk eq[; mn~ns'; gSA dk0; esa HkfDrdky] tgkaW yksd tkxj.k dks Loj nsus okyk gS] ogha jhfrdky viu ykSfdd - Jaxkfjd ifjn'; esa rRdkyhu lkekftd] lkaLdfrd] jktuhfrd fLFkfr;ksa dks csykSl vfHk0;aftr djrk gSA vr: Hkk'kk] laLdfr] fopkj] ekuork dk0;:irk] ykSfddrk] ikjykSfddrk vkfn nf'V;ksa ls bldk v/;;u vko';d gSA

r`rh; iz'u i= - f}osnh;qxhu ,oa Nk;koknh dk0;

lkfgR; le; dk lgpj gksrk gS lekt esa vkr cnyokoksa dk lk{kh gksrk gSA lkfgR; flQZ leqUur lekt dh dYiuk ugha djrk cfYd lokZaxh.k fodkl fttle lerk] Lora=rk vkSj ca/kqrk dk Hkko gksA lkfgR; dh vk/kqfudrk] yksd o

dyhu] bfrgkl o oreku lHkh dks /;ku esa j[kdj pyrk gS rF; vkSj lR; nksuksa dh vkjk/kuk lkfgR; dk fo'k; gksrk gS lkfgR; ds fparu euu ds dsUnz esa ekuo dY;k.k ds chp fNi gS bu leLr fLFkfr;ksa ls fo4kfFkZ;ksa dks voxr djkuk gS rkfd mues psruk dk lapkj gks] muesa ys[ku dh Hkkouk tkx`r gksA

prqFkZ iz'u i= - fgUnh x4 lkfgR;

vk/kqfud dkO; x4 dh fo/kkvksa ij vkfJr gS ;g ekuo ds eu vkSj efLr'd esa vusd iz;ksxtuksa dks izLrqr djrk gSA mUgha Hkkoukvksa ds vk/kkj ij dkO; dk ltu gksrk gSA bles fpUru] euu vkSj jkxkRedrk dk iLrqrhdj.k dks'kyiw.kZ <ax ls gksrk gSA izkd`frd ifjos'k esa dkO; oSHko dk Hkko ,oa dyk i{k ble x4 lkfgR; dh fofo/k fo/kkvksa esa vR;Ur fo'kky cu x;k gSA gekjh lkaLdfrd psruk dks blu vR;Ur izHkkfor fd;k gSA lkfgR; ds fo4kFkhZ bll ykHkkfUor gksrs gSA

,e- ,- fgUnh – f}rh; lssesLVj

r`rh; iz'u i= - vk/kqfud dkO; - 2 ¼izxfrokn] iz;ksxokn] ubZ dfork ,oa ledkyhu dfork½

lkfgR; ,d lkekftd lalFkk gS blfy, lekt esa ifjorZu dk vFkZ gS lkfgR; ds Lo:i vkSj nf'Vdks.k esa ifjorZuA dsoy fgUnh dfork ij /;ku ns arks mles ohjxkFkk dky] HkfDrdky] jhfrdky] Hkkjrsanq ;qx] f}osnh ;qx] Nk;kokn] izxfrokn] ubZ dfork ,oa ledkyhu dfork tlh fofo/k - dkO; nf'V;kW ifjyf{kr gksrh gSA thoukuqHkwfr;kW vkSj mu ij iM+us oky rRdkfyd nckoksa dk dkjxj <ax ls O;Dr dju ds fy, dfork vko';d gSA vr: ;g ikB~;de fo4kFkhZ;ksa ds fy, mi;ksxh gSA

prqFkZ iz'u i= - vk/kqfud x4 lkfgR; ¼miU;kl] fuca/k ,oa dgkuh½

Nk=kvksa esa ukVd ,oa ,dkadh ds jlkLokn dh nf'V fodflr gqbZZA bues fgUnh ukVd dk Lo:i] rRo vkfn ekunaMks ds vk/kkj ij leh{kk dh {kerk fufeZr gqbZA muesa fgUnh ds izfrfuf/k miU;kl] fuca/k] dgkuhdkjksa dk ifjp; izkIr gqvkA mudh dgkfu;ksa ,oa ukVdksa esa fufgr rRoksa ls voxr gq,A vPNkb;ksa ,oa cqjkb;ksa dks le>u dh muesa psruk tkx`r gqbZA

iape iz'u i= - mRrj e/;dky l vk/kqfud dky rd

Nk=kvksa esa fgUnh lkfgR; ds fodkl dse dh le> iSnk djukA mRrj e/;dky dh ifjfLFkfr;ksa ,oa izo`fRr;ksa ls ifjfpr djkukA Lok/khurk vkanksyu dh i`'BHkwfe esa lkfgR; dh Hkwfedk dks ifjyf{kr djukA x4 ys[ku ds izknqHkkZo ,oa egRo ls Hkh Nk=kvksa dks ifjfpr djkuk bl iBu dk mn~ns'; gSA bl ikB ds ek/;e ls fo4kFkhZ vk/kqfud dky ds lkfgR; dh izeq[k jpukvksa ,oa izo`fRr;ksa dks tku ,oa le> ldsxsA

'k'Be iz'u i= - e/;dkyhu dkO;

fo4kFkhZ;ksa dks e/;;qx ds dfo;ksa ds ;ksxnku dk ifjp; izkIr gqvkA fo4kFkhZ;ksa esa lkfgfR;d dfr;ksa ds f'kYi ,oa lkSUn;Z dks ns[kus dh nf'V fodflr gksrh gSA buesa lar ,oa HkDrksa ds dkO; lkSUn;Z dh tkudkjh izkIr gksrh gSA Nk=kvksa dks fgUnh lkfgR; ds izfrfuf/k jpukdkjksa dk egRo izns;] iHkko vkfn dk Kku iklr gqvkA

,e- ,- fgUnh – r`rh; lssesLVj

izFke iz'u i= - lkfgR; ds fl)kar rFkk vkykspuk ,kkL=

Hkkjrh; dkO;'kkL=h; vkpk;Z fgr fparu ds i{k/kj jgs gSA lkfgR; ekuoh; ewY;ksa dh LFkkiuk o izfr'Bk djus dk csthkM ek/;e gSA okV~lvi] Qslcqd] bZ - esy ds Nne o lrgh izse ds nkSj esa lkfgR; gh rks cpk gS tks ekuoh; izseoLrq dk

etcwrh inku djrk gSA lkfgR; fo4kfFkZ;ksa esa laosnuk dh Hkko dks txkrk gS jk'Vh; o varjk'Vh; eapksa ij fgUnh Hkk'kk o lkfgR; dh egRrk o mi;ksfxrk dks crkr gSA fgUnh lkfgR; dh fo4kFkhZ tk Lukrdkjrj d{kkvksa esa v/;;ujr gS mudh ,kks/k] iz'u] ftKklk vkfn ds fy, ;g mi;ksxh fl) gksxkA

f}rh; iz'u i= - Hkk'kk - foKku

fo4kfFkZ;ksa dks Hkk'kk foKku dh ek/;e l fgUnh Hkk'kk dh O;ofLFkr vkSj ;Fkksfpr iz;ksx dk Kku izkIr djkukA Nk=kvksa esa Hkk'kk foKku dh oSKkfud v/;;u dh n'V l fo'o esa QSyh fofHkUu Hkk'kkvksa dk ryukRed] ,sfrgkfld dkydekulkj v/;;u djkuk mnns'; gSA ftlls fo4kfFkZ;ksa dks fofo/k :iksa dk Kku izkIr gks ldsA fo4kfFkZ;ksa dks Hkk'kk dh Lo:i ifjHkk'kk vkSj fo'ks'krkvksa dh tkudkjh izkIr djkuk bld mn~ns'; gSA

r`rh; iz'u i= - dkedkth fgUnh vkSj i=dkfjrk

ekuo dh lkekftd vko';drkvk vkSj thou esa Hkk'kk dk fo'ks'k egRo gSA dkedkth fgUnh esa jktHkk'kk dk fo'ks'k iz;kstu gSA Kku-foKku dh {ks= esa Kkuo/kZd lkexh dk iz;ksx fd;k tk ldrk gSA ,kkldh; ,oa v'kkldh; dk;ksZ dh Hkk'kk lacaf/kr ,kēnkoyh dk lqUnj iz;ksx djd bls ljy cuk;k tk ldrk gSA Lukrdkjrj dh fo4kfFkZ;ksa dh fy, ;g ikB~;de mi;ksxh o lkFkZd gSA

prqFkZ iz'u i= - Hkkjrh; lkfgR;

euq'; fofo/k ns'kdky esa Hkk'kk] lkfgR; vkSj laLdfr dk l`tu vkSj fodkl djrk vk;k gS ftle vusd idkj dh fofo/krk,Wa] fHkUurk,Wa vkSj lekurk,W ikbZ tkrh gS] bu fHkUrkvksa vkSj lekurkvk dk v/;;u vko';d gSA fo'o lkfgR; esa tks dN Hkh Js'Bre mldk v/;;u euu vkSj ipkj djuk pkfg, rkfd izk.koku vkSj lR; fopkjksa dh /kkjk izokfgr dh tk ldsaA blfy, ikB~;de mi;ksxh gSA

,e- ,- fgUnh - prqFkZ lssesLVj

izFke iz'u i= - fgUnh vkykspuk rFkk leh{kk ,kkL=

fgUnh vkykspuk dh varZxr ,kkL=h;] O;fDroknh] ,sfrgkfld] izHkkooknh] lekt dh euksfo'ys'k.koknh ryukRed dkO;/kkjkvksa dk o.kZu lekfgr gS tk fgUnh vkykspuk dk vkSfpR; iznf'kZr djrk gSA fgUnh vkykspuk rFkk leh{kk'kkL= dh v/;;u l fo4kfFkZ;ksa dks le>u o ij[ku dk volj feyrk gSA ftlls lkekftd vkSj laLdfrd ifjos'k dks le>u esa fo4kfFkZ;ksa dks lgk;rk feyrh gSA

f}rh; iz'u i= – fgUnh Hkk'kk

ykd ekul Hkk'kk dk O;ogkj viuh t:jrksa dh eqrkfcd djrk gSA lafo/kku esa fgUnh Hkk'kk dks jktHkk'kk dk ntZ fn;k x;k gSA dksbZ Hkh Hkk'kk turk dh ftru djhc gksrh gS] muesa tuHkk'kk cuu dh mruh gh lkeF;Z gksrh gSA Hkk'kk dk fodkl turk dh jk'Vh; Hkkouk dh fodkl dk izrhd gSA vr: ;g ikB;de fo4kfFkZ;ksa dh fodkl esa cgqr mi;ksxh gksxkA

r`rh; iz'u i= - ehfM;k - ys[ku ,oa vuqokn

vkt dh ;qx esa ehfM;k ys[ku dk vR;f/kd egRo gSA ehfM;k dh ek/;e ns'k fons'k esa gksus okyh *kVukvksa] fdz;kdykiksa ,oa xfrfof/k;ksa dh tkudkjh ,kh*k izkIr gksrh gSA Kku foKku rduhdh] vuqa/kku] lkekftd] vkfFkZd] /kkfeZd] lkaLdfrd] jktuhfrd leLr {ks=ksa esa *kfVr gksus okyh leLr izdkj dh tkudkjh ehfM;k dh ek/;e l fo4kfFkZ;ksa dks izkIr gksrh gSA muesa psruk tkx`r gksrh gSA ;g ikB~;de Nk=kvksa dh fy, mi;ksxh gSA

prqFkd iz'u i= - NRrhlx<+h Hkk'kk

tuinh; Hkk'kk ,oa lkfgR; dk ek/;e ls Nk=kvksa dks NRrhlx<+ dh xkSjoxkFkk] ,sfrgkfldrk] ikSjkf.kdrk dk Kku djkuk gSA NRrhlx<+h lkfgR; dh lkekftd] /kkfeZd] lkaLdfrd xfrfof/k;ksa dk thoar nLrkost gSA tuinh; Hkk'kk lkfgR; dk ek/;e l NRrhlx<+h Hkk'kk dh fodkl ;k=k dk foLrr Kku djkrk gSA fo4kFkhZ NRrhlx<+h lkfgR; ,oa lkfgR;dkjksa dk v/;;u dj ;gkWa dh jhfr-fjokt] jgu-lgu] [kku-iku] laLdfr dk Kku iklr djkrk gSA

PGDCA – 2 Semesters postgraduate diploma programme

Programme Outcomes (PO), Programme Specific Outcomes (PSO), Course Outcomes (CO)

Course Outcomes of PGDCA

Semester	PAPER CODE	PAPER NAME	PAPER OUTCOMES
I	PGDCA 101	Introduction to Software Organization	• Describe basic organization of computer and the architecture of Pentium processor. • Demonstrate control unit of operation. • Categorize memory organization and explain the function of each element of a memory hierarchy. • Understanding of network, types and topology. • Understanding to internet, media and protocols.
I	PGDCA 102	Programming in "C"	• Illustrate the flowchart and design an algorithm for a given problem and to develop C program. • Develop conditional and iterative statements to write C programs. • Design user define functions to solve real time problems. • Using Pointers user write programs to access Arrays, Strings and Functions. • Exercise user define data types including structures and unions to solve a problems.
I	PGDCA 103	Office Automation and Tally	• To perform documentation using MS-Word. • To perform arithmetic and logical operations using MS-Excel. • To perform presentation skills using MS-Power Point. • Design a database with lookup tables Using MS-Access. • To perform accounting operation using Tally.
I	PGDCA 104	PGDCA -104:Practical based on PGDCA -103	• To perform documentation using MSWord. • To perform arithmetic and logical operations using MS-excel. • To perform presentation skills using MS-Power Point. • Design a database with lookup tables Using MS-Access. • To perform accounting operation using Tally.

I	PGDCA 105	PGDCA -105:Practical based on PGDCA -102	• Illustrate the flowchart and design an algorithm for to the given problem. • Understand basic structure of the C programming, declaration and usage of variables and operators. • Exercise conditional and iterative statements to write C programs. • Write C programs using Pointer to access Arrays , Strings and Functions.
Semester	**PAPER CODE**	**PAPER NAME**	**PAPER OUTCOMES**
II	PGDCA 106	GUI-Programming in Visual Basic	• Use a modern IDE to visually and programmatically create program with GUI's. • Understand and use the event driven model. • Create an application that using exception handling. • Understand different connectivity methods. • Create crystal report.
II	PGDCA 107	Database Management System	• Explain the features of database management system and relational database. • Design conceptual models of database using ER Modeling and construct queries in relational algebra. • Create and populate a RDBMS for a real life application, with constraint and keys using SQL. • Retrieve any type of information from a database by formulating complex queries in SQL. • Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database.
II	PGDCA 108	Essential of E-commerce and HTML	• Understanding concept of E-commerce and types. • Understanding various E-Business strategies. • Understand different type of online payment system. • To get familiar with basics of the Internet Programming. • To acquire knowledge and skills for creation of web site. • To gain ability to develop responsive web application.

II	PGDCA 109	PGDCA-109: Practical Based on PGDCA-106,107,108	• Construct appropriate user interfaces for simple programs and design system with minimal complexity and maximal functionality. • Effectively use software development tools including libraries compilers, editors, linkers, debuggers. • Create and populate a RDBMS for a real life application, with constraint and keys using SQL. • Retrieve any type of information from a database by formulating complex queries in SQL. • Implement interactive web page(s) using HTML, CSS and JavaScript. • Develop responsive web application using HTML and CSS.
II	PGDCA 110	PGDCA-110: Project	• Identify the requirements of the real world problems. • Conduct a survey. • Design the problem solution as per the requirement analysis done. • Demonstrate and build the project successfully by coding and testing.

PRINCIPAL
Govt. Dr. WW. Patankar
Girls PG. College, Durg (C.G.)

Dr. W.W. Patankar Girls P.G. College Govt. DURG