

Bhartiya Rashtriya Shikshan Sanstha's

Shankarrao Jawale Patil Arts, Science & Commerce College, Lohara

Program and Course Outcomes

Program Outcomes

PROGRAM OUTCOMES

Our college is committed to its students learning and success. Educational process and outcomes are aimed at transformational learning that support students all round and holistic development. The college has clearly stated Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution through website which is intended to help prospective students and others to evaluate the college educational goals and student outcomes of the education we provide. The vision, mission and goals of the institution are clearly displayed on website, prospectus and at the main entrance of the college. The staff and students are made aware of the aims and objectives and Program out comes through meetings, orientation programs for teachers, staff members and students. University and affiliated colleges organize workshops on new syllabus and give insights on Program outcomes and course outcomes/objectives and communicate the same to the teachers. University states Program outcomes and course outcomes/objectives along with syllabus. At the college level concern teachers go through the syllabus and frames some outcomes/ objectives and communicate to the students.

Program outcomes: (B.A., B.Com., B.Sc.)

B.A.

- **Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- **Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

- **Social Interaction:** Elicit views of others, mediate disagreements and help reach conclusions in group setting.
- **Effective citizenship:** Demonstrate empathetic social concern and equity centered national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.
- **Ethics:** Recognize different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- **Environment and Sustainability:** Understand the issues of environmental context and sustainable development.
- **Self-directed and Life-long Learning:** Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.
- **Employability:** After completion of the programme students become employable on the basis of their qualification, acquired knowledge and skills.
- **Leadership Quality:** In the graduation programme students are inculcated moral and ethical values, managerial skills, adoptability, problem solving, taking initiative, decision making, risk taking to make them confident leader.

B.Com.

- **Entrepreneurship:** Programme generates the qualities of entrepreneur and helps them to establish their own business rather than entering in the job sector.
- **Application of knowledge:** the ability to review, present and interpret quantitative and qualitative information to: (a) Develop lines of argument (b) make sound judgment in accordance with the major theories, concepts and methods.
- The ability uses a basic range of established techniques to a) Analyze information and; b) Evaluate the appropriateness of different approaches to solving problems.
- **Knowledge of Methodologies:** An understanding of methods of enquiry or creative activity that enable the students to:
 - Evaluate the appropriateness of different approaches to solving problems using well established ideas and techniques; and devise and sustain arguments or solve problems using these methods.

- Depth and breadth of knowledge:
- General knowledge and understanding of many key concepts, methodologies, theoretical approaches and assumptions in a discipline.
- Broad understanding of some of the major fields in a discipline
- Ability to gather, review, evaluates and interprets information.
- Detailed knowledge in an area of the discipline.
- Critical thinking and analytical skills inside and outside the discipline.
- All round holistic development of each student.
- Students get opportunities to deliberate on various alternatives and get informed to make choices so that they learn to become independent.
- Students become well equipped with various skills so that they become ready to face the challenges of life.
- Students will be able to think and make an inquiry into the socio-economic and political problems.
- General knowledge and understanding of many key concepts, methodology, theoretical approaches and assumptions in a discipline will be acquainted.
- Understand the nature and basic concepts of the respective subjects.
- Analyse the relationship of different courses.
- Understand the applications of social sciences, languages and commerce.
- Understand the laws, theories and cases related to practical approaches of commerce.

B.Sc.

- Explain, evaluate and effectively interpret factual claims, theories and assumptions in the student's disciplines (especially in one or more of the college's priority areas of Physics, Chemistry, Botany, Zoology, Mathematics and more broadly in the sciences and life.

- Find, access, critically evaluate, and ethically use information.
- Integrate quantitative and qualitative information to reach defensible and creative conclusions.
- Communicate effectively through writing, speech and visual information to the scientific community and to the community at large.
- Respectfully articulate the views of people with diverse perspectives.
- Demonstrate the capability to work both independently and in cooperation with others.
- Apply concepts of sustainability to the analysis of one of more major challenges facing humans and the Earth's resources.

Bhartiya Rasthriya Shikshan Sanstha's
Shankarrao Jawale Patil Arts, Science & Commerce College, Lohara
Department of English
Program and Course Outcomes
2024-2025

Programme Outcomes (POs)

A graduate of the institute is identified with the following prominent outcomes.

- Students of the institute have a foundation of scientific reasoning and analytical skills.
- Students have a holistic approach towards the education and prepare themselves ready for higher education or to take up any job opportunity or establish any business.
- Students acquire the ability to work in teams and apply basic ethical principles in life.
- Students develop the ability to communicate information and their own views in formal written and oral formats.
- A graduate of the institute is an all-round personality and a responsible citizen.

- Girl students are able to stand on their own and lead the further life confidently.
- Inferiority complex in the rural youth is erased by the education in the institute.

Course Outcomes

- 1) To create confidence, curiosity about English Language:
- 2) To prepare students to stand firmly in this global world.
- 3) To introduce students with various job opportunities while having confidence about the English Language.
- 4) To prepare students to face a competitive exam of English Language.
- 5) To teach human values, ethics, and moral.
- 6) To build a personality of the students as a social, national responsible person.

First Year

At the following courses, students will learn

Paper- 1. English Poetry (DSC-1)

1. Meaning of Poetry, its types and forms
2. The rise and development of English poetry, trends in English Poetry.
3. Major and minor British poets, texts and contexts.

4. Reflection of human values in English poetry.
5. Undertake poetry on current situations.
6. Write poetry on current situations.

Paper-Generic or Open Elective (GE/OE)-1 Functional English

1. Basic grammar in English language.
2. Writing skills with the help of clause elements, phrases, clause types, sentences types.
3. To prepare for various competitive examinations.
4. To spot common errors, sentence improvement, build vocabulary, selecting proper words, verb concord, ordering of words.
5. To spot common errors, sentence improvements, build vocabulary, selecting proper words, subject- verb concord, ordering of words in sentences.

Paper- Skill Enhancement Course (SEC-Eng-I -Metalinguistic Skills)

1. Acts of writing, the ability to think grammatically and to reflect on the effectiveness of language choices.
2. Phonemic awareness, syntactic awareness, and lexical awareness.
3. Conversational interaction and the role of metalinguistic skills.
4. Understand the intended message of the speaker through metalinguistic skills.
5. Relations between language and culture.

Paper- IV- Ability Enhancement Course (AEC-1)

1. To communication skills, importance of all skills and use of effective communication skills.
2. To speak at public places.
3. To prepare for job interview.
4. Manners, etiquettes, and maintain good relations with others
5. To show higher level of critical thinking and sharpen their accuracy in writing.

English P- V, DSC- 4 English Drama

1. Meaning and elements of English drama
2. Various and elements of English drama

3. To demonstrate a broad knowledge of major and minor British Playwrights and texts and contexts.
4. Students will play various roles in drama/theatre.
5. Students will write dramas.

GE/OE- ENG-2 English for Competitive Examination

At the end of the course, the students will learn

- 1.The use of basic grammar in English language learning.
- 2.To prepare for various competitive examinations.
- 3.To spot common errors, sentence improvement, build vocabulary, selecting proper words, subject-verb concord, ordering of words in sentences etc.
4. To enable students for employment with requisite professional skills, ethics and values.

English P-VII Vocational Skill Course (VSC)- Translation in Practice

At the end of course, the students will learn

- 1.Translation as important branch of study and what is good translation.
- 2.Basic but valuable techniques used by a good translator in the translation between English and Marathi or English and Hindi.
- 3.To understand the idea, style and tone of the writer, the historical and cultural context of the writing, as well as the explicit and implied meaning of words, the grammatical structures of sentences, and the logic of sentences and paragraphs in order to achieve faithfulness, expressiveness and the elegance in the translation.
- 4.What makes a qualified professional translator and acquires the abilities and skills that such a translator needs.

S. Y. B. A. Compulsory English

Title of the Paper: Language through Writing: An Anthology of Prose and Poetry

Outcomes

1. To develop competence among the students for self-learning
2. To familiarize students with excellent pieces of prose and poetry in English so that they realize the beauty and communicative power of English
3. To develop students' interest in reading literary pieces
4. To expose them to native cultural experiences and situations in order to develop humane values and social awareness
5. To develop overall linguistic competence and communicative skills of the students

S. Y. B. A. Optional English

Title of the Paper: 1) Literature in English (1550-1750)

2) Literature in English (1750-1900)

Outcomes

1. To expose students to the basics of poetry, novel, drama one of the forms of literature
2. To familiarize them with different types of drama, novel, poetry in English
3. To make them understand the literary merit, beauty and creative use of language
4. To introduce some advanced units of language so that they become aware of the technical aspects and their practical usage
5. To prepare students to go for detailed study and understanding of literature and language

Third Year (CBCGS Pattern) English Optional

English DSE1-AI Study of English Language- I (P-IX)

At the end of the course, students will learn

1. To basics of English language.
2. Better Pronunciation.
3. Grammar of English language.

English SEC-1-AI Literary Theory-I (Paper-X)

After completing this course, students will be able to:

1. Understand Major Theoretical Approaches:

Demonstrate knowledge of key literary theories such as Formalism, Structuralism, Post-Structuralism, Marxism, Feminism, Psychoanalysis, Postcolonialism, and Deconstruction.

2. Analyze Literary Texts Critically:

Apply various theoretical perspectives to the interpretation and analysis of literary texts from different genres and periods.

3. Recognize Historical and Cultural Contexts:

Trace the development of literary theory in relation to historical, social, and political contexts and understand its evolution over time.

4. Develop Interdisciplinary Insight:

Explore the intersections of literature with philosophy, politics, gender studies, psychology, and cultural studies through theoretical lenses.

5. Evaluate Theoretical Arguments:

Critically engage with and evaluate arguments presented by major theorists and scholars in the field.

English Paper No. XI-A Generic Elective- Eclectic Literature-I

1. Students would develop awareness about literature and cultures of different countries of the world.

2. Develop an understanding of a wide range of literary works from different genres, cultures, and time periods.

3. Analyze literary texts using appropriate critical and contextual frameworks.

4. Recognize and reflect on diverse human experiences, values, and perspectives presented in global literature.

5. Express informed literary responses through well-structured oral presentations and written assignments.

English DSE-1B1- Study of the English Language- II (Paper- XII)

At the end of the course, student will learn

- 1.To basics of English language.
- 2.Better Pronunciation
3. To learn English Grammar.

English-XIII SEC-1-B1- Literary Theory – II (P-XIV)

1. The students would become connoisseur of literature and life.
2. Students will Analyze and interpret literary texts using advanced theoretical approaches to gain deeper insight into meaning, form, and ideology.
3. Evaluate and synthesize critical arguments from theorists like Derrida, Foucault, Barthes, Spivak, and others within the context of literary discourse.

English Paper No. XIV-A Generic Elective- Eclectic Literature-II

1. The students would develop awareness about literature and cultures of different countries of the world.
2. Identify and analyze key literary themes, narrative techniques, and stylistic elements across eclectic literary works.
3. Develop an awareness of global literary traditions and cultural values through exposure to varied literary voices.

Bhartiya Rashtriya Shikshan Sanstha's

**Shankarrao Jawale Patil Arts, Science & Commerce College,
Lohara**

Dept. of Geography

Program and Course Outcomes

2024-25

1. Program Specific Outcomes

1. After completion of this course the students are expected to Understand the interior of the earth and surface landforms types of the earth.
2. After completion of this course the students are expected to Under about the atmospheric disturbance and role of climate in human life.
3. After completion of this course the students are expected to understand Significance about ocean as a storehouse of resources for the future for us.
4. After completion of this course the students are expected to understand Introduced about Physical, agricultural, drainage, Natural vegetation and resources in India.
5. After completion of this course the students are expected to Understand about the natural calamities like that green House effects, Global warming, Ozone deflation etc.
6. After completion of this course the students are expected to Understand about geography and its environmental relationship ecosystem forms and functions.

7. After completion of this course the students are expected to understand the cartography techniques, Mechanism and uses of weather instruments.

8. After completion of this course the students are expected to understand the geographical statistical data analysis and field survey with instruments.

Course Outcomes

2. Course Outcomes

First year

Paper No. DSC-I Physical Geography

1. Students will know the concept of Physical Geography.
2. Students will have a general understanding about the geomorphological process and formation.
3. Students will about Earth and its movements.
4. Student will acquaint of Branches of Physical Geography.
5. They will recognize various types of rocks available on the Earth.

Paper No. DSCI- Practical Geography

1. Students will know the definition of Cartography and scale of maps.
2. Students will understand the methods of reliefs.
3. Comprehend the concept of relief features and representation of slopes through contour line.

Paper GE/OE- I Regional Geography of Maharashtra

After the completion of course, the students will have ability to :

1. Acquaint students with Geography of Maharashtra.
2. Aware of the magnitude of problems and prospects in Maharashtra.
3. Understanding the inter relationship between the subject and the society

4. Understanding the recent trends in regional studies.

Paper SEC-Toposheet Interpretation (Practical)

1. Achieve the knowledge of SOI Toposheets.

2. Examine the Contour patterns, used to the Toposheets.

3. Understanding the relief features and cultural features in the Toposheets.

4. Comprehend the correlation between physical and cultural factors.

Paper DSC- 2: Human Geography

1. To gain the knowledge about major themes of Human Geography.

2. Acquire knowledge about the history and evolution of human being.

3. Learn about the various races and racial groups and settlement pattern.

Paper DSC-2 Practical Geography

1. Student will distinguish between various types of cartographic techniques

2. Develop an idea about different types of Graphs.

3. Acquire knowledge to prepare Diagrams from statistics of data and also the ability to interpret them.

Paper GE/OE- P- 2 Regional Geography of India

1. Student will understand the physical divisions and climate characteristics of India.

2. Acquaint with the soil and natural vegetation type and characteristics of India.

Paper VSC-1- Socio- Economic Survey or Study Tour

1. Student will understand of Socio-Economic condition.

2. Recognize the social and economic situation of the village.

3. Enhance the ability of collecting data.

4. Acquire the skill of making questionnaire & report writing.

Second Year

Paper no. VI- Climatology

1. Students will know importance temperature on animals and physical elements.
2. They will aware about pressure of Earth and its impact upon human beings.

Paper No. VII- Population Geography

1. Students will know the problems of overpopulation and its impact upon the society.
2. They will know the concept of population growth.
3. Students will understand effective factors upon the population distribution.
4. They will acquaint the reasons of migration and its consequences

Paper No. VIII- Oceanography

1. Students will understand the concept of oceanography.
2. Students will know about the temperature of Oceanic Water.
3. Students will acquaint of living animals in the ocean.

Paper No. IX- Settlement Geography

1. Students will know various types of settlement and effective factors on settlement.
2. They will understand the hierarchy of settlement.
3. Students will know about the urban settlement.

Paper No. X- Practical Geography

1. Students will know about the weather instruments.
2. They will understand about cartography and its use in making of maps.
3. Students will know about longitude and latitude.

Third Year

DSE-3 Paper -Geography of India

1. Students will know various physical elements in the environment.
2. Students will aware of physical geography of India.
3. Students will understand various factors effecting on human beings.

DSE-3 GEOG-2 Regional Planning & Development

1. Student will understand and identify regions as an integral part of geographical study.
2. Gain knowledge about definition of a region, evolution and types of regional planning.
3. Develop an idea about choice of a region for planning.
4. Appreciate the varied aspects of development and regional disparity, in order to formulate measures of balanced development.

SEC-3C-GEO- Geography of Environment

1. Students will know the concept of ecosystem.
2. Students will understand the relation between and environment and human beings.
3. Students will aware of their duties regarding the conservation of resources.

DSE-3 & SEC-P5- Practical Geography

1. Student will read and prepare maps.
2. Comprehend locational and spatial aspects of the Earth's surface.
3. Use and importance of maps for regional development and decision making.

GE-1GEO- Geography of Natural Calamities (Generic Subject)

1. Students will know the concept and nature of natural calamity.
2. Students will aware of earthquake and reasons of outbroke.

3. Students will understand man-made factors responsible for occurring these calamities.

DSE-3 GEOG-B1 Agriculture Geography of India

1. Student will understand the concept of agriculture geography.
2. Students will know the cropping pattern in India.
3. Students will know the Green Revolution in India.

SEC- Geography of Resources

1. Student will understand in defining the components of sustainable development.
2. Distinguish the patterns of regional development of the world and the need for sustainable development plan.
3. Appreciate the efforts and initiatives of the Government in reducing the levels of poverty and inequality among the people of various countries.

Paper No. XVIII(Main)- Geography Practical

1. Students will know the various types of surveys.
2. They will understand about chain tape survey.
3. Students will come to know Various theories of surveys.

Department of Sociology

Program and Course Outcomes

2024-25

B.A. First Year Sociology (1st Semester)

Major 1 :- DSC-1 Introduction to Sociology

Course Outcomes (COs)

- i) Students will understand the period of renaissance and its significance in the development of social thoughts.
- ii) Students will understand the major contributions and theories of pioneer sociologists.
- iii) Students will be able to define sociology through a scientific lens.
- iv) Students will get introduction of Indian sociologists and their contribution
- v) Students will acquaint with basic concepts of Sociology

GE/OE (Generic / Open Elective) :- Social Media and Society

- i) Students will understand the meaning and nature of social media.
- ii) Students will be able to identify and describe the functions of social media platforms, recognizing their roles in information dissemination, community building, and entertainment.
- iii) Students will be able to differentiate between various types of social media platforms and understanding their unique features and purposes.
- iv) Students will be able to understand the impacts of social media on society and be able to evaluate the challenges and concerns associated with social media.

SEC :-PERSONALITY DEVELOPMENT

- i) Develop skills to embrace change, handle setbacks, and thrive in dynamic work environments.

- ii) Build self-confidence, overcome self-doubt and be able to assert oneself in professional settings
- iii) Students will be able to analyze their own strengths and weaknesses both verbal and nonverbal communication abilities, active listening and expressing ideas effectively.
- iv) Improve communication skills and time management.

B.A. First Year Sociology (2nd Semester)

Major 1 :- DSC-4 Applied Sociology

Course Outcomes (COs):

1. To introduce students to the concept, scope and importance of applied sociology.
2. To examine the role of sociology in understanding the social problems and solving of it.
3. To understand the role of sociology in policy framing.
4. To analyze the role of applied sociology in social development.
5. To explore the importance of sociology in social research.

GE/OE (Generic / Open Elective) :- Sociology of Cinema

Course Outcomes(COs):

1. To introduce students to the fundamental concepts and theories of the sociology of cinema.
2. To examine the relationship between cinema and society.
3. To understand the impact of cinema on social norms, values, and identities.
4. To analyze the role of films in shaping cultural and social change.
5. To explore contemporary issues in cinema with a focus on Indian films.

VSC-1:- Family Counseling

Course Outcomes (COs):

- i) Students will understand the Characteristics of Family.
- ii) Students will analyze the Changing Nature of Family.
- iii) Students will able to Identify and Address Issues and Problems in Family.
- iv) Students will able to explore the Significance and Role of Family Counseling

B.A. Second Year Sociology (3rd Semester)

CC-11-Indian Society

Course Outcomes (COs):

- i) They are made familiar with the Indian Society.

- ii) Its Linkages and continuity with past and present.
- iii) This paper provides comprehensive understanding of Indian Society.

SEC-1A Cinematic Sociology

Course Outcomes:

1. Students are introduced the key ideas within a theory. They understand the importance of Cinema's impact on Society.
- 2 Students will investigate question through a filmic analysis of sociological issues will consider both narrative and documentary films and use them to engage in a sociological exploration of identity, interaction, inequality and institutions.
3. Students explore the familiar path of cinema to connect to larger theoretical grounds.

B.A. Second Year Sociology (4th Semester)

CC-1F Indian Society: Issues and Concerns

Course Outcomes

1. The course content will empower the students to deal with the current challenges and to serve as change agents in governmental and nongovernmental organizations

SEC-1B Sociology of Mass Media

Course Outcomes:

1. An appreciation of mediatized character of social existence and its history.
2. An acquaintance with Concepts and various theoretical strands in Sociology of media.
3. An understanding of social, political and cultural processes that underpin the operations of our mediatized ecosystem and their effects.

B.A. Third Year Sociology (5th Semester)

DSE-A1 Classical Sociological Tradition

Course Outcomes

1. Understanding the grand foundational themes of sociology.
2. Application of theories and concepts from classical sociological theories to develop intellectual openness and curiosity.
3. Appreciation of the classical concepts and theories to develop awareness of the limits of current

SEC-1C Social Research Methods

Course Outcomes:

1. Students are introduced to sociological research both from a theoretical and methodological perspective.
2. Students develop the ability to evaluate the methodological validity of the claims made by theory
3. Students will learn to identify ethical and practical issues in research.

GE-1 Population and Society

Course Outcomes:

1. Demonstrate a knowledge of key concepts and different approaches to population studies.
2. Recognize the relations between population and social groups and processes.
3. Undertake a sociological analysis of international and national population dynamics and population policies.

B.A. Third Year Sociology (6th Semester)

DSE-B1 Indian Sociological Tradition

Course Outcomes:

1. Ensure that students have conceptual clarity and can articulate the main debates and arguments with regard to sociology in India.
2. To ensure that students have understood the formation of the discipline in India and the challenge.
3. To help students understand the history of ideas related to the analysis of Indian society.

SEC-ID NGO Management and Social Development

Course Outcomes:

1. Students should enrich their knowledge about NGO Management.
2. Students enrich their knowledge about Project management dimensions, planning and its implementations.
3. To enrich skills and techniques of project evaluation

GE-2 - Sociology of Work

Course Outcomes:

1. Understanding work in its social aspects such as gendered work and unpaid work, as different

from its better-known economic dimension.

2. Learning about the complexities, disparities and inequalities in the area of work

3. Learning about the socio-historical context of work, theoretical concerns and problems and contemporary issues in the area of work and Industry.

Shankarrao Jawale Patil Art's Science & Commerce College, Lohara

Dept. Of History

Year-2024-2025

Program and Course Outcomes

Program Outcomes

1 B.A.I DSC SEM-I History of India (Up to 300 B.C.). I "Laid the foundation for urban planning, trade, and craftsmanship in the Indian subcontinent.

The eventual decline around 1800 BCE is attributed to factors like climate change, shifts in river courses, and economic troubles in trade partners. "

2 B.A.I SEC SEM-I Study in Museology "Museum Curator: Responsibilities include acquiring, cataloging, managing museum collections, designing exhibitions that tell compelling stories and engage visitors.

Conservation Specialist: Focuses on preserving and restoring artifacts and artworks using specialized techniques to ensure their longevity."

3 B.A.I GE SEM-I History of Buddhism Spread and establishment as a major world religion: Buddhism, originating in India around 563 BCE, spread extensively throughout Asia and even to parts of Europe and Africa, becoming one of the world's major religions with over 500 million followers according to Unacademic. Its expansion was facilitated by missionaries, royal patronage (notably Emperor Ashoka), trade routes like the Silk Road, and the appeal of its messages of peace and compassion.

4 B.A.I DSC SEM-II "History of India (Up to 300 B.C.to650

A.D.)" The Mauryan Empire (c. 322-185 BCE): This era began with Chandragupta Maurya establishing a centralized government, laying a strong foundation for future dynasties. The empire reached its zenith under Ashoka the Great, who expanded its territory significantly and promoted Buddhism.

5 B.A.I GE SEM-IIHistory Of Jainism "Jainism challenged the rigid caste system prevalent in ancient India by advocating for social equality and the rejection of hierarchical structures based on birth.

It emphasized the importance of individual merit and actions (karma) over social status, attracting followers from various castes and social strata."

6 B.A.I VSC SEM-II Study in Archaeology "Archaeologist: This is the most direct path, involving fieldwork, excavation, artifact analysis, and research related to uncovering and interpreting past human cultures and societies.

Cultural Resource Management (CRM): Working in CRM involves assessing, preserving, and managing cultural heritage sites and artifacts, often in connection with construction or development projects."

B.A.S.Y.SEM-III 2024-2025

7.B.A.S.Y.P-V History of Medieval India. III-Sem. (A.D.1526 to A.D.1757) "Understanding Mughal Rule: Comprehend the nature, establishment, consolidation, and decline of Mughal rule in India.

Key Rulers: Gain knowledge about significant Mughal emperors like Babur, Humayun, Akbar, Jahangir, Shah Jahan, and Aurangzeb.

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8 B.A.S.Y.P-VI History of Colonial India 1757-1857 1 Deindustrialization: British policies dismantled India's thriving handicraft and textile industries through measures like tariffs and flooding Indian markets with cheap, machine-made goods from Britain.

9 B.A.S.Y.P-VII History of Modern India IV-Sem. (A.D.1858 to A.D.1947) "1. Economic exploitation and the drain of wealth

Deindustrialization: British policies dismantled India's thriving handicraft and textile industries through measures like tariffs and flooding Indian markets with cheap, machine-made goods from Britain."

10 B.A.S.Y. P-VIII History of Europe Political Fragmentation and Nation-State Formation: Europe, after the fall of the Western Roman Empire, experienced a period of political fragmentation, with the rise and fall of various kingdoms and empires. This ultimately led to the formation of modern nation-states in Western Europe, characterized by increasingly centralized power in countries like France, England, and Spain.

11 B.A.T.Y. DSC History of South-East-Asia. "1. Cultural blending and development of indigenous states

Early Civilizations: The region saw the emergence of early agrarian societies, cultivating rice and developing sophisticated bronze and iron industries, like the Dong Son culture.t "

12 B.A.T.Y. SEC Issues of Depressed Classes in India ". Social discrimination and untouchability

Despite legal prohibitions, caste-based discrimination, including social ostracism and untouchability practices, persists in various forms.

This manifests in restricted access to public spaces like wells and temples, denial of services from barbers and washermen, and spatial segregation within villages."

13 B.A.T.Y. GE History of Sufism in India "Sufi saints emphasized values of love, tolerance, and inclusivity, transcending religious and social boundaries.

They focused on universal values, seeking unity among diverse communities."

B. A.T.Y. SEM-VI

14 B.A.T.Y. DSC History of India (Up to 300 B.C.to650 A.D.) " Trade and economic activity: Trade routes, both domestic and international, expanded, with India playing a crucial role in the Silk Road trade. This boosted the empire's economy, leading to the rise of urban centers and a flourishing merchant class. The Satavahanas, for instance, were known for strengthening cultural and economic ties with South India and expanding maritime trade with the Roman Empire.

Social structures: The varna system, initially based on occupation, became more rigid and solidified into the caste system during this period. The status of different varnas, including the Shudras, underwent changes throughout this era. The period also witnessed the integration of foreign invaders into Indian society, often into the Kshatriya varna. "

15 B.A.T.Y. SEC Study of Archives. Preserving cultural heritage and identity: Archives safeguard materials that document traditions, languages, and artistic practices, preventing their loss and fostering appreciation for cultural diversity. This preservation work reinforces both personal and community identity.

16 B.A.T.Y. GE Dr.Babasaheb Ambedkar and His Movement"Abolition of untouchability: Article 17 of the Indian Constitution, championed by Dr. Ambedkar, legally abolished untouchability and made it a punishable offense.

Affirmative action (reservations): The Constitution incorporates provisions for reservations in education, employment, and political representation for Scheduled Castes, Scheduled Tribes, and Other Backward Classes, aiming to correct historical injustices and provide equal opportunities, according to Drishti IAS.

"Department of Public Administration

Program and Course Outcomes

1.Introduction To Public Administration

"Course Outcomes (COs):

1) Students will gain a broad understanding of Public Administration and the development of the discipline

ii) Learn about the basics of Organization.

iii) Understand the roles and functions of line agencies, staff agencies, and auxiliary agencies in organizational structures.

iv) Apply the principles of hierarchy, span of control, and unity of command to develop organizational hierarchies and calculate spans of control through practical exercises.

v) Develop critical thinking and analytical skills by evaluating the application of organizational principles in real-world contexts. "

II Theories and Principles of Management

"i) Understand the various Management theories

ii) Understand the various administrative theories.

iii) Familiarize with the concept of Management and Administration.

iv) Gain knowledge of principles of Management.

v) Gain knowledge of principles of Administration."

III ADMINISTRATIVE LEADERSHIP AND COMMUNICATION SKILLS

"i) Acquire theoretical knowledge of concepts such as Administrative Leadership

ii) Understand the style of Administrative Leadership.

- iii) Familiarize with the theories of Leadership.
- iv) Develop communication skills.
- v) Able to face interviews in corporate and public sector."

V. Indian Administration

- "I) Understand and critically analyse the features of the Indian Administration.
- ii) To Gain knowledge of role and functioning of the Union Legislature and Union Judiciary.
- III) To Demonstrate knowledge of the structure and functions of the Secretariat, and Prime Minister's Office (P.M.O.).
- iv) To Comprehend the roles and responsibilities of constitutional agencies.
- v) Analyse case studies related to Judicial Review and Judicial Activism, and develop informed opinions on these topics based on the theoretical background and practical work"

VI Management and Administrative Thinkers

- "1) Gain the knowledge about various Administrative Thinkers.
- ii) Familiarize with the theories given by these Administrative Thinkers.
- iii) Understand concept of Scientific Management.
- iv) Know the approaches about organization, decision making etc. given by the thinkers.
- v) Acquire knowledge about the Behavioral theories."

VII OFFICE ADMINISTRATION AND RECORD MANAGEMENT

- "i) Able to understand concept of Office & Office Administration.
- ii) Gain the knowledge about office layout.
- iii) Understand the various Office Procedures.
- iv) Acquire skill of Record Management

Shankarrao Jawale Patil Art's Science & Commerce College, Lohara

Dept. Of Political Science

Year-2024-2025

Course Outcomes

1 B.A.I DSC SEM-I Introduction to political science

"Course Outcomes (COs):

*At the end of the course the students would be able to understand

*Theoretical aspects of Political Science, and will learn about its basic concepts state and government

*The origin, structure and functioning of state and government.

*Understand the dynamics of live politics in the context of political theory

*Basic concepts - liberty, equality, and justice

*Distinctions and relevance of these concepts.

Develop critical thinking and analytical skills by evaluating the application of organizational principles in real-world contexts. "

2 B.A.I GE SEM-I Basic state and government

"*At the end of the course, students will be able to:

*Understand origin, constituents, purpose, structure and functioning of the state and government.

*Analyze the better form of government around the world.

*To understand the difference between state and government"

3 B.A.I SEC SEM-I HUMAN RIGHTS

"1. Explain the basic concept of Human Rights and its various formulations.

2, Have sufficient knowledge and skills for analyzing, interpreting, and applying the Human Rights Standards and sensitize them to the issues.

3. Develop ability to critically analyze Human Rights violations around them and become a volunteer."

4 B.A.I DSC SEM-III Indian Constitution and Government "

*At the end of the course, students will be

*Aware of the making, sources and features of the Indian constitution.

*Known about structure and functioning of Indian Government

*Acquainted of dynamics in Indian politics

*Able to understand and to analyze party politics, federal system, elections and democratic values."

5 B.A.I GE SEM-II Introduction to foreign Policy

"At the end of the course, students will be able to:

* To study the framing, means and goals of foreign policy.

*To understand the objectives and principles of India's foreign policy."

6 B.A.I SEC SEM-II Election management

"This Course will make students able to

1. Acquire skills of election management.

2. Assist political parties or candidates to manage its electorate.
3. Provide Professional solutions to run election campaign to political party or any independent candidate."

B.A.S.Y.SEM-III

7 B.A.S.Y. P-V Government and politics in Maharashtra

"Course Outcomes-Upon completion of this course, students will be able to:

1. Understand the socio-economic conditions, cultural background, and reorganization of Maharashtra.
2. Comprehend the structure and functioning of the Government of Maharashtra.
3. Analyse the political dynamics of the state and evaluate the role of regional parties, social movements, and caste in shaping Maharashtra's politics
4. Examine key socio-economic movements and their impact on state politics in Maharashtra"

8 B.A.S.Y. P-VI Theories Of International Relations

"Course Outcomes - Upon completion of this course, students will be able to:

1. Understand the meaning, nature, and scope of international relations.
2. Develop analytical perspectives to study international relations using various theoretical frameworks.
3. Reflect on the political dynamics underlying regional and global institutions.
4. Critically analyze contemporary developments in international relations and global politics."

B. A.S.Y. SEM-VI

9 B.A.S.Y.P-VII Government and politics in Maharashtra

"Knowledge of various aspects of Public Financial Administration in general and in the Indian context in particular.

Course Outcomes-Upon completion of this course, students will be able to:

1. Understand the socio-economic conditions, cultural background, and reorganization of Maharashtra.
2. Comprehend the structure and functioning of the Government of Maharashtra.
3. Analyse the political dynamics of the state and evaluate the role of regional parties, social movements, and caste in shaping Maharashtra's politics
4. Examine key socio-economic movements and their impact on state politics in Maharashtra"

10 B.A.S.Y. P-VIII Theories of International Relations

"Course Outcomes - Upon completion of this course, students will be able to:

1. Understand the meaning, nature, and scope of international relations.
2. Develop analytical perspectives to study international relations using various theoretical frameworks.
3. Reflect on the political dynamics underlying regional and global institutions.
4. Critically analyze contemporary developments in international relations and global politics

B.A.T.Y. SEM -IV

11 B.A.T.Y. DSC Indian Political Thinkers

"* Students will demonstrate comprehensive knowledge of prominent thinkers and their conceptual frameworks.

. • Students will apply these conceptual frameworks to analyze contemporary situations effectively.

*Students will identify and evaluate the significant contributors to Indian political thought, elucidating their roles in shaping India's reform movements.

*. Students will articulate the core concepts in Indian political thought with clarity and precision.

*Students will exhibit proficiency in applying abstract theoretical constructions to real-world problems utilizing the insights of political theorists to address contemporary social issues. "

12 B.A.T.Y. SEC Indian federal System

"*Understand the theoretical underpinnings of federal government and the concept of federalism, contextualized within the Indian scenario.

*Analyze the distinctiveness of the Indian Union in its federal structure, considering historical, political, and constitutional dimensions.

*Examine the delineation of powers between the Central and State governments in the Indian Union, elucidating the mechanisms of distribution and allocation.

* Identify evaluate the sources of conflict between the Center and the States, discerning the socio-political and constitutional factors at play.

* Investigate the recommendations proposed by various Commissions tasked with enhancing Centre-State relations, critically assessing their implications and potential for fostering cooperative governance."

13 B.A.T.Y. GE Political Party System in India

"Upon completion of this course, students will be able to:

* Grasp the indispensable role of political parties in sustaining democracy, comprehending their organizational intricacies, functions, and diverse typologies.

*Establish connections between the principles of democracy and their manifestations in everyday life, discerning the pivotal role of political parties in national development. *Be familiar with the array of political and social institutions integral to a democratic framework, enhancing their understanding of the broader democratic ecosystem.

*Analyze the factors contributing to the escalating phenomenon of defection within the Indian party system, critically evaluating its implications for democratic stability and governance

B. A.T.Y. SEM-VI

14 B.A.T.Y. DSC "Indian Political Thinkers

Upon completion of this course, students will be able to:

Understand significant Indian political thinkers and their works.

Apply these conceptual frames to analyze and interpret contemporary political phenomena and social challenges.

* Identify and evaluate the contributions of prominent political thinkers and elucidating the relevance of their ideas."

15 B.A.T.Y. SEC Indian Judicial System

"Upon completion of this course, students will be able to

*Analyze fundamental concepts of justice and law, discerning their theoretical underpinnings and practical applications within the Indian context.

*Study the structure and functioning of the unified judiciary under the Union Government of India, including the Supreme Court and the High Courts.

*Evaluate the principles of judicial independence and impartiality, examining their significance in upholding the integrity and credibility of the Indian judiciary.

*Examine the mechanisms and safeguards in place to ensure a fair and accessible justice system in India, including the role of legal aid, judicial review, and public interest litigation,

*Critically assess the challenges and opportunities facing the Indian judicial system, identifying areas for reform and improvement to strengthen the rule of law and promote social justice."

16 B.A.T.Y. GE Local Self Government

"Upon completion of this course, students will be able to

*Demonstrate a comprehensive understanding of the concept and process of democratic decentralization, elucidating its significance in fostering participatory democracy and empowering local communities.

*Analyze the provisions and implications of the 73rd and 74th constitutional amendments, critically evaluating their impact on strengthening local self-governance structures.

*Examine the structure, functions, and powers of local self-government bodies in India, including Panchayats and Municipalities, discerning their roles in local administration and service delivery.

*Evaluate the challenges and opportunities inherent in local governance systems in India, identifying strategies for enhancing their effectiveness and accountability.

*Synthesize theoretical insights and empirical evidence to propose informed recommendations for advancing democratic decentralization and strengthening local self-government institutions in India"

Shankarrao Jawale Patil Arts, Science & Commerce College, Lohara

Department of Chemistry

Program and Course Outcomes

Academic Year

2024-2025

Course Outcomes

B.Sc. F.Y Semester I

DSC-1 Fundamentals of Chemistry-1

- Outcomes:**
- 1) Write the electronic configurations of the elements.
 - 2) To understand the changes in periodic properties in modern periodic table.
 - 3) Understand the different types of electron displacement in molecule.

DSC 2: Lab Course- 1

- 1) To consistently follow established SOPs for various experiments.
- 2) To prepare solution of desired concentration.
- 3) To maintain accurate and through records of experimental data, and analyze results to draw meaningful conclusions.

SEC-1 A- Water Treatment and Analysis

- 1) Resources and properties of water.
- 2) Understand the different pollutants

3) Understand treatment of domestic and industrial water.

SEC-2 A- Water Treatment and Analysis

- 1) Resources and properties of water
- 2) Understand the different pollutants
- 3) Understand treatment of domestic and industrial water.
- 4) Understand the sources of water pollution.
- 5) Carryout experiment for determination of water quality parameters.

GE/OE-1 – Herbal Chemistry-I

1. Acquainted with importance of herbal drugs.
2. Know the different sources of herbal medicine and their preparation.
3. Acquire the knowledge of organic farming.
4. Know about the Indian system of drugs ayurveda, Unani, siddha and homeopathy.

B.Sc. F.Y. Sem. II

DSC-3 Fundamentals of Chemistry-2

- 1.) Identify the type bound.
- 2.) Predict the shape and geometry and bond angle in a molecule.
- 3.) Understand the factors affecting ionic bound formation.
- 4.) Identify types of isomerism.

DSC-4 Lab Course

- 1) Acquire skills in common techniques for the Volumetric estimations of inorganic compound.

- 2) Acquire skills in common techniques preparation and purification of organic compounds.
- 3) Assess the effectiveness of purification techniques.
- 4) Develop precision in measuring and recording physical constants.

VSC- 1 A Cosmetics and perfumery

- 1) Classify the perfumes
- 2) Understand the constituents of perfumes.
- 3) Preparation of perfumes
- 4) Constituents of cosmetics
- 5) Method of preparing cosmetics.

VSC- Cosmetics and Perfumery (Practical)

- 1) Classify the perfumes
- 2) Understand the constituent of perfumes
- 3) Preparation of perfumes.

GE/OE- Herbal Chemistry-II

- 1) Acquainted with importance of herbal drugs.
- 2) Know the different sources of herbal medicine and their preparation.
- 3) Acquire the knowledge of organic farming.
- 4) Know about the Indian system of drugs ayurveda, Unani, Siddha and homeopathy

SUBJECT: ECONOMICS
Effective from 2025-26
(AS PER NEP-2020)

B.A. First Year Economics (1st Semester)

Major 1 :- DSC-1 Micro Economics

Course Outcomes (COs) :

After completion of the course, students will be able to -

- i) Students will be able to analyze about meaning, nature, scope, significance and limitations of micro economics.
- ii) Students will be able to analyze demand and supply analysis.
- iii) Students will be able to understand the consumer behavior.
- iv) Students will be able to develop strong conceptual knowledge of the subject.
- v) Students will be able to examine welfare economics

GE/OE (Generic / Open Elective) :- Indian Banking System

Course Outcomes (COs) :

After completion of the course, students will be able to -

- i) Students will be able to describe NABARD.
- ii) Students will be able to understand Indian banking structure.
- iii) Students will be able to analyze functions of commercial banks.
- iv) Students will be able to analyze functions of Co-operative banks.
- v) Students will be able to examine role of banking in development.

SEC :- Data Collection

Course Outcomes (COs) :

After completion of the course, students will be able to -

- i) Students will be able to analyze primary data collection methods.
- ii) Students will be able to describe secondary data collection methods.
- iii) Students will be able to examine questionnaires and schedule.
- iv) Students will be able to differentiate between primary and secondary data.
- v) Students will be able to practical skills related to data collection.

B.A. First Year Economics (2nd Semester)

Major 1 :- DSC-4 Price Theory

Course Outcomes (COs) :

After completion of the course, students will be able to -

- i) Students will be able to analyze theory of production.
- ii) Students will be able to compare costs and revenue.
- iii) Students will be able to examine market.
- iv) Students will be able to describe various concepts in production and costs.
- v) Students will be able to analyze selling cost.

GE/OE (Generic / Open Elective) :- Reserve Bank of India and Monetary Policy

Course Outcomes (COs) :

After completion of the course, students will be able to -

- i) Students will be able to analyze about money measures.
- ii) Students will be able to understand the function of RBI.
- iii) Students will be able to examine monetary policy.
- iv) Students will be able to describe methods of credit control.
- v) Students will be able to describe current monetary policy.

VSC-1:- Modern Banking Techniques

Course Outcomes (COs) :

After completion of the course, students will be able to -

- i) Students will be able to describe the need and importance of technology in banking.
- ii) Students will be able to understand E- Banking and Digital Payments.
- iii) Students will be able to examine cyber security.
- iv) Students will be able to understand security measures.
- v) Students will be able to practical skills.

B.A. Second Year Economics (3rd Semester)

Major 1 :- DSC-7 Macro Economics

Course Outcomes (COs):

After completion of the course, students will be able to -

1. Get knowledge of concepts of macroeconomics
2. Get information about the various concepts of national income
3. Understand the Classical Approach and Keynesian views on production and employment Theory
4. Understand the consumption and investment functions

Major 2 :- DSC-8: International Economics

Course Outcomes (COs):

After completion of the course, students will be able to-

1. Students will be able to analyze the meaning, scope and importance of international economics.
- ii. Students will be able to identify the basic differences between domestic and international trade.
- iii. Students will be able to understand the various international trade theories.
- iv. Students will be able to examine the concepts of tariffs and quotas.

M-1: Economy of Maharashtra

Course Outcomes (COs):

After completion of the course, students will be able to -

- i. Students are able to understand the nature of the economy of Maharashtra.
- ii. Students understand the major challenges of Maharashtra's economy.
- iii. Students are able to understand the recent developments in the economy of Maharashtra.
- iv. After completing the course, the students are able to appear for various competitive examinations.

M-2 : Development of Economics

Course Outcomes (COs):

After completion of the course, students will be able to -

- i. Students are able to understand the concepts and indicators of economic development.
- ii. Students are able to understand the theories of Economic Development.
- iii. Students are able to understand the economic development process.
- iv. Students understand the role and importance of Startup India in economic development.

GE/OE-3 (Generic / Open Elective) :- Goods and Services Tax

Course Outcomes (COs):

After completion of the course, students will be able to:

1. Student got the knowledge about Indirect Tax, Constitutional back ground about GST
- ii. Student got the knowledge about objectives and benefits of GST
- iii. Student understood the types of GST

VSC-2 Farmer Producer Organizations

Course Outcomes:

1. Student Understood the FPOs Structure and Functioning.
- ii. Develop an understanding of market linkages and government support for FPOS
- iii. Student aware about value chains through FPOs.

B.A. Second Year Economics (4th Semester)

Major 1 :- DSC-9 Public Finance

Course Outcomes (COS)

After completion of the course, students will be able to-

- i. Student will be able to analyze about Meaning and Scope of public finance
- ii. Student will be able to identify Sources of Public Revenue.
- iii. Student will be able to understand concept of Public Expenditure & Public Debt
- iv Student will be able to examining the structure of Union Budget.

Major 2 :- DSC-10 Money and Financial Markets

Course Outcomes (COs):

After completion of the course, students will be able to

- i. Students will be able to explain the role and functions of money, paper currency, and different note issue methods.
- ii. Students will be understand of the operations of money and capital markets and their significance in the Indian economy.
- iii. Students will be understood the functions of RBI and the application of monetary policy tools.

M-3: Indian Economic Reforms

Course Outcomes (COs):

After completion of the course, students will be able to -

- i. Students will be able to understand about economic reforms
- ii. Students will be aware about LPG.
- iii. Students will be understood about the impact of economic reforms.

M-4: Principles and Practice of Co-operation

Course Outcome: By the end of the course the students will be able to

1. Students will define the core principles of cooperation and their global relevance
2. Students will understand the cooperative credit system and the roles of various cooperative banks.
3. Students will assess the role of different types of cooperatives in economic development.
4. Students will evaluate challenges faced by cooperatives and suggest solutions for improvement.

GE/OE (Generic / Open Elective)4 :- Environmental Economics

Course Outcomes (COs):

After completion of the course, students will be able to -

- i. Students understood the concept of environmental economics.
- ii. Students understood the relation between various sectors.
- iii. Student got the knowledge about environmental issues.

SEC-2: Introduction Indian Stock Market

Course Outcomes (COs):

After completion of the course, students will be able to:

- i. Know the functioning of Indian Stock Market.
- ii. Understand the Investment of the Indian Stock Market.
- iii. Understand the SEBI Power & Functions.
- iv. Understands the benefits of Mutual Funds & SIP

B.A. Third Year Economics (5th Semester)

DSE-A1 International Economics

COURSE OUTCOMES:

Completion the study of International Economics student should be able to:

- 1) Identify the basic difference between domestic and international trade.
- 2) Understand the various international trade theories.
- 3) Understand the concepts of tariffs and quotas.
- 4) Understand the importance of maintaining equilibrium in the Balance of payments.

SEC-1C Indian Stock Market

Course Outcomes:

- 1) Know the functioning of Indian Stock Market.
- 2) Understand the structure and functions of Indian Stock Market.
- 3) Understand the SEBI and its Functions.
- 4) Knowledge about futures and option trading.

GE-1 Introduction to Elementary Economics

Course Outcomes:

After completion of this course students should be able to:

1. Students aware about the Concepts of Micro Economics.
2. Understood the Concepts of Macro Economics.
3. Students aware about the knowledge of Indian Economy.
4. Students got the information regarding Money and Banking.

B.A. Third Year Economics (6th Semester)

DSE-B1 Industrial Economics

Course Outcomes:

After Completion of the course students would be able to.

1. Understood the importance of Industries in economic development of Economy.
2. Students aware about the theories of industrial location.
3. Students understood types of industries
4. Students aware about the industrial policy after 1991.

SEC-ID Insurance Market and its Products

Course Outcomes:-

After completion of this course students should be able to:

1. Students understand the meaning, nature and importance insurance.
2. The course enables Functions of Insurance Companies and their agents.
3. Students are able to evaluate the Indian Insurance framework.
4. Students are able to understand the legal aspects of Insurance.

GE-2 Indian Economy

Course Outcomes:-

After completion of this course students should be able to:

1. The course equips students to understanding the Structure of Indian Economy & Its problems.
2. Students enable to analyze income & Inflation.
3. Students sensitized to the various issues faced by Indian Agricultural and Industrial Sectors.
4. Students are able to evaluate the role of International Institutions and Organisations

Bhartiya Rashtriya Shikshan Sanstha's

**Shankarrao Jawale Patil Arts, Science & Commerce College,
Lohara Dist. Dharashiv**

Faculty of Commerce

Program and Course Outcomes

Program Outcomes

- **Comprehensive Knowledge:**

Students will gain a thorough understanding of accounting, finance, taxation, economics, and management concepts essential for business operations.

- **Analytical and Critical Thinking:**

Develop the ability to analyze financial statements, evaluate business performance, and make data-driven decisions.

- **Business Communication Skills:**

Improve communication, presentation, and interpersonal skills necessary for professional success in the corporate world.

- **Entrepreneurial Skills:**

Encourage creativity, innovation, and entrepreneurship by understanding business opportunities and start-up management.

- **Ethical and Social Responsibility:**

Understand ethical principles and apply them in business decisions, promoting social responsibility and sustainability.

- **Use of Modern Tools:**

Acquire practical skills in using accounting software, data analysis tools, and digital technologies relevant to commerce.

- **Global Business Understanding:**

Gain insights into international trade, global business environments, and cross-cultural management practices.

- **Teamwork and Leadership:**

Develop the ability to work effectively in teams and demonstrate leadership qualities in various business contexts.

- **Problem-Solving Ability:**

Identify, analyze, and solve business and financial problems with logical reasoning and strategic approaches.

- **Career and Lifelong Learning:**

Prepare for diverse career paths in accounting, finance, banking, marketing, and pursue higher education or professional courses like CA, CS, CMA, or MBA.

COURSE OUTCOMES

2025-26

B.COM- I

Entrepreneurship Development DSC

CO 1: To Create Awareness Amongst students about Entrepreneurship.

CO 2: To Understand Theories while applying in the Business.

CO 3: To know about Foundation of Entrepreneurship and its theories.

CO 4: To identify the type of entrepreneur and the steps involved in an entrepreneurial Venture.

Financial Accountancy DSC

CO-1. The course aims at acquainting the students with the emerging issues in business, trade and commerce regarding, maintain and presenting the accounting and financial facts.

Principal of Management DSC

i) Absorb various management concepts, principles and theories

ii) Examine the managerial functions having an impact on the business effectiveness

Basic Of Accounting (GE/OE)

1) Students understand concept of Basic Accounting and apply the knowledge in own business.

2) Students get the job opportunities in the company due to the knowledge of Basics of Accounting.

3) Students demonstrate ability to work at all sectors and stand in the professional life.

Basic Of Accounting (GE/OE)

CO 1: To understand the Fundamental Concepts and Principles of Finance.

CO 2: To Develop Basic Financial Management Skills for Personal and Business Purpose.

Basic of Entrepreneurship

i) To select a business idea.

i) To prepare a project report.

ii) To register a unit (Udyog Aadhar Number)

Office Automation tools (SEC)

CO 1: To give Basic Hands on Knowledge of Word Processing using MS Word.

Co2: To provide Basic Hands on Knowledge Spread sheet Processing using MS Excel.

CO3: To deliyer the fundamental Knowledge of presentations using MS PowerPoint.

CO 4: To make students familiar with e-mail account.

COURSE OUTCOMES

B.COM- II (Group I)

Corporate Accounting

1. Analyse the matters related to issues of share capital and debentures.
2. Prepare financial statements of companies

Cost Accounting

1. Learner will be able to explain the need and functions of cost accounting and its application areas.
2. Learner can classify costs) under various Categories based distinct parameters
3. Learner can apply various methods of material pricing and inventory control.
4. Learner can demonstrate the accounting treatment of employee cost under various wage systems.
5. Learner will be able to compute and allocate overhead costs using suitable methods.

BMS: MINOR 1

1. To understand the fundamental concepts of math and statistics.
2. To learn how to apply math and statistics to business problems
3. The Objective of this paper is to impart knowledge to students in order to improve their Logical Reasoning, Ability and Interpretation
4. Application of various statistical and Mathematical Tools and Techniques in making logical and scientific decisions in Business Operations

Fundamental Marketing MINOR 2

1. Acquaint with the concept of marketing and its functions in the present context
2. Gain knowledge about marketing strategies
3. Know the different aspects of marketing mix and develop the skill to promote the new product in the market.

I.T.Application in Business VSC

1. After successfully studying these subject students will be able to secure, share, collaborate and customize Workflow to meet work elegance.

2. Students will possess required skills to be employed at various offices and Administrative level jobs using technology.

COURSE OUTCOMES

B.Com. – III

Advanced Financial Accounting

CO-1. The objective of this course is to equip the students with the ability to analyze, interpreted and uses financial accounts in business enterprises

Management Accounting

CO-1. The objective of this course is to equip the students with the ability to analyze and interpreted accounting information in managerial decision making. The students are expected to have a good working knowledge of the subject. This course provides the students an understanding of the application of management accounting techniques.

Cost Accounting

CO-1. This course exposes the students to the basic concepts and the tools used in cost accounting.

BRF

To acquaint students with the basic Concepts, Terms, Provisions and Application of Business Laws

Indirect & Direct Tax

CO-1. The course exposes the basic tax concepts; procedure and legislation pertain to Indirect and Direct Tax.

New Auditing Trends

CO-1. The study of various components of this course will enable the students to know about the auditing procedure.

Banking & Insurance

CO-1. To familiarize students with banking & practice of banking, to equip the students with the knowledge of modern banking, To develop employability of students in banking, financial and other economic sectors

PROGRAMME OUTCOMES

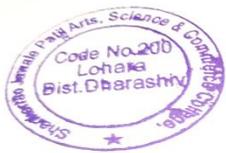
B.Com.

- ❖ PO 1 - Student are aware about Accounting Analysis of Financial Statements after completion of B.Com. Degree Course.
- ❖ PO2 - Commerce Graduates are understood Accounting Principles & they can calculate Income Tax of Salaried Person.
- ❖ PO3 - Students of Commerce Faculty are fulfilling requirements of Industry, Banking, Marketing & Insurance sector.

PROGRAM SPECIFIC OUTCOMES

B.Com.

- ❖ PSO1 - Inculcate the Entrepreneurial skills, qualities & characteristics among new generation of higher education.
- ❖ PSO2 - Develop views & Ideas about data analysis, classification & their practical application in research area
- ❖ PSO3 - Create the awareness about Accounting Principles & New techniques of Computer Accounting Transitions.
- ❖ PSO4 - Familiarize towards Indian Economy System, Pricing Policy, and Industrial Policy & Consumer behaviour throw the basic economical concept.
- ❖ PSO5 - Create employment opportunities through Taxation & Cost Management Account in Corporate Sector.
- ❖ PSO6 - Familiarize with Banking, Insurance & Marketing Sector in Present Scenario.
- ❖ PSO7 - Examine Review & Analysis of the Financial through Auditing & Accounting Principles.



Bhartiya Rashtriya Shikshan Sanstha's
Shankarrao Jawale Patil Arts, Science & Commerce
College, Lohara

Dist. Dharashiv

Faculty of Science & Technology

B.Sc.

Program & Course Outcomes

Program Outcomes

Program outcomes for a B.Sc. degree generally include gaining a fundamental understanding of scientific principles, developing disciplinary knowledge, acquiring practical and analytical skills, and fostering scientific temper and critical thinking. Graduates should also be able to apply their knowledge to solve problems, understand ethical responsibilities, and have the foundation for either higher education or a career in various scientific or technical fields.

Core fundamentals:

Understand and apply the core concepts, theories, and experimental findings across different science disciplines.

• **Practical skills:**

Develop hands-on skills in laboratory work, using scientific instruments, and proper handling of chemicals and microorganisms.

• **Problem-solving:**

Analyze data, interpret results, and use scientific reasoning to solve both theoretical and practical problems.

Communication:

Develop effective written and oral communication skills to explain complex scientific information.

Shankarrao Jawale Patil Arts, Science & Commerce College,

Lohara Dist. Dharshiv

Department of Chemistry

Program Outcomes

Gain a comprehensive understanding of fundamental concepts, principles, and theories in inorganic, organic, physical, and analytical chemistry. Develop competence in laboratory techniques, handling of chemicals, and operation of modern scientific instruments safely and accurately. Apply chemical knowledge and quantitative reasoning to analyze, interpret, and solve scientific problems. Cultivate the ability to design experiments, collect and analyze data, and interpret results with scientific accuracy. Acquire skills in the use of computational tools, spectroscopy, chromatography, and other analytical instruments relevant to chemical investigations. Communicate chemical concepts, experimental results, and scientific ideas effectively in both oral and written forms. Understand and practice ethical principles in scientific work, ensuring safety and environmental sustainability in chemical processes. Work effectively as a member or leader in multidisciplinary teams, promoting cooperation and collective learning. Recognize the need for continuous learning and adapt to new scientific and technological developments in chemistry and related fields. Apply chemical knowledge for the betterment of society in fields such as medicine, agriculture, industry, and environmental protection.

Course Outcomes

B.Sc. F.Y Semester I

DSC-1 Fundamentals of Chemistry-1

Outcomes: 1) Write the electronic configurations of the elements.

2) To understand the changes in periodic properties in modern periodic table.

3) Understand the different types of electron displacement in molecule.

DSC 2: Lab Course- 1

- 1) To consistently follow established SOPs for various experiments.
- 2) To prepare solution of desired concentration.
- 3) To maintain accurate and thorough records of experimental data, and analyze results to draw meaningful conclusions.

SEC-1 A- Water Treatment and Analysis

- 1) Resources and properties of water.
- 2) Understand the different pollutants
- 3) Understand treatment of domestic and industrial water.

SEC-2 A- Water Treatment and Analysis

- 1) Resources and properties of water
- 2) Understand the different pollutants
- 3) Understand treatment of domestic and industrial water.
- 4) Understand the sources of water pollution.
- 5) Carryout experiment for determination of water quality parameters.

GE/OE-1 – Herbal Chemistry-I

1. Acquainted with importance of herbal drugs.
2. Know the different sources of herbal medicine and their preparation.
3. Acquire the knowledge of organic farming.
4. Know about the Indian system of drugs ayurveda, Unani, siddha and homeopathy.

B.Sc. F.Y. Sem. II

DSC-3 Fundamentals of Chemistry-2

- 1.) Identify the type bond.
- 2.) Predict the shape and geometry and bond angle in a molecule.
- 3.) Understand the factors affecting ionic bond formation.
- 4.) Identify types of isomerism.

DSC-4 Lab Course

- 1) Acquire skills in common techniques for the Volumetric estimations of inorganic compound.
- 2) Acquire skills in common techniques preparation and purification of organic compounds.
- 3) Assess the effectiveness of purification techniques.
- 4) Develop precision in measuring and recording physical constants.

VSC- 1 A Cosmetics and perfumery

- 1) Classify the perfumes
- 2) Understand the constituents of perfumes.
- 3) Preparation of perfumes
- 4) Constituents of cosmetics
- 5) Method of preparing cosmetics.

VSC- Cosmetics and Perfumery (Practical)

- 1) Classify the perfumes
- 2) Understand the constituent of perfumes
- 3) Preparation of perfumes.

GE/OE- Herbal Chemistry-II

- 1) Acquainted with importance of herbal drugs.
- 2) Know the different sources of herbal medicine and their preparation.
- 3) Acquire the knowledge of organic farming.
- 4) Know about the Indian system of drugs ayurveda, Unani, Siddha and homeopathy

Bhartiya Rashtriya Shikshan Sanstha's

**Shankarrao Jawale Patil Arts, Science & Commerce College, Lohara
Dist. Dharashiv**

Department of Chemistry

Program and Course Outcomes

Program Outcomes

1) Foundational Knowledge & Understanding

Demonstrate solid understanding of core areas of chemistry: organic, inorganic, physical, analytical, and environmental chemistry.

2) Application of Concepts

Apply chemical principles, laws and theories to solve quantitative and qualitative problems in both theoretical and practical contexts.

3) Laboratory Skills and Techniques

Perform chemistry laboratory work competently: conduct experiments, handle chemicals safely, record observations accurately, analyse data, and interpret results.

4) Use of Modern Instrumentation

Operate and maintain basic analytical instrumentation (e.g., spectroscopy, chromatography) and understand their working principles and limitations.

5) Practical Problem Solving

Develop the ability to design experiments and solve chemical problems relevant to real-world scenarios including industry, environment, health, etc.

6) Critical Thinking and Research Aptitude

Critically evaluate scientific literature, develop research questions, and undertake small research or project work.

7) Communication Skills

Communicate chemical concepts, experimental results, and scientific ideas effectively (written reports, presentations, discussions).

8) Ethical, Social & Environmental Awareness

Understand the ethical implications of chemical practice, and the importance of safety, sustainability and environmental protection.

Course Outcomes

B.Sc. V Sem.

DSCIA (1) Organic Chemistry-IX

Outcomes

- 1) Explain the structure, bonding, hybridization, resonance, aromaticity, and stereochemistry of organic molecules.
- 2) Demonstrate knowledge of reaction mechanisms (electrophilic, nucleophilic, free radical, pericyclic, etc.) and predict products of organic reactions.
- 3) Apply principles of organic synthesis to design multi-step synthetic routes for target molecules.

DSCIA (2) (Physical Chemistry)-Paper X

- 1) Explain the first, second, and third laws of thermodynamics and apply them to chemical and physical processes.
- 2) Analyze rate laws, reaction mechanisms, and factors affecting reaction rates in chemical systems.
- 3) Understand wave functions, Schrödinger's equation, atomic orbitals, molecular orbitals, and their applications in bonding and spectroscopy.
- 4) Relate microscopic properties of molecules to macroscopic thermodynamic quantities.

SEC-3B- 1- Cosmetics

1) Explain the basic concepts, history, and importance of cosmetics in personal care and beauty industries.

2) Recognize key raw materials (natural and synthetic) used in cosmetic preparations and their functional roles.

3) Describe the chemical and physical properties of ingredients used in skin, hair, and personal care products.

4) Interpret national and international guidelines for cosmetic formulation, labeling, testing, and consumer safety.

B.Sc. VI Semester

DSC 1 A (1) Core Course (Theory Paper XI)

CHE_ 611 Inorganic Chemistry

Course Outcomes

- 1) Describe the basic concepts of atomic structure, periodic classification, chemical bonding, and molecular geometry.
- 2) Interpret trends in ionization energy, electronegativity, electron affinity, and atomic/ionic radii across the periodic table.
- 3) Analyze bonding theories (VBT, MOT, VSEPR, Crystal Field Theory) and predict structures, shapes, and magnetic behavior of molecules/complexes.
- 4) Describe nomenclature, isomerism, bonding, stability, and applications of coordination complexes.

DSC 1 A (2) Applied Chemistry

- 1) Explain the role of chemistry in industries, environment, healthcare, agriculture, and materials science.
- 2) Demonstrate knowledge of fuels, lubricants, polymers, dyes, paints, and other industrially important chemicals.
- 3) Evaluate water quality parameters and apply treatment techniques such as softening, desalination, and purification for industrial and domestic use.
- 4) Explain mechanisms of corrosion and apply preventive measures such as coatings, cathodic protection, and alloying.

SEC-4A) Industrial waste water treatment

- 1) Identify major industrial sectors generating wastewater and analyze its physical, chemical, and biological characteristics.
- 2) Differentiate between organic, inorganic, toxic, and non-toxic pollutants and their impacts on ecosystems and human health.
- 3) Explain and apply primary, secondary, and tertiary treatment methods for industrial effluents.
- 4) Understand the role of activated sludge, trickling filters, anaerobic digestion, and other bioprocesses in wastewater treatment.

Bhartiya Rashtriya Shikshan Sanstha's
Shankarrao Jawale Patil Arts, Science & Commerce
College, Lohara Dist. Dharashiv
Program and Course Outcomes
Department of Physics
Program Outcomes

After completing the B.Sc. Physics program, graduates will be able to:

1. Acquire comprehensive knowledge of fundamental concepts in classical mechanics, electromagnetism, quantum mechanics, optics, thermodynamics, electronics, and modern physics.
2. Identify, analyze, and solve physics-related problems using theoretical knowledge and experimental methods.
3. Apply principles of physics to interdisciplinary fields such as material science, nanotechnology, renewable energy, electronics, astronomy, medical physics, and computational sciences.
4. Develop skills in designing and conducting experiments, handling instruments, recording data, analyzing results, and drawing valid conclusions with accuracy.
5. Employ information technology, simulation software, programming, and data analysis tools for problem solving and research.
6. Develop logical reasoning, analytical abilities, and a scientific mindset to pursue higher studies and research in physics and allied fields.
7. Effectively present scientific ideas, research findings, and technical information through oral presentations, reports, and digital media.
8. Function effectively as a member or leader of a team in laboratory work, projects, and scientific problem-solving tasks.
9. Demonstrate ethical responsibility, scientific integrity, and awareness of the societal, environmental, and technological impacts of physics.

10. Recognize the need for independent and continuous learning in the context of technological and scientific advancements.

Dept. of Physics

Course Outcomes

B.Sc. First Year Semester I

DSC-2: Practical Based on DSC-1 (Mechanics and Properties of Matter)

- i) Understand gravitational acceleration through pendulum analysis and learn material stiffness and viscosity determination techniques using various setups.
- ii) Explore rotational dynamics through flywheel experiments for moment inertia and torsional property analysis.
- iii) Develop instrument precision skills via least count analysis, crucial for physics and related field pursuits.

DSC-2: Practical Based on DSC-1 (Mechanics and Properties of Matter)

- i Understand gravitational acceleration through pendulum analysis and learn material stiffness and viscosity determination techniques using various setups.
- ii Explore rotational dynamics through flywheel experiments for moment of inertia and torsional property analysis.
- iii Develop instrument precision skills via least count analysis, crucial for physics and related field pursuits

SEC-1: Basic Instrumentation Skill

- i) Gain understanding of measurement fundamentals including instrument accuracy, precision, and errors, as well as principles of voltage, current, and resistance measurement using voltmeters, ammeters, and multimeters.
- ii) Master the use of CRO for voltage (DC and AC), frequency, and time period measurements, and understand signal and pulse generator specifications, alongside distortion factor meter usage and wave analysis.
- iii) Learn analog versus digital instrument distinctions, comprehend digital multimeter block diagrams and operations, and understand time interval,

frequency, and period measurements using universal counters, emphasizing time-base stability, accuracy, and resolution

SEC-1: Medical Physics

- i) Understand the principles, applications, and usage of various medical equipment including thermometers, glucometers, ECG machines, and X-ray machines for diagnostic purposes in healthcare settings.
- ii) Comprehending the principles and components of Computed Tomography (CT) systems, including image reconstruction, acquisition techniques, and factors influencing image quality.
- iii) Develop a comprehensive understanding and proficiency in various image acquisition techniques, advanced imaging methods, safety protocols, and their applications in planning radiotherapy treatments.

SEC-2: Practical Based on SEC-1 (Basic Instrumentation Skill)

- i) Employ digital multimeters for measuring DC voltages, currents, resistance, and AC voltages.
- ii) Acquire advanced knowledge in circuit tracing and troubleshooting techniques for electronic equipment, including understanding the operation of signal and pulse generators.
- iii) Conduct frequency measurements using oscilloscopes and analyze and compare two frequencies using oscilloscope analysis.

SEC-2: Practical Based on SEC-1 (Medical Physics)

- i) Acquire practical skills in healthcare monitoring, including using glucometers for blood sugar levels, stethoscopes for pulse rates, and measuring blood pressure, body temperature, weight, and oxygen levels.
- ii) Develop proficiency in analyzing diagnostic imaging results from X-rays, CT scans, and MRIs to draw conclusions about potential health conditions.
- iii) Enhance understanding of healthcare assessment techniques and diagnostic interpretation, facilitating comprehensive healthcare evaluation.

GE/OE-1: Everyday Physics

- i) The course imparts essential physics principles to real-world contexts, covering transportation fundamentals, sports analysis, and sustainable weather solutions.
- ii) Students will understand concepts such as linear and circular motion, friction, and energy/momentum, applying them to transportation and sports.
- iii) Additionally, they'll explore sustainable weather management and green energy technologies, gaining practical knowledge about home electricity system

B.Sc. F.Y. SEMESTER- II

DSC-3: Optics

- i) Acquire the basic concept of optics and its applications.
- ii) Explain how image formation takes place in lenses
- iii) Understand the operations of many modern optical devices
- iv) Understand the optical phenomenon such as interference and diffraction

DSC-4: Practical Based on DSC-3

- i) Understanding of interference and diffraction phenomena through hands-on experimentation.
- ii) Appreciation of practical applications of optical instruments across various scientific disciplines.
- iii) Proficiency in conducting precise measurements and observations using optical instruments.
- iv) Analyze experimental results critically and compare them with theoretical expectations

VSC-1: Electrical Measurements

- i) Understand and apply fundamental electrical measurement concepts.
- ii) Gain the skill in selecting appropriate measurement methods and minimizing errors.

- iii) Understanding of electrical device characteristics and their role in measurement circuits.
- iv) Calibrate instruments and verify their accuracy against standards.

VSC-1: Electronic Communications

- i) Analyze the power and transmission bandwidth of Amplitude and Frequency Modulated signals.
- ii) Familiarize the process of reproduction of base band signal.
- iii) Analyze various pulse analog and pulse digital Modulation Techniques.
- iv) Understand the transmission of binary data in communication systems

VSC-2: Practical Based on VSC-1 (Electrical Measurements)

- i) Student develop the skill reading the electrical instruments.
- ii) Minimization of errors and get exposure to know the idea of measurements.
- iii) To do handling and repair the electrical instruments.

VSC-2: Practical Based on VSC-1 (Electronic Communications)

- i) Gain a thorough understanding of modulation principles and techniques, including Amplitude Modulation (AM) and Frequency Modulation (FM), facilitating proficiency in signal modulation.
- ii) Develop skills in demodulation methods such as Amplitude Demodulation and Frequency Demodulation, enabling the extraction of modulating signals from carrier waves.
- iii) Acquire knowledge and practical experience in various pulse modulation techniques like Pulse Width Modulation (PWM), Pulse Amplitude Modulation (PAM), Pulse Position Modulation (PPM), and Pulse Code Modulation (PCM), enhancing abilities in signal encoding and transmission.
- iv) Understand digital modulation techniques including Delta Modulation (DM), Frequency Shift Keying (FSK), and Binary Phase Shift Keying (BPSK), enabling proficiency in digital communication systems and applications.

GE/OE-2: Physics in Sports

- i) Explain how Newton's laws relate to athletic performance.
- ii) Evaluate sports equipment design and performance.
- iii) Assess the effects of environmental conditions of athletic performance.
- iv) Apply strategies for optimizing performance in various conditions.

**B.Sc. Second Year
(Semester – III and IV)**

DSC-5: Modern Physics

Course Code: PHY/DSC/T/200

Examination Code: SAC00062003T

- i) Able to explain the factors influencing photoelectric effect, explain the experimental setup and apply it for applications
- ii) Understand the fundamentals of lasers, laser systems, their characteristics and diversified applications including industry, medicine and Défense
- iii) Use this knowledge for applications of lasers in specific fields of their interest
- iv) Solve numerical problems on the photoelectric effect, X-rays, and lasers.

DSC-6: Electricity and Magnetism

Course Code: PHY/DSC/T/201

Examination Code: SAC00062013T

- i) Develop an understanding on the concepts of electricity and magnetism.
- ii) To understand the knowledge of various mathematical operations required for electrostatics and magnetostatics.
- iii) Explain the fundamental concepts and operations of vector analysis.
- iv) To increase the ability to perform calculations of various mathematical expressions and laws.
- v) To develop ability among the students to identify, remember and grasp the meanings, definitions and laws of electricity and magnetism.

DSC-7: Practical's Based on DSC-5

Course Code: PHY/DSC/P/226 Examination Code: SAC00062263P

- i) Verify the inverse square law and measure Planck's constant using the photoelectric effect.

- ii) Compare luminous intensities of different light sources using photocells.
- iii) Understand and apply the principles of laser optics for diffraction, beam divergence, and precision measurements.
- iv) Analyse experimental data from photocell and laser-based experiments to draw meaningful conclusions about physical constants.

DSC-8: Practical's Based on DSC-6

Course Code: PHY/DSC/P/227

Examination Code: SAC00062273

- i) Measure the energy band gap of a semiconductor and analyze temperature dependence.
- ii) Perform accurate resistance and capacitance measurements using bridge methods.
- lii) Determine high resistance and absolute capacity of a condenser using B.G. techniques.
- iv) Investigate transient behavior in RC circuits and determine e/m using Thomson's method

Minor-1: Soil Physics

Course Code: PHY/Mn/T/200

Examination Code: SCC00062003

- i) Explain the fundamental concepts, importance, and interdisciplinary interactions of soil physics.
- ii) Describe soil formation, profile development, texture, and methods for particle size analysis.
- iii) Analyze soil physical properties, including density, porosity, structure, and water content.
- iv) Interpret the energy state of soil water, soil-moisture potential, and measurement techniques.

Minor-2: Digital Electronics

Course Code: PHY/Mn/T/201

Examination Code: SCC00062013T

- i) Describe and explain the fundamentals of digital electronics.
- ii) Perform number system conversions and basic logic operations.
- iii) Design and simulate simple combinational and sequential logic circuits.
- iv) Recognize the importance of digital systems in scientific research and experiments.

GE/OE: Data Analysis Techniques Using Excel

Course Code: PHY/GE/OE/T/200

Examination Code: SDC00062003T

- i) Understand and apply basic Excel functionalities for data management.
- ii) Perform data cleaning, sorting, filtering, and visualization techniques.
- iii) Use statistical functions for data interpretation and decision-making.
- iv) Create professional reports and dashboards.
- v) Utilize Excel for business and social science applications.

GE/OE: एक्सेल वापरून डेटा विश्लेषण तंत्र

Course Code: PHY/GE/OE/T/200

Examination Code: SDC00062003T

- i) एक्सेलमधील मूलभूत फंक्शन्स समजून घेऊन डेटा व्यवस्थापन करणे.
- ii) डेटा स्वच्छ करणे, सॉर्ट करणे, फिल्टर करणे आणि व्हिज्युअलायझेशन तंत्र वापरणे.
- iii) आकडेवारीवरील फंक्शन्स वापरून डेटा विश्लेषण आणि निर्णय घेणे.
- iv) व्यावसायिक अहवाल आणि डॅशबोर्ड तयार करणे.
- v) व्यवसाय आणि सामाजिक शास्त्र विषयांसाठी एक्सेलचा प्रभावी वापर करणे.

VSC-1: Solar Cell Devices

Course Code: PHY/VSC/T/200

Examination Code: SEC00062003T

- i) Explain the principles of photovoltaic energy conversion.

- ii) Identify and compare materials used in various types of solar cells.
- iii) Demonstrate an understanding of solar cell fabrication and testing techniques.
- iv) Analyze solar cell performance using key metrics like efficiency and fill factor.
- v) Discuss challenges and future trends in solar cell technology.

VSC-2: Electrical Vehicle Technology

Course Code: PHY/VSC/T/201

Examination Code: SEC00062013T

- i) Demonstrate a clear understanding of electric vehicle technology and its role in sustainable mobility.
- ii) Apply knowledge of battery systems, energy management, and charging techniques in practical scenarios.
- iii) Perform basic diagnostics, assembly, and maintenance of electric vehicles.

VSC-3: Practical's based on VSC-1

Course Code: PHY/VSC/P/226

Examination Code: SEC00062263P

- i) Analyze the I-V characteristics of a solar cell and determine key performance parameters.
- ii) Evaluate the effect of light intensity and temperature variations on solar cell efficiency.
- iii) Compare the electrical behavior of solar cells connected in series and parallel configurations.
- iv) Interpret spectral response and quantum efficiency data for solar cell performance assessment.

VSC-4: Practical's based on VSC-2

Course Code: PHY/VSC/P/227

Examination Code: SEC00062273P

- i) Demonstrate proficiency in assembling and testing a basic electric drive system, ensuring proper functionality.

ii) Analyze and troubleshoot issues in EV components, such as motor performance or battery connections.

iii) Apply safety practices while handling EV components and performing maintenance tasks, ensuring reliability and durability.

SEMESTER – IV

DSC-9: Heat and Thermodynamics

Course Code: PHY/DSC/T/250

Examination Code: SAC00062504T

i) Understand the concepts of heat and thermodynamics.

ii) Describe and apply the physical concepts of heat, and laws of thermodynamics.

iii) Develop ability among the students to identify, remember and grasp the meanings, definitions and laws of heat and thermodynamics.

iv) Perform calculations of heat conduction in various geometries.

DSC-10: Electrodynamics

Course Code: PHY/DSC/T/251

Examination Code: SAC00062514T

i) Apply Gauss's law to calculate electric fields.

ii) Explain and derive Maxwell's equations.

iii) Analyze electromagnetic waves in different media.

iv) Solve problems on induction and displacement current.

v) Use Poynting's theorem for energy flow analysis.

DSC-11: Practical's based on DSC-09

Course Code: PHY/DSC/P/276

Examination Code: SAC00062764P

i) Understand the theoretical principles of basic practical Physics

ii) Develop awareness of minimizing errors.

iii) Handle carefully various instruments.

iv) Correlate theoretical concepts with the help of experiments.

- v) Gain knowledge about heat, conduction of heat, thermal conductivity of
- vi) different materials and other phenomena of heat.

DSC-12: Practical's based on DSC-10

Course Code: PHY/DSC/P/277

Examination Code: SAC00062774P

- i) Measure and analyze the magnetic properties of materials using a magnetometer.
- ii) Determine inductance and charge sensitivity using bridge and galvanometer techniques.
- iii) Verify the capacities of condenser using De'Sauty's method.
- iv) Determine the AC mains frequency using a sonometer experiment.

Minor-3: Nuclear Chemistry

Course Code: PHY/Mn/T/250

Examination Code: SCC00062504T

- i) Understand the principles of radioactivity and radioactive decay, including half-life and radioactive equilibrium, and their applications in various fields.
- ii) Analyze nuclear reactions, including fission and fusion, and evaluate the processes and energy changes involved in nuclear reactors and radiation chemistry.
- iii) Apply the use of radioactive isotopes and tracers in medicine, agriculture, analytical chemistry, and age determination techniques.

Minor-4: Thermal Physics

Course Code: PHY/Mn/T/251

Examination Code: SCC00062514T

- i) Explain and apply the concepts of temperature, thermometers, and various temperature scales.
- ii) Develop proficiency in calculating and interpreting thermal conductivity using different methods.
- iii) Apply the laws of thermodynamics to various thermodynamic processes and calculate work done

in specific processes.

iv) Students will be capable of using and understanding temperature measurement techniques and solving problems related to heat transfer and thermodynamics.

GE/OE-2: Renewable Energy

Course Code: PHY/GE/OE/T/250

Examination Code: SDC00062504T

i) Understand different energy sources, their availability, and the advantages and limitations of renewable energy sources.

ii) Explain the working principles of wind and geothermal energy systems, along with their benefits and limitations.

iii) Learn about biomass and biogas-based energy production, their conversion processes, and applications.

GE/OE: : नूतनीकरणयोग्य ऊर्जा

Course Code: PHY/GE/OE/T/250 Examination Code: SDC00062504T

i) विविध ऊर्जा स्रोत, त्यांची उपलब्धता, तसेच नूतनीकरणयोग्य ऊर्जा स्रोतांचे फायदे आणि मर्यादा समजून घेणे.

ii) वायु आणि भू-औष्णिक ऊर्जेच्या तत्वांवर आधारित प्रणालींचे कार्य, त्यांचे फायदे आणि मर्यादा समजावून सांगणे.

iii) बायोमास आणि बायोगॅसवर आधारित ऊर्जा निर्मितीचे प्रकार, प्रक्रिया आणि त्यांचे उपयोग समजून घेणे

SEC-1: Drone Technology

Course Code: PHY/SEC/T/250

Examination Code: SEC00062504T

- i) Understand the basic principles, components, and navigation systems of Drones.
- ii) Identify various applications of Drones in businesses, commerce, and industries like Agriculture and Logistics.
- iii) Recognize the legal, safety, and ethical guidelines for responsible Drone operation.

SEC-2: Generative AI

Course Code: PHY/SEC/T/251

Examination Code: SEC00062504T

- i) Understand the foundational principles of Generative AI, including its capabilities and limitations.
- ii) Apply Generative AI tools to create innovative and practical content across domains. Evaluate and address ethical considerations, such as copyright, misinformation, and privacy.
- iii) Explore career opportunities and emerging trends in Generative AI.

SEC-3: Practical's based on SEC-1

Course Code: PHY/SEC/P/276

Examination Code: SEC00062764P

- i) Demonstrate the ability to operate Drones using Android-based applications.
- ii) Apply Drone technology for tasks such as aerial photography, videography, and route planning.
- iii) Analyze and utilize data collected through drones for real-world applications in businesses, commerce, and industries.

SEC-4: Practical's based on SEC-2

Course Code: PHY/SEC/P/277

Examination Code: SEC00062774P

- i) Demonstrate proficiency in using Generative AI tools on mobile platforms to generate text, images, audio, and videos effectively.

- ii)Apply Generative AI techniques to solve practical problems and create innovative content for arts, commerce, and business applications.
- iii)Showcase creativity and technical skills in utilizing Generative AI tools responsibly and ethically in real-world scenarios.

B.Sc. Third Year Physics
(Semester VI)
(Atomic and Molecular Physics)
Course code PHY-611

- i)Gain the thorough understanding of the basic structure of hydrogen like atoms
- ii)Learn the selection rules for two-electron atoms and many-electron atoms
- iii)Apply various molecular spectroscopy principles
- iv)Apply knowledge of physics to become successful in national level examinations

B. Sc. Third Year Physics
(Semester VI)
(Optical Fiber and Communication)
Course code PHY-612

- i)Realize the significance of optical fiber communications.
- ii)Design the optical system.
- iii)Understand the construction and working of optical fiber cable.
- iv)Develop the knowledge of fiber fabrication.
- v)Identify and understand the needs of OFC.

Bhartiya Rashtriya Shikshan Sanstha's

Shankarrao Jawale Patil Arts, Science & Commerce College, Lohara

Dist. Dharshiv

Department of Botany

Program and Course Outcomes

Program Outcomes

PSO1. Domain knowledge: Apply the knowledge of fundamental and advanced areas of Plant Science for the wellbeing of the human.

PSO2. Understanding the various Plant Groups: The basic knowledge and evolution of different plant groups like Bacteria, Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms will be given to students.

PSO3. Understanding structures of plant body: The detailed morphological, anatomical, palynological, embryological structures will give the understanding about the plant body.

PSO4: Understanding processes in plant body: The mechanism of anabolic and catabolic activities, cell divisions and growth in plant bodies will be explained to increase the production of Crop plants.

PSO5: Understanding properties and uses of plants to maintain health: The properties and uses of common medicinal plants, spices, Vegetables etc. will be explained to maintain the good health.

PSO6. Enriching knowledge related with Agriculture: Use of established Knowledge regarding Manuring, composting, use of Biofertilizers and ecofriendly Insecticides and pesticides for the sustainable development.

B.Sc. First Year Sem. I

DSC1 Course name: MORPHOLOGY OF ANGIOSPERMS

- 1) Describe morphological peculiarities of vegetative organs of angiosperms.
- 2) Describe morphological peculiarities of reproductive organs in angiosperms. Know the diagnostic features of plant species.

SEC1 i) FUNGAL DISEASES OF CROP PLANTS AND THEIR MANAGEMENT

- 1) Identify Fungal Diseases of Crop plants of the region.
- 2) Treat the fungal diseases of the crop plants.
- 3) Manage the crops in their agriculture field from fungal diseases.

Theory Course: SEC1 ii) KITCHEN PHARMACY–I: SPICES

- 1) Learn skills regarding identification of various spices and condiments used in our region.
- 2) To learn the techniques for estimation of phytochemicals of different spices and condiments.
- 3) Use the Spices as medicine in the common ailments.

GE/ OE-1 Seed Production and Preservation Techniques

- 1) Insist on the quality Seed production.
2. Increase the production of quality Seeds.
3. Will know the best natural practices to store the seeds for longer period.

B.Sc. I Year Sem. II

(DSC) DIVERSITY OF CRYPTOGAMS – I

- 1) Classify lichens, algae and fungi up to orders according to the system of classification proposed by G. M. Smith (1950), Alexopoulos & Mims (1979).
- 2) Classify and describe the morphology, structure, life cycle of some Lichens, algae, fungi and gymnosperms.

Theory Course: VSC1 (i) BIOFERTILIZER TECHNIQUES

- 1) Acquire the knowledge of biofertilizers techniques. Learn laboratory skill, lab organization & nutritional importance of different biofertilizers.
- 2) Understand about the bio fertilizer techniques - isolation, identification, screening and cultivation, method and its economic.

GE/OE2 POMOLOGY Course type: General/ Open Elective Course

- i) Enrich the knowledge about horticultural principles and practices relevant to fruit cultivation and will take initiative to cultivate fruits.
- ii) Will apply fundamental aspects of orchard operations and its management
- iii) Will become expert in plant propagation techniques.

B.Sc. Second Year Sem. III

Course Outcomes

Major (Core) Mandatory DSC-5 BOT/DSC/T/200 Title of Paper: DIVERSITY OF CRYPTOGAMS-II

- i) Gain knowledge about diversity among the bryophytes and pteridophytes with their general characters
- ii) Understand the Classification of bryophytes and pteridophytes based on their structure, reproduction and life cycles Topic /actual content of the syllabus
- iii) Evaluate the ecological, ethnic, and economic value of bryophytes and pteridophytes.

Major (Core) Mandatory DSC-6 BOT/DSC/T/201 Title of Paper: PLANT ECOLOGY

- i. Interpret complex ecological datasets to explain plant distribution patterns across different spatial scales
 - ii. Assess how plant functional traits influence community assembly, ecosystem processes, and evolutionary adaptations
 - iii. Design field-based research protocols to investigate plant-environment relationships
 - iv. Critically evaluate primary literature in plant ecology and synthesize current understanding of major ecological concepts
- V. Module No 1 Predict potential impacts of global environmental change on plant communities and ecosystem functions.

Major (Core) Mandatory DSC-7 BOT/DSC/P/226 Title of Paper: DIVERSITY OF CRYPTOGAMS-II

i) Identify members of bryophytes and pteridophytes using morphological and anatomical characteristics. ii) Demonstrate proficiency in preparing temporary and permanent slides of cryptogamic structures.

iii) Compare reproductive structures of different cryptogamic groups and explain their evolutionary significance.

iv.) Analyze and interpret the life cycles of representative cryptogamic species.

v.) Document and maintain the record of cryptogamic diversity through field collection and laboratory observations.

Major (Core) Mandatory DSC-8 BOT/DSC/P/227 Title of Paper: Plant Ecology

i) Students will be able to collect, analyze, and interpret quantitative data on plant community structure and diversity using appropriate ecological metrics.

ii.) Students will gain proficiency in identifying local flora and understanding their ecological roles within different ecosystem types.

iii.) Students will develop technical skills in using field and laboratory equipment essential for plant ecological research (e.g., PAR sensors, soil moisture probes, spectrophotometers).

iv.) Students will effectively communicate scientific findings through formal lab reports, data

V. visualization, and presentations that adhere to ecological research standards. Students will evaluate how anthropogenic factors influence plant communities and apply ecological principles to conservation and restoration planning.

GE/OE/200T: Title of Paper: FUNDAMENTALS OF SOIL SCIENCE

- i) Explain the processes of soil formation and development.
- ii.) Evaluate physical and chemical properties of soils.
- iii. Interpret basic soil classification systems.
- iv. Assess soil fertility status and nutrient requirements.
- v. Apply soil science principles in agricultural and environmental contexts.

BOT/Minor/201 Title of Paper: ORGANIC FARMING

- i) The course will address the ethical implications of organic farming, such as fair-trade practices, social responsibility, and community involvement.
- ii) Gain information about the impact of organic farming and indigenous practices on environment.
- iii.) Students will learn about marketing organic products, understanding consumer demand, and the economic aspects of organic farming.
- iv.) Students will gain a thorough understanding of the principles and philosophy behind organic farming. including the importance of sustainability, biodiversity. and ecological balance.
- v. Learners will explore the significance of soil health in organic farming and various methods to enhance soil fertility through composting, cover cropping, and crop rotation.

GE/OE/200T: Title of Paper: FRUIT PRESERVATION

- i) Explain various principles and methods of fruit preservation.
- ii) Explain various principles and methods of fruit preservation.
- iii) Identify appropriate preservation techniques for different fruits.
- iv) Understand quality standards and safety measures.
- v) Apply knowledge of packaging and storage requirements Evaluate preserved fruit products for quality parameters.

BOT/VSC/T/200 Title of Paper: MUSHROOM CULTIVATION

- i) Identify various types and categories of mushrooms.
- ii) Demonstrate various types of mushroom cultivating technologies.
- iii) Value the economic factors associated with mushroom cultivation iv. Device new methods and strategies to contribute to mushroom production.

B.Sc. S.Y. IV Sem.

Botany

Course Outcomes

Major (Core) Mandatory DSC-9 BOT/DSC/T/250 Title of Paper: GYMNOSPERMS AND PALEOBOTANY

- i) Identify and classify major Gymnosperm groups based on their distinctive morphological, anatomical, and reproductive features.
- ii.) Explain the evolutionary significance of Gymnosperms and interpret their phylogenetic relationships with other plant groups.
- iii.) Analyze and describe fossil plant specimens using appropriate terminology and techniques. relating them to extant taxa.
- iv.) Apply palaeobotanical principles to reconstruct past environments and understand plant evolution through geological time.
- v.) Demonstrate proficiency in laboratory and field techniques related to Gymnosperm and fossil plant studies, including preparation, preservation, and documentation of specimens.

Major (Core) Mandatory DSC-10 BOT/DSC/T/250 Title of Paper: - PLANT PHYSIOLOGY

- i) Apply concepts of plant water relations to explain phenomena such as wilting, stomatal regulation, and drought adaptation strategies.

- ii. Evaluate plant nutritional status and diagnose nutrient deficiency symptoms based on physiological knowledge.
- iii. Interpret experimental data from physiological studies on photosynthesis, respiration, and carbon allocation patterns.
- iv. Predict plant growth and developmental responses to various hormonal treatments and environmental conditions.
- v) Design strategies to enhance plant productivity and stress tolerance based on physiological principles.

Major (Core) Mandatory DSC-11 BOT/DSC/P/276 Title of Paper: GYMNOSPERMS AND PALEOBOTANY

- i) Identify and classify major gymnosperm taxa (Cycadales, Ginkgoales, Coniferales, Gnetales) based on their vegetative and reproductive structures.
- ii) Demonstrate proficiency in preparing and analyzing microscopic sections of gymnosperm tissues and interpreting their anatomical significance.
- iii. Apply palaeobotanical techniques to identify, describe, and classify fossil plant specimens from different geological eras. iv. Explain the evolutionary significance of key morphological and anatomical features in gymnosperms and their fossil ancestors.

Major (Core) Mandatory DSC-12 BOT/DSC/P/277 Title of Paper: PLANT PHYSIOLOGY

- i) Students will be able to independently design, execute, and troubleshoot experiments related to key plant physiological processes.

ii) Students will demonstrate competence in data collection, analysis, and presentation of results in scientific report format.

iii) Students will explain the physiological mechanisms underlying plant growth, development, and adaptation to changing environmental conditions.

iv) Students will critically evaluate scientific literature in plant physiology and apply this knowledge to their own experimental work.

V) Students will collaborate effectively in teams to conduct complex experiments and communicate findings through oral presentations and written reports.

BOT/MN/T/250: (Title of Paper: - MEDICINAL LANTS

i)Classify the drug plants.

ii.) Identify the medicinal plants, know the active principles, properties and uses of medicinal plants.

iii) Utilize the medicinal plants as home remedy against the common diseases and disorders.

BOT/MN/T/251: Title of Paper: - LANDSCAE GARDENING

i)Describe and differentiate between the types of Gardens.

ii) Practice different methods for propagation of plants.

iii) Execute several nursery and gardening operations.

iv) Assess growing conditions of different horticultural plants, their general requirements and understand their role in landscaping.

BOT/GE/OE/T/250 Title of Paper: HERBAL COSMETICS

- i) Know the Indian Herbs used as Cosmetics
- ii) Identify the Indian Herbs; know their active principles, properties and uses.
- iii) Prepare and utilize the Herbal Home Cosmetics.

SEC/T/250 Title of Paper: HERBARIUM TECHNIQUES AND PLANT PRESERVATION

- i) Preserve the plant specimens for all biological studies.
- ii. Preserve the plant specimens belonging to different plant groups
- iii. Prepare Herbarium specimens and can deposit in responsible Herbaria.

Bhartiya Rashtriya Shikshan Sanstha's

Shankarrao Jawale Patil Arts, Science & Commerce College, Lohara

Dist. Dharshiv

Department of Zoology

Program and Course Outcomes

Program Outcomes

PSO1: Domain knowledge: This programme will demonstrate and apply the deep knowledge of fundamental and advanced areas of subject zoology that will provide both classical and modern concepts of zoology in higher education.

PSO2: Problem Analysis: Identify the problems related to subject at varied complexity and develop strong, critical thinking and abilities for substantiated solution and conclusion effectively.

PSO3: Design Development of solutions: Graduates will possess the capability to create and execute research ideas. They will have both fundamental and scientific approach towards Zoology.

PSO4: Conduct Investigation of complex problems: Graduates will be established knowledge and methods to design experiments, analyze resulting data and interpret the same to provide valid conclusions. Importance is given to practical learning and presentation skill of students. The lab courses and skill provide students to their employability.

PSO5: Modern Tools and techniques: Graduate will create appropriate techniques and cultivate skills in life science for agricultural, animal husbandry and relevant to human studies more emphasis is given to branches like biochemistry, economic zoology, behavioral biology, evolutionary biology, molecular biology, genetic engineering, bioinformatics etc.

PSO6: Research related skill: Ability to pursue advanced studies and research in zoology and provide opportunity for the mobility of the student both within and across the world.

B.Sc. First Year Sem-I

Course Outcomes

DSC-1: Animal Diversity-I (Non-Chordata)

- i) Understand general organization of unicellular and multicellular animals.
- ii) Recognize diversity and adaptation of invertebrate. Animals and significance.
- iii) Acquire deep knowledge and importance of biodiversity conservation.
- iv) Develop the capacity to investigate pathogenicity of micro and macro fauna.

DSC-2: Practicals Based on DSC-1 Animal Diversity-I (Non-Chordata)

- i) Understand systemic position, habit and habitat of invertebrate animals.
- ii) Understand the pathogenicity and life cycle of parasite and vectors.
- iii) Develop skills to recognize surrounding animals and their importance.

SEC-1: Bee Keeping

- i) The learner will be able to differentiate in different types of honey bee castes.
- ii) Learner will be able to use the artificial hive for beekeeping
- iii) Learner will be able to use the technique of honey purification and processing.
- iv) Learner will be able to construct the artificial honey hive and maintain it.
- v) Learner if is not employed can find own employment by doing Bee keeping.

SEC-2: Practicals Based on SEC-1 (Bee Keeping)

- i) The learner will be able to differentiate in different types of honey bee castes.
- ii) Learner will be able to use the artificial hive for beekeeping.
- iii) Learner will be able to use the technique of honey purification and processing.
- iv) Learner will be able to construct the artificial honey hive and maintain it.

GE/OE-1: Vectors, Diseases and Management

- i) To develop awareness about the causative agents and control measures of many commonly vector borne diseases
- ii) Recognize the symptoms and proper identification of vectors.
- iii) Learn feeding mechanism and causing ideas.
- iv) Understand the strategies for the management of vector borne diseases by Chemical, Biological and IPM.

B.Sc. First Year Sem-II

Course Outcomes

DSC-3: Animal Diversity-II

- i) Understand general organization of vertebrate animals.
- ii.) Recognize diversity, migration and adaptive radiation of vertebrate. animal.
- iii.) Acquire deep knowledge and importance of biodiversity conservation.
- iv.) Develop the capacity to understand biological importance and their conservation methods.

DSC-4: Practical Based on DSC-3 (Animal Diversity-II)

- i) Understand systemic position, habit and habitat of vertebrate animals.
- ii) Understand the adaptive features of fishes, birds.
- iii) Understand the physiological and anatomical study of vertebrate animals.
- iv) Develop skills to recognize biodiversity of animals and their importance.

VSC-1: Poultry Farming

- i) Understand the status of Indian Poultry Industry.
- ii) Learn the Scientific Poultry farming.
- iii) Applied diversified Poultry practices.
- iv) Recognize the different breeds of chicken.

VSC-2: Practical Based on VSC-1 (Poultry Farming)

- i) Understand the status of Indian Poultry Industry.
- ii) Learn the Scientific Poultry farming.
- iii) Applied diversified Poultry practices.
- iv) Recognize the different breeds of chicken.

GE/OE-2: Dairy Production Technology

- i) Understand the pre-requisites for starting a Dairy farm.
- ii) Recognize different breeds of Cows & buffaloes following safety precautions.
- iii) Prepare and give recommended feed and water for livestock.
- iv) Maintain health of livestock along with productivity.
- v) Vaccination of cattle, nutrients requirements.
- vi) Entrepreneurship i.e., Effectively market dairy products.
- vii) Ensure safe and clean dairy farm and Standard safety measures to be taken in establishing an industry.
- viii) Efficiently start and manage to establish or develop a Dairy Industry.

B.Sc. II Year III Semester

Course Outcomes

DSC/T/200-Cell Biology

- 1) Under the concept of Cell as a structural and functional unit of life.
- 2) 'The students understand and compare between the prokaryotic and eukaryotic system and Extrapolates the life to the aspect of development.
- 3) The cellular mechanisms and its functioning depend on endo-membranes and structures. They are best studied with microscopy.

DSC/T/201-Animal Physiology-I

- 1) Know the mechanism of body functions and the basic knowledge of chemistry of biomolecules.
- 2) Students can enlist various sensory receptors in human body and describe the structure and Module No.
- 3) Functioning of the sense organs-eye, ear, nose, tongue and skin.
- 4) To understand the functions of important physiological systems including the digestive, cardiorespiratory, renal, reproductive, nervous and muscular systems.
- 5) To analyze the life sustaining, controlling and coordinating systems.

Minor/T/200-Fundamentals of Biochemistry

- 1) Understand the principles of various fields of chemistry and biology (organic chemistry, analytical chemistry, biochemistry, genetics, metabolism, and molecular biology).

2)Apply modern instrumentation theory and practice to biochemical problems.

3)On completion of the course the student should be able to know mechanism of body functions and the basic knowledge of chemistry of biomolecule.

Minor/T/201-Value Added Product of Animals

1)Apply knowledge and skill to establish its own apiary or provides services to apiary.

2)Learn various product of honey bees and value addition in these products, create scope for entrepreneurship.

3)Meat products and milk products and Poultry Products processing help in boosting entrepreneurial attitude amongst students wherein they can generate resources of their own.

GE/OE (Theory)- Wildlife Conservation and Management

1)To know the current status and conservation strategies for wildlife conservation and management.

2)Develop the ability to work collaboratively on team-based projects.

3)Gain an appreciation for the modern scope of scientific inquiry in the field of wildlife conservation management.

GE/OE- Environment and Public Health

1)Students will be able to understand environmental pollution, global warming, climate change and its effects.

2)Students will be able to understand interrelationships between multitudes of factors that can impact on a public health problem, including scientific, medical, environmental factors.

3)Have understanding different types of diseases.

VSC /T/200-Vermicomposting

1)Acquire a critical knowledge on role of earth worms in making organic matter from biodegradable. wastes.

2)Understand the biology of some important species of earth worms used in vermiculture.

3)Acquire skills on production of vermicompost. Explain benefits and problems with vermiculture and vermicompost.

B.Sc. Second Year IV Sem.

Course Outcomes

DSC. /T/250- Genetics

Course Outcomes

- 1)Comprehensive, detailed understanding of the chemical basis of heredity.
- 2)Comprehensive and detailed understanding of genetic methodology and how quantification of heritable traits in families and populations provides insight into cellular and molecular mechanisms.

DSC. /T/251-Animal Physiology-II

- 1)Know mechanism of body functions and the basic knowledge of chemistry of biomolecules.
- 2)Students can enlist various sensory receptors in human body and describe the structure and functioning of the sense organs-eye, ear, nose, tongue and skin. Students can identify properties of hormones and mention their nature and manner of functioning.
- 3)Know the effects of over functioning (hyperactivity) and hypoactivity (under functioning) of pituitary and thyroid.

Minor1/T/250-Economic Zoology

- 1)Develop an understanding of the beneficial higher and lower organisms in terms of economic prospective.
- 2)Develop a critical understanding of the contribution of organisms to the welfare of society.

Minor1/T/251- Agriculture Entomology

- 1)After completion of the course students will be acquainted with various insect-pests of horticultural crops their damage symptoms.
- 2)Students will able to identify the common natural enemies of crop pests.
- 3)They acquire the knowledge of mass production of egg, common predators, microbes and their laboratory hosts.
- 4)The students will be acquainted with the different means of insect-pest management in agricultural crops.
- 5)They will also learn about the different application techniques of insecticides, their dosages, different types of chemical imposition appliances etc. under field condition.

GE/OE/T/250-Food Nutrition and Health

- 1)Have a better understanding of the association of food and nutrition in promoting healthy living.
- 2)Think more holistically about the relationship between nutrition science and social and health issues.
- 3)Move on to do post-graduation studies and apply for jobs as food safety officers, food analysts, food inspectors, food safety commissioners or controllers for jobs in organizations like FSSAI.
- 4)Specialize in various fields of nutrition.

SEC/T/250- Biological Techniques

- 1)Understand the purpose of the technique, its proper use and possible modifications/ improvement. Learn the theoretical basis of technique, its principle of working and its correct application.
- 2)Learn the maintenance laboratory equipment/ tools, safety hazards and precautions.
- 3)Understand the technique of cell and tissue culture. Learn the preparation of solution of given percentage and molarity.

4) Understand the process of preparation of buffer. Learn the techniques of separation of amino acids, proteins and nucleic acids.

B.Sc. Third Year Fifth Semester

Course Outcomes

Course Code-ZOL-511 DSE-1A -1

Zoology (Theory paper IX) A1 - Animal Physiology I

- i) Understand the nutrition and physiology of digestion in man.
- ii. describe the structure and respiratory mechanism and transport of gases.
- iii. learn the structure and working of mammalian heart, blood composition and allotting mechanism.

ZOL 511 DSE-1A -1 Zoology (Theory paper IX) B1 -- Animal Behavior I

1. Examine and critically to evaluate the emergence of ideas that have shaped how we observe and collect data on animal behaviour.
2. Understand the main historical ideas that underpin animal behavior theory
3. Critically review hypotheses to explain animal behaviour
4. Understand different methods for collecting data on animal behaviour.
5. Have advanced their written and oral presentation skills.

ZOL 511 DSE-1A-1 C1 -- Forensic Biology I(Theory paper IX)

- i) To understand about introduction and forensic significance of biological evidences and crime scene investigation.
- ii. To understand about the basic introduction and forensic examination of hair and fiber and forensic diatomology.
- iii. To understand about introduction, significance and tests of different types of body fluids in crime scene investigation and bloodstain pattern analysis.

ZOL 511 DSE-1A-1 - Molecular Biology I (Theory paper IX)

i)The course will prepare learners to recognize the significance of molecular biology as a basis for the study of other areas of biology and biochemistry.

ii)Moreover, it will also assist them in understanding related areas in relatively new fields of genetic engineering and biotechnology.

ZOL 512 DSE-1A-2 (Theory paper X) Select any one from A2/B2/C2/D2) A2-- General Parasitology I

i)The students after completing this course based on the expertise he may join the parasitological research institute, may be a scientist in the WHO, UN Parasitological researcher, scientist.

ii)May join as Parasitologist in the state and central government public health programs as officer.

iii)Get job opportunities in the pathological labs as parasitologist.

ZOL 512 DSE-1A-2 (Theory paper X) B2-- Entomology I

1)Student will be able to learn methods to collect and identified different insect.

2) Student will able to use economically important insect and will be aware about pests.

ZOL 512 DSE-1A-2 (Theory paper X) D2-- Biotechnology I

i)Ability to approach, analyze and bring out scientific solution for problems related to biological research.

ii)Students will be able to understand technologies which can use in biological as well as medical sciences.

iii) It helps to given practical approach to students.

Skill Enhancement Course (SEC-3) ZOL 513 SEC-3 (E) Vermicompost and Vermiculture

1. Acquire a critical knowledge on role of earth worms in making organic matter from biodegradable wastes.

2. Understand the biology of some important species of earth worms used in vermiculture.

3. Acquire skills on production of vermicompost.

4. Explain benefits and problems with vermiculture and vermicompost.

B.SC. VI Sem.

ZOL-611 DSE-1B-1 Zoology (Theory paper XI) A1 - Animal Physiology II

i) Understand the structure and functional anatomy of kidney, osmoregulation and homeostasis.

ii) describe the structure of nerve cells, and snaps muscles, and eye and ear and its physiology.

iii) learn the process of gametogenesis, r hormones, reproductive cycle and methods of contraception.

ZOL-611 DSE-1B -1 Zoology (Theory paper XI) B1 -- Animal Behavior II

1. Have ideas that how observe and collect data on animal behavior.

2. Understand the main historical ideas that underpin animal behavior theory

3. Understand different methods for collecting data on animal behavior.

ZOL-611 DSE-1B-1 Zoology (Theory paper XI) C1 - Forensic Biology II

i) To develop the deep understanding and knowledge about basics concepts of forensic entomology and evidence during death investigations.

ii. Understand the forensic dentistry, bite marks and the importance of forensic ornithology.

iii. To learn the fundamentals and significance of wildlife forensic and wild life protection act.

ZOL-611 DSE-1B -1 Zoology (Theory paper XI) D1- Molecular Biology II

i) The course will prepare learners to recognize the significance of molecular biology as a basis for the study central dogma of life.

ii) Students will be able to understand importance of transcription, translation and gene regulation which building block processes in our body.

ZOL-612 DSE-1B -2 Zoology (Theory paper XII) A2 -- Parasitology II

i)The students may join the parasitological research institute, may be a scientist in the WHO, UN Parasitological researcher, scientist.

ii)The students May join as Parasitologist in the state and central government public health programs as officer.

ii)May get appointment in the pathological labs as Parasitologist.

ZOL-612 DSE-1B-2 Zoology (Theory paper XII) B2 -- Entomology II

i) To identify different insect pest.

ii)To prepare and aware for pest diseases.

iii)To develop approach towards pest management system.

ZOL-612 DSE-1B-2 Zoology (Theory paper XII) C2 - Fishery Science II

1)Identify the freshwater fishes.

2)Develop knowledge on freshwater fish farming and fish seed production techniques.

3) Familiar with fish diseases and their control.

ZOL-612 DSE-1B-2 Zoology (Theory paper XII) D2- Biotechnology II

1. Learn different method to manipulate genetic material for human welfare

2. Aware about advance techniques use in biotechnology.

3. After learning this course student able to apply various research lab and government institutes.

Bhartiya Rashtriya Shikshan Sanstha's

**Shankarrao Jawale Patil Arts, Science & Commerce College,
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Program and Course Outcomes

Department of Mathematics

Program Outcomes

- 1) Acquire a strong foundation in mathematical concepts, principles, and techniques, enabling students to understand, analyze and solve a variety of mathematical problems.
- 2) Develop the ability to think logically, reason critically, and apply mathematical methods to solve complex problems in pure and applied mathematics.
- 3) Enhance skills to formulate, model, and solve real-world problems using mathematical tools and techniques, fostering creativity and innovation.
- 4) Apply mathematical knowledge to other disciplines such as physics, computer science, engineering, economics, and data science, demonstrating the interdisciplinary relevance of mathematics.
- 5) Utilize appropriate mathematical software, computational tools, and technology for solving mathematical problems and presenting results effectively.
- 6) Communicate mathematical ideas clearly and effectively in both oral and written forms, using appropriate mathematical language and notation
- 7) Demonstrate a strong foundation in pure and applied mathematics, including algebra, calculus, analysis, geometry, differential equations, probability, and statistics.
- 8) Formulate, analyze, and solve mathematical problems using logical reasoning, quantitative techniques, and appropriate mathematical tools.

9) Apply mathematical concepts to model and solve real-world problems in science, technology, finance, computer science, and other related fields.

Course Outcomes

B.SC. First Year Semester

DSC-1: Calculus

After completion of the course, students will be able to -

- i) Find derivative of hyperbolic, inverse hyperbolic functions and nth derivatives of given functions.
- ii) Find the Maclaurin's series expansion of functions.
- iii) Find the partial derivatives of functions.
- iv) Determine areas of plane regions, length of curves and volume of solid of revolution.

DSC-2: Lab Course -1 (Based on DSC-1)

- i) Find derivative of hyperbolic, inverse hyperbolic functions and nth derivative of given functions.
- ii) Find the Maclaurin's series expansion of functions.
- iii) Find the partial derivatives of functions.
- iv) Determine areas of plane regions, length of curves and volume of solid of revolution

SEC-1A: Combinatorial Mathematics

- i) Apply permutations and combinations.
- ii) Find the number of circular permutations.
- iii) Find the number of ways of selection out of given things.

iv) Apply pigeonhole principle and inclusion-exclusion principle.

SEC-1B: Theory Of Equations

- i) Solve the cubic and bi-quadratic equations.
- ii) Find the imaginary and surd roots.
- iii) Solve the discussion of reciprocal equations.
- iv) Apply the Horner's process.

SEC-2: Lab Course – SECA (Based on SECA)

- i) Apply permutations and combinations.
- ii) Find the number of circular permutations.
- iii) Find the number of ways of selection out of given things.
- iv) Apply pigeonhole principle and inclusion-exclusion principle.

SEC-2: Lab Course – SECA 1B (Based on SEC1B)

- i) Solve the cubic and bi-quadratic equations.
- ii) Find the imaginary and surd roots.
- iii) Solve the discussion of reciprocal equations.
- iv) Apply the Horner's process.

GE/OE-1: Business Mathematics-1

- i) Apply knowledge of ratios and proportions.
- ii) Apply currency and discounts to business.
- iii) Identify the functions and linear functions.

iv) Apply the identified functions to cost and profit

DSC-3: Differential Equation

i) Determine the solution of first order linear differential equations.

ii) Determine the solution of exact differential equations.

iii) Determine the solution of linear equations with constant coefficient using general and short method.

iv) Determine the solution of linear homogeneous differential equations.

B.Sc. First Year – SEM- II

DSC-4: Lab Course –II (based on DSC-3)

i) Determine the solution of first order linear differential equations.

ii) Determine the solution of exact differential equations.

iii) Determine the solution of linear equations with constant coefficient using general and short method.

iv) Determine the solution of linear homogeneous differential equations.

VSC-1A: Financial Accounting

i) Apply the basic accounting and financial terminology.

ii) Perform the financial transactions.

iii) Use the financial statements to assess a company's performance.

VSC-1B: Basic Statistics

i) Determine the mean, mode, median and deviation for the given data.

ii) Apply the concepts of probability.

VSC-2: Lab Course- VSCA (Based on VSC1A)

- i) Apply the basic accounting and financial terminology.
- ii) Perform the financial transactions.
- iii) Use the financial statements to assess a company's performance

VSC-2: Lab Course- VSCB (Based on VSC1B)

- I) Determine the mean, mode, median and deviation for the given data.
- II) Apply concepts of probability.

GE/OE-2 Metrics

- i) Apply the operations of matrices.
- ii) Apply the properties of matrices.
- iii) Find the determinants of square matrix and minors.
- iv) Solve system of equations.

B.Sc. Second Year

Semester III

Course Outcomes

MAT/DSC/T/200: Number Theory

- i) Find the gcd & lcm of integers
- ii) Find solution of linear Diophantine equations.
- iii) Solve the linear congruence.
- iv) Solve the system of linear congruence.

MAT/DSC/T/201: Partial Differential Equations

- i) Solve Lagrange's equations
- ii) Find the solutions of partial differential equations using Charpit's Method.
- iii) Determine the solution of partial differential equations using Charpit's method.
- iv) Describe and apply Monge's Method.

MAT/DSC/P/226: Lab Course Based on MAT/DSC/T/200

- i) Determine gcd and lcm of integers using Euclidean Algorithm.
- ii) Find Solution of Linear Equations using Method of linear Diophantine Equation.
- iii) Solve the system of linear Congruence.
- iv) Find the remainder using Wilson's theorem.
- v) Evaluate sum of divisors and the number of divisors of a given number.

MAT/DSC/P/226: Lab Course Based on MAT/DSC/T/201

- i) Solve Lagrange's equation
- ii) Find the solutions such as complete integral, singular integral and general integral.
- iii) Determine the solution such as complete integral, singular integral and general integral.
- iv) Describe and apply Monge's Method.

MAT/Mn/T/200

- i) Construct the truth tables of given proposition
- ii) Prove equivalence of two given propositions.
- iii) Prove the properties of set operations.
- iv) Find Cartesian product of two sets.

MAT/Mn/T/201

- i) Define scalar, vector and angle between two vectors
- ii) Find the directional cosine of the line
- iii) Find the scalar triple product and vector triple product

MAT/VSC/T/200

- i) Analyze the error in numerical methods
- ii) Construct interpolating polynomial when the points are equally spaced
- iii) Obtain interpolating polynomial when the points are unequally spaced

MAT/VSC/T/200: Numerical Methods-1

- i) Analyze the error in numerical methods
- ii) Construct interpolating polynomial when the points are equally spaced
- iii) Obtain interpolating polynomial when the points are unequally spaced

MAT/VSC/T/201: Introduction to R and Basic Statistics using R-1

- i) Write simple R program
- ii) Demonstrate how to install and configure Rstudio.
- iii) Analyse data and generate reports based on the data.
- iv) Perform basic statistical tests, calculate descriptive statistics.
- v) Write programs in R for basic concepts in statistics

MAT/VSC/P/226: Lab Course Based on MAT/VSC/T/200

- i) Analyze the error in numerical methods
- ii) Construct interpolating polynomial when the points are equally spaced
- iii) Obtain interpolating polynomial when the points are unequally spaced
- iv) Apply numerical methods using mathematical software

MAT/VSC/P/227: Lab Course Based on MAT/VSC/T/201

- i) Write simple R program.
- ii) Demonstrate how to install and configure studio.
- iii) Analyse data and generate reports based on the data.
- iv) Perform basic statistical tests, calculate descriptive statistics.

MAT/GE/OF/T/200: Mathematics for Competitive Examinations-1

- i) Understand and apply fundamental mathematical concepts essential for various competitive exams
- ii) Apply logical reasoning, analytical thinking, and problem solving techniques to tackle quantitative aptitude questions efficiently
- iii) Improve calculation speed and accuracy
- iv) Apply problem solving strategies and computational skills to solve problems
- v) Demonstrate a strong foundation in mathematical concepts

B.Sc. II Year Semester IV

MAT/DSC/T/250: Algebra

- i) Identify and apply group structure properties
- ii) Identify and apply subgroup, normal subgroup and quotient group properties.
- iii) Define and construct homomorphism of groups.
- iv) Define and construct homomorphism and isomorphism of rings and characterize integral domains

MAT/DSC/T/251: Integral Transforms

- i) Apply the Laplace transform for various functions.
- ii) Obtain the inverse Laplace transform.
- iii) Find the solution of differential equations by using Laplace transform.
- iv) Find the Fourier transform for various functions, Fourier sine and cosine transforms of functions

MAT/DSC/P/276: Lab Course based on MAT/DSC/T/250

- i) Identify and apply group structure properties.
- ii) Identify and apply subgroup, normal subgroup and quotient group properties.
- iii) Define and construct homomorphism of groups,
- iv) Define and construct homomorphism and isomorphism of rings and characterize

MAT/MISC/P/277: Lab Course based on MAT/DSC/T/251

- i) Apply the Laplace transform for various functions.
- ii) Obtain the inverse Laplace transform.
- iii) Find the solution of differential equations by using Laplace transform.
- iv) Find the Fourier transform for various functions, Fourier sine and cosine transforms of functions

MAT/Mn/T/250: Discrete Mathematics

- i) Identify the types of relation and function.
- ii) Prove laws of Boolean algebra.
- iii) Apply the laws of Boolean algebra.
- iv) Apply logic gates to adder, encoder and decoder.

MAT/Mn/T/251: Vector Calculus

- i) Find the derivatives and partial derivatives of vector-valued functions of three variables.
- ii) Define and apply the gradient, divergence and curl operators
- iii) Evaluate line and surface integrals.

MAT/SEC/T/250: Numerical Methods-11

- i) Apply numerical methods and find the integration by numerical methods
 - i i) Derive and apply numerical methods to find the roots of algebraic and transcendental equations

iii) Apply numerical methods to obtain numerical solution of ordinary differential equations transcendental equations

MAT/SEC/T/251: Introduction to R and Basic Statistics using R-11

i) Perform matrix operation using R

ii) Plot various plots using R

iii) Edit plots using R

iv) Determine linear regression using R

MAT/SEC/P/276: Lab Course Based on MAT/SEC/T/250

i) Apply numerical methods and find the integration by numerical methods ii) Derive and apply numerical methods to find the roots of algebraic and transcendental equations

iii) Apply numerical methods to obtain numerical solution of ordinary differential equations

iv) Use of mathematical software for numerical methods

MAT/SEC/P/277: Lab Course Based on MAT/SEC/T/251

i) Determine distribution function.

ii) Determine mathematical expectation, variance and covariance.

iii) Apply the concept of theoretical and continuous distribution.

iv) Determine correlation coefficient.

v) Use statistical software's.

MAT/GE/OE/T/250; Mathematics for Competitive Examinations-11

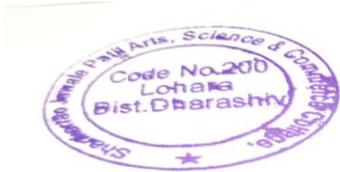
i) Apply problem solving strategies and computational skills to solve problems

ii) Apply various Verbal & Non- Verbal Reasoning techniques

iii) Improve calculation speed and accuracy

iv) Understand and apply fundamental mathematical concepts essential for various competitive examinations

v) Demonstrate a strong foundation in mathematical concepts




Principal
Shrikrishna Mahavidyalaya, Lohara, Dist. Dharwad