



**Program Outcomes (PO'S) and Course
Outcomes (CO'S)**

B.B.A. (BACHELOR OF BUSINESS ADMINISTRATION)



**JANUARY 1, 2023
L.N.D. COLLEGE, MOTHARI
EAST CHAMPARAN, BIHAR-845401**

B.B.A. (BACHELOR OF BUSINESS ADMINISTRATION)

Upon successful completion of the Bachelor of Business Administration (BBA) course, students can expect to achieve the following learning outcomes:

1. **Business Knowledge:** Develop a comprehensive understanding of various business disciplines, including management, marketing, finance, human resources, operations, and entrepreneurship.
2. **Management Skills:** Acquire management skills essential for effective leadership, decision-making, planning, organizing, and controlling within an organizational context.
3. **Marketing Expertise:** Gain knowledge of marketing principles, consumer behaviour, market research, branding, and promotional strategies for effective product and service marketing.
4. **Financial Acumen:** Understand financial management principles, including budgeting, financial analysis, risk management, and investment strategies for business decision-making.
5. **Human Resource Management:** Acquire skills in human resource management, including recruitment, training, performance evaluation, employee relations, and organizational development.
6. **Business Ethics and Corporate Social Responsibility:** Develop an understanding of ethical business practices and the concept of corporate social responsibility in the context of sustainable and socially responsible business operations.
7. **Entrepreneurial Mindset:** Cultivate an entrepreneurial mindset with skills in identifying business opportunities, strategic thinking, innovation, and risk management for potential business ventures.
8. **Business Communication Skills:** Enhance written and oral communication skills for effective business communication with stakeholders, clients, team members, and other professionals.
9. **Quantitative Analysis:** Develop quantitative analysis skills for business decision-making, including data interpretation, statistical analysis, and the use of quantitative tools and models.
10. **Legal and Regulatory Awareness:** Understand the legal and regulatory aspects of business operations, including contract law, business ethics, intellectual property, and compliance with business laws.
11. **Global Business Perspective:** Gain insights into the global business environment, including international trade, globalization, cultural diversity, and the impact of global trends on business strategy.
12. **Strategic Management Understanding:** Acquire knowledge of strategic management concepts, including strategic planning, competitive analysis, and the formulation and implementation of business strategies.
13. **Information Technology Proficiency:** Develop basic proficiency in business information technology, including the use of business software, data analytics, and the role of technology in business processes.
14. **Supply Chain and Operations Management:** Understand the principles of supply chain management and operations, including logistics, production planning, and quality management.

15. **Teamwork and Collaboration:** Enhance teamwork and collaboration skills for effective group dynamics, project management, and interpersonal relationships in a business setting.
16. **Problem-Solving and Critical Thinking:** Hone problem-solving and critical thinking skills to analyse complex business challenges, evaluate alternatives, and make informed decisions.
17. **Networking and Professional Development:** Develop networking skills and engage in professional development activities, including internships, seminars, and industry events, to enhance career prospects.
18. **Ethical Leadership:** Cultivate ethical leadership qualities, integrity, and a sense of responsibility in professional decision-making and business conduct.
19. **Preparation for Further Studies and Careers:** Prepare for advanced studies in business or related fields, or enter the workforce with a solid foundation in business administration applicable to careers in management, marketing, finance, entrepreneurship, and other business domains.

Completion of the Bachelor of Business Administration program equips students with a well-rounded understanding of business principles and practices, preparing them for diverse career opportunities and providing a foundation for further academic pursuits in the field of business.



Program Outcomes (PO'S) and Course Outcomes (CO'S)

B.C.A. (BACHELOR OF COMPUTER APPLICATION)



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI
EAST CHAMPARAN, BIHAR-845401

B.C.A.

Upon successful completion of the Bachelor of Computer Applications (BCA) course, students can expect to achieve the following learning outcomes:

1. **Programming Proficiency:** Develop a strong foundation in programming languages such as Java, C++, Python, or others. Gain proficiency in writing, testing, and debugging code.
2. **Database Management Skills:** Acquire skills in designing and managing databases. Understand concepts of relational databases, normalization, and SQL for effective data storage and retrieval.
3. **Software Development Knowledge:** Understand the software development life cycle, including requirements analysis, design, implementation, testing, and maintenance. Develop skills in building and maintaining software applications.
4. **Web Development Competence:** Gain expertise in web development technologies, including HTML, CSS, JavaScript, and web frameworks. Learn to design and create interactive and dynamic web applications.
5. **Operating System Understanding:** Develop an understanding of operating systems, including concepts like process management, memory management, file systems, and security.
6. **Networking Concepts:** Acquire knowledge of computer networks, protocols, and communication technologies. Understand the principles of data transmission, network security, and network management.
7. **Data Structures and Algorithms Proficiency:** Learn and implement various data structures and algorithms for efficient problem-solving. Develop skills in algorithm analysis and optimization.
8. **Computer Graphics and Multimedia Skills:** Gain knowledge in computer graphics, animation, and multimedia technologies. Learn to create visually appealing and interactive multimedia content.
9. **Cybersecurity Awareness:** Understand the principles of cybersecurity, including threat analysis, encryption, secure coding practices, and measures to protect information systems.
10. **Mobile Application Development:** Acquire skills in mobile app development for platforms such as Android or iOS. Understand the design and implementation of mobile applications.
11. **Artificial Intelligence and Machine Learning Basics:** Gain an introduction to the principles of artificial intelligence and machine learning. Understand basic algorithms and applications of AI/ML in computer science.
12. **Software Testing and Quality Assurance:** Learn principles and techniques of software testing to ensure the reliability and quality of software products. Understand testing methodologies and tools.
13. **Project Management Skills:** Acquire project management skills, including planning, scheduling, and executing software development projects. Understand the importance of teamwork and collaboration in project environments.
14. **Professional Communication Skills:** Enhance written and oral communication skills to effectively convey technical information, project documentation, and collaborate with team members and stakeholders.

15. **Ethical and Legal Considerations:** Understand ethical considerations and legal issues related to computer applications, including intellectual property, privacy, and compliance with regulations.
16. **Critical Thinking and Problem-Solving:** Hone critical thinking skills and the ability to analyze complex problems, identify solutions, and implement effective strategies in the field of computer applications.
17. **Continuous Learning and Adaptability:** Cultivate a mindset of continuous learning and adaptability to stay updated with emerging technologies and advancements in the dynamic field of computer applications.
18. **Preparation for Industry Certifications:** Prepare for relevant industry certifications in areas such as programming languages, databases, networking, and cybersecurity to enhance employability.

Completion of the Bachelor of Computer Applications program equips students with the skills and knowledge needed to pursue diverse careers in software development, IT management, cybersecurity, and other technology-related fields. These outcomes contribute to a strong foundation for professional success and ongoing growth in the rapidly evolving field of computer applications.



Program Outcomes (PO'S) and Course Outcomes (CO'S)

B.Ed. (BACHELOR OF EDUCATION)



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARIEAST CHAMPARAN, BIHAR-
845401

B.ED.

Upon successful completion of the Bachelor of Education (B.Ed.) course, students can expect to achieve the following learning outcomes:

1. **Pedagogical Knowledge:** Develop a deep understanding of pedagogical principles and theories, including different teaching methods, strategies, and approaches suitable for diverse learners and subjects.
2. **Subject Competence:** Acquire expertise in the chosen teaching subjects, including a comprehensive understanding of the content, curriculum, and instructional practices related to those subjects.
3. **Curriculum Development Skills:** Gain skills in curriculum planning, design, and development, ensuring alignment with educational goals, standards, and the needs of diverse learners.
4. **Classroom Management:** Learn effective classroom management strategies, including techniques for maintaining discipline, fostering a positive learning environment, and addressing diverse student needs.
5. **Assessment and Evaluation:** Understand various assessment methods and tools, including formative and summative assessment techniques. Develop skills in designing fair and effective assessments to evaluate student learning.
6. **Educational Technology Integration:** Acquire proficiency in integrating educational technology tools and resources into teaching practices, enhancing instructional delivery and promoting student engagement.
7. **Inclusive Education Understanding:** Develop an understanding of inclusive education principles, strategies, and practices to create accessible and supportive learning environments for students with diverse abilities and backgrounds.
8. **Educational Psychology Knowledge:** Gain insights into educational psychology, including theories of learning, motivation, and cognitive development. Apply psychological principles to enhance teaching and student understanding.
9. **Critical Thinking and Problem-Solving Skills:** Hone critical thinking skills to analyze educational issues, solve problems related to teaching and learning, and make informed decisions in diverse educational contexts.
10. **Effective Communication Skills:** Enhance communication skills, both written and oral, to convey information effectively to students, colleagues, parents, and other stakeholders in the educational community.
11. **Research and Inquiry Skills:** Develop research skills to conduct educational research, evaluate educational literature, and apply evidence-based practices to improve teaching and learning outcomes.
12. **Professional Ethics and Values:** Understand and uphold professional ethics and values in the field of education. Cultivate a sense of responsibility, integrity, and commitment to promoting educational equity and social justice.
13. **Cultural Competence:** Develop cultural competence to work effectively with students from diverse cultural backgrounds, fostering an inclusive and culturally responsive learning environment.
14. **Collaboration and Teamwork:** Enhance collaboration and teamwork skills to work effectively with colleagues, parents, and other stakeholders in the educational community to support student learning and well-being.
15. **Adaptability and Lifelong Learning:** Cultivate an attitude of adaptability and a commitment to lifelong learning. Stay abreast of educational innovations, research, and evolving pedagogical practices.

16. **Reflective Practice:** Develop the habit of reflective practice, critically examining teaching experiences, learning outcomes, and personal professional growth to continuously improve teaching effectiveness.
17. **Legal and Ethical Compliance:** Understand and comply with legal and ethical standards in education, including regulations related to student rights, privacy, and educational policies.
18. **Preparation for Teacher Certification:** Prepare for teacher certification requirements, examinations, and other professional qualifications necessary for entering the teaching profession.

Completion of the Bachelor of Education program equips students with the knowledge, skills, and dispositions needed to excel as effective and ethical educators in diverse educational settings. These outcomes prepare individuals for a rewarding career in teaching and contribute to the continuous improvement of the educational landscape.



Program Outcomes (PO'S) and Course Outcomes (CO'S)

BOTANY



JANUARY 1, 2024
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845401

BOTANY

Upon successful completion of the undergraduate course in Botany, with a syllabus covering topics such as the Plant Kingdom, Phycology, Microbiology, Bio Molecules, and Cell Biology, students can expect to achieve the following learning outcomes:

1. **Foundational Understanding of the Plant Kingdom:** Develop a comprehensive understanding of the diversity of plant life, including classification, taxonomy, and the evolutionary relationships among different plant groups.
2. **Expertise in Phycology:** Acquire specialized knowledge in phycology, including the study of algae. Understand the morphology, physiology, ecology, and economic importance of different algae species.
3. **Microbiology Proficiency:** Gain knowledge in microbiology with a focus on plant-associated microorganisms. Explore the roles of bacteria, fungi, and other microorganisms in plant health, symbiosis, and nutrient cycling.
4. **Bio Molecules Mastery:** Understand the structure, function, and interactions of essential bio molecules such as proteins, nucleic acids, lipids, and carbohydrates. Explore their roles in plant physiology and metabolism.
5. **Cell Biology Expertise:** Develop a deep understanding of plant cell biology, including cell structure, organelles, and cellular processes. Explore the mechanisms of cell division, cellular transport, and cell signalling in plants.
6. **Laboratory and Experimental Skills:** Acquire practical skills in laboratory techniques and experimental methods relevant to botany, including microscopy, tissue culture, and molecular biology techniques.
7. **Ecological Awareness:** Understand the ecological roles of plants in various ecosystems. Explore plant adaptations to different environments, their interactions with other organisms, and their contributions to ecosystem services.
8. **Plant Physiology Knowledge:** Gain insights into plant physiological processes, including photosynthesis, respiration, transpiration, and nutrient uptake. Understand how these processes contribute to plant growth, development, and responses to environmental factors.
9. **Genetics and Plant Breeding Understanding:** Explore the principles of genetics as applied to plants. Understand the mechanisms of inheritance and the application of genetic principles in plant breeding for improved traits.
10. **Biotechnology Applications:** Develop an understanding of biotechnological applications in plant sciences, including genetic engineering, crop improvement, and the development of transgenic plants.
11. **Environmental and Conservation Perspectives:** Analyse the impact of human activities on plant biodiversity and ecosystems. Explore conservation strategies and sustainable practices for preserving plant species and habitats.
12. **Critical Thinking and Problem-Solving Skills:** Hone critical thinking skills to analyse complex botanical issues, solve problems related to plant biology, and evaluate scientific literature and research findings.
13. **Communication Skills:** Enhance written and oral communication skills to effectively convey scientific concepts, research findings, and botanical information to both specialized and non-specialized audiences.
14. **Ethical and Professional Conduct:** Develop an understanding of ethical considerations in botanical research and applications. Adhere to professional standards and ethical practices in scientific investigations.

15. **Preparation for Further Studies and Careers:** Prepare for advanced studies in botany or related fields, or enter the workforce with a solid foundation in plant biology, applicable to careers in research, agriculture, environmental science, biotechnology, and education.

These learning outcomes aim to provide students with a well-rounded education in botany, covering diverse aspects of plant biology and preparing them for both advanced studies and various career opportunities in the field.

Arnold K.

HEAD

DEPARTMENT OF BOTANY
L.N.D. COLLEGE, MOTHARI



Program Outcomes (PO'S) and Course Outcomes (CO'S)

CHEMISTRY



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN,
BIHAR-845401

CHEMISTRY

Upon successful completion of the undergraduate course in Chemistry, covering a diverse syllabus including Atomic Structure, Chemical Bonding, Inorganic Chemistry, Stereochemistry, Ionic Equilibria, Chemical Thermodynamics, Coordination Chemistry, Hydrocarbons, Biomolecules, Quantum Chemistry, Spectroscopy, and Organometallic Chemistry, students can expect to achieve the following learning outcomes:

1. **Atomic Structure Proficiency:** Develop a deep understanding of atomic structure, including the principles of quantum mechanics, electron configuration, and the behaviour of subatomic particles.
2. **Chemical Bonding Mastery:** Gain expertise in chemical bonding theories, including covalent, ionic, and metallic bonding. Understand molecular shapes, hybridization, and the factors influencing bond strength.
3. **Inorganic Chemistry Knowledge:** Acquire a comprehensive understanding of inorganic chemistry, including the properties and reactions of elements and inorganic compounds. Explore periodic trends and the chemistry of main group and transition elements.
4. **Stereochemistry Competence:** Understand the spatial arrangement of atoms in molecules and its impact on the properties and reactivity of compounds. Analyse stereoisomerism and geometric isomerism.
5. **Ionic Equilibria Understanding:** Explore the principles of ionic equilibria, including acid-base equilibria, solubility equilibria, and the behaviour of electrolytes in solution.
6. **Chemical Thermodynamics Mastery:** Gain proficiency in chemical thermodynamics, including the study of energy changes in chemical reactions, entropy, enthalpy, and Gibbs free energy. Apply thermodynamic principles to analyse reaction spontaneity and equilibrium.
7. **Coordination Chemistry Expertise:** Understand the structure, bonding, and reactivity of coordination compounds. Explore the principles of ligand field theory and the application of coordination chemistry in catalysis and materials science.
8. **Hydrocarbons Knowledge:** Acquire a comprehensive understanding of the structure, properties, and reactions of hydrocarbons, including alkanes, alkenes, alkynes, and aromatic compounds.
9. **Biomolecules Competence:** Explore the structure and function of biomolecules, including proteins, nucleic acids, carbohydrates, and lipids. Understand the biochemical processes essential for life.
10. **Quantum Chemistry Understanding:** Develop a deep understanding of quantum chemistry principles, including the mathematical foundations of quantum mechanics and their application to chemical systems.
11. **Spectroscopy Proficiency:** Gain expertise in spectroscopic techniques, including UV-Visible, IR, NMR, and mass spectrometry. Interpret spectroscopic data to identify molecular structures.
12. **Organometallic Chemistry Knowledge:** Understand the bonding and reactivity of compounds containing metal-carbon bonds. Explore the applications of organometallic compounds in catalysis and synthesis.
13. **Laboratory Techniques:** Acquire practical skills in laboratory techniques, including safe handling of chemicals, use of instrumentation, and experimental design.
14. **Data Analysis and Interpretation Skills:** Develop skills in analysing and interpreting experimental data, including statistical methods and graphical representation of results.

15. **Communication Skills:** Enhance written and oral communication skills to effectively convey scientific concepts, research findings, and experimental results.
16. **Research and Problem-Solving Skills:** Hone research and problem-solving skills to design experiments, analyse scientific literature, and address complex chemical challenges.
17. **Ethical and Safety Considerations:** Understand the importance of ethical conduct in scientific research and adhere to safety protocols in laboratory environments.
18. **Preparation for Further Studies and Careers:** Prepare for advanced studies in chemistry or related fields, or enter the workforce with a solid foundation in chemistry applicable to careers in research, industry, education, and healthcare.

These learning outcomes aim to provide students with a comprehensive education in chemistry, covering various subfields and preparing them for both advanced studies and diverse career opportunities in the field.



**Program Outcomes (PO'S) and Course
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ECONOMICS



JANUARY 1, 2024

L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR-
845401

ECONOMICS

Upon successful completion of the undergraduate course in Economics, students can expect to achieve the following learning outcomes:

1. **Foundational Economic Knowledge:** Develop a strong foundational understanding of key economic principles, theories, and concepts that form the basis of economic analysis.
2. **Microeconomic Analysis Competence:** Acquire the ability to analyse individual economic agents' behaviours, such as consumers, firms, and markets. Understand concepts like demand and supply, utility, production, cost, and market structures.
3. **Macroeconomic Analysis Proficiency:** Gain proficiency in analysing the aggregate behaviour of the economy, including concepts like national income, employment, inflation, monetary policy, and fiscal policy.
4. **Public Finance Understanding:** Develop an understanding of public finance principles, government expenditure, taxation, and fiscal policies. Analyse the impact of government policies on the economy and public welfare.
5. **Banking and Financial Institutions Knowledge:** Understand the functioning of banking systems and financial institutions. Explore concepts related to money supply, central banking, financial markets, and the role of financial institutions in the economy.
6. **Indian Economy Expertise:** Gain insights into the structure and functioning of the Indian economy. Analyse economic policies, reforms, and challenges specific to India, including issues related to agriculture, industry, and services sectors.
7. **Economics for Health and Education:** Explore the economic dimensions of health and education sectors. Understand the economic factors influencing healthcare and education outcomes, and analyse policy implications for these sectors.
8. **Development Economics Understanding:** Study the theories and practices of economic development. Analyse the factors affecting economic growth, poverty, inequality, and development policies at the national and international levels.
9. **Research and Analytical Skills:** Develop strong research skills, including the ability to collect, analyse, and interpret economic data. Apply statistical and econometric techniques to address economic questions and problems.
10. **Critical Thinking and Problem-Solving Skills:** Cultivate critical thinking skills to evaluate economic issues, policies, and real-world problems. Develop the ability to propose and assess solutions to economic challenges.
11. **Effective Communication Skills:** Enhance written and oral communication skills to effectively convey economic analyses, research findings, and policy recommendations. Communicate economic concepts to both specialized and non-specialized audiences.
12. **Ethical and Social Responsibility:** Understand the ethical considerations in economic decision-making. Explore the social responsibility of economists and the impact of economic policies on various segments of society.
13. **Global Economic Awareness:** Develop an awareness of the global economic environment. Understand the interconnectedness of economies, international trade, and global economic institutions.
14. **Interdisciplinary Connections:** Explore interdisciplinary connections between economics and other fields, such as sociology, political science, environmental studies, and public policy.
15. **Preparation for Further Studies and Careers:** Prepare for advanced studies in economics or related fields, or enter the workforce with a solid understanding of



Program Outcomes (PO'S) and Course Outcomes (CO'S)

ENGLISH



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN,
BIHAR-845401

ENGLISH

An undergraduate course in English with a focus on classical Indian literature and cultural studies, including works such as Kalidasa's "Abhigyan Shakuntalam," Vyasa's "The Dicing," Sudraka's "Mrichchhakatikam," Valmiki's "Bala Kanda," Bharata's "Natya Shastra," Buitenen's "Dharma and Moksha," Vinay Dharwadkar's "Orientalism of Indian Culture," and Valmiki's "Ramayana," would provide students with a rich understanding of classical Indian literature, cultural traditions, and theoretical perspectives. The learning outcomes for such a course might include:

1. **Literary Analysis Skills:** Develop advanced skills in literary analysis to critically evaluate and interpret classical Indian literary works, including poetry, drama, and epic narratives.
2. **Cultural Contextualization:** Situate literary works within their cultural, historical, and social contexts, exploring the nuances of classical Indian society, traditions, and philosophies reflected in the literature.
3. **Interpretation of Epic Narratives:** Gain expertise in the interpretation of epic narratives, understanding the themes, characters, and moral lessons embedded in works such as Valmiki's "Ramayana" and Vyasa's "The Dicing."
4. **Drama and Performance Analysis:** Analyse the dramatic elements in works like Kalidasa's "Abhigyan Shakuntalam" and Sudraka's "Mrichchhakatikam," exploring the cultural significance of drama in classical Indian society.
5. **Understanding Sanskrit Aesthetics:** Delve into the aesthetic principles outlined in Bharata's "Natya Shastra," comprehending the foundational elements of classical Indian performing arts, including drama, dance, and music.
6. **Philosophical Inquiry:** Explore philosophical themes related to dharma, moksha, and ethical principles as presented in texts like Buitenen's "Dharma and Moksha," fostering a deeper understanding of Indian philosophical thought.
7. **Cultural Critique and Orientalism:** Critically engage with Vinay Dharwadkar's work on Orientalism, evaluating Western perspectives on Indian culture and literature. Develop an awareness of cultural representation and biases in scholarly discourse.
8. **Language Proficiency:** Enhance language proficiency, particularly in understanding and interpreting classical Sanskrit literature, enabling students to engage directly with the primary texts.
9. **Comparative Literature:** Engage in comparative literature studies, drawing connections and distinctions between classical Indian literature and literary traditions from other cultures.
10. **Research and Writing Skills:** Develop strong research and writing skills, enabling students to articulate well-reasoned arguments, conduct literary analysis, and contribute to scholarly discussions.
11. **Cultural Appreciation:** Cultivate an appreciation for the diversity and richness of classical Indian culture, expressed through its literature, philosophy, and performing arts.
12. **Critical Reflection on Orientalist Discourse:** Reflect critically on the impact of Orientalist perspectives on the study and representation of Indian culture, encouraging students to question assumptions and biases in academic discourse.
13. **Understanding Symbolism:** Interpret symbolism and allegory present in texts like "Ramayana," recognizing the deeper layers of meaning embedded in classical Indian literary works.

14. **Presentation and Communication Skills:** Hone presentation and communication skills, enabling students to effectively convey their insights and interpretations to diverse audiences.
15. **Preparation for Further Studies and Research:** Prepare students for advanced studies in literature, cultural studies, or related fields, fostering a solid foundation for continued academic exploration.

These learning outcomes aim to provide students with a holistic understanding of classical Indian literature, cultural traditions, and theoretical perspectives while equipping them with critical thinking and research skills applicable to various academic and professional pursuits.



Program Outcomes (PO'S) and Course Outcomes (CO'S)

Department of Geography



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR
-845401

DEPARTMENT OF GEOGRAPHY

The learning outcomes for Geography in an undergraduate (U.G.) syllabus are designed to equip students with a comprehensive understanding of the fundamental concepts, theories, and methodologies within the discipline. The U.G. Geography syllabus aims to foster critical thinking, spatial analysis, and an appreciation for the interconnectedness of physical and human phenomena. Here are some overarching learning outcomes for Geography at the undergraduate level:

1. **Foundational Knowledge:**
 - Demonstrate a thorough understanding of key geographical concepts, theories, and principles.
 - Acquire knowledge of the Earth's physical features, climate patterns, and ecosystems.
 - Comprehend the human-environment interaction and its impact on landscapes.
2. **Spatial Analysis and Interpretation:**
 - Develop proficiency in spatial thinking and geographic information systems (GIS).
 - Analyze and interpret maps, satellite imagery, and other spatial data.
 - Apply spatial analysis techniques to solve real-world problems.
3. **Regional Understanding:**
 - Gain knowledge of diverse world regions and their physical, cultural, economic, and political characteristics.
 - Understand the processes that shape regional variations, including globalization, migration, and urbanization.
4. **Environmental Sustainability:**
 - Assess environmental issues and challenges, including climate change, biodiversity loss, and natural resource management.
 - Propose sustainable solutions and strategies for mitigating environmental degradation.
5. **Cultural and Human Geography:**
 - Explore cultural landscapes, cultural diversity, and the relationship between culture and place.
 - Understand demographic patterns, population dynamics, and human settlements.
6. **Research and Methodology:**
 - Develop research skills, including data collection, analysis, and interpretation.
 - Design and conduct geographic research projects, applying both qualitative and quantitative methods.
7. **Interdisciplinary Connections:**
 - Recognize the interdisciplinary nature of Geography and its connections with other social and natural sciences.
 - Integrate geographical perspectives into broader academic and practical contexts.
8. **Global Perspectives:**
 - Cultivate a global perspective by examining global issues, interconnections, and geopolitical dynamics.
 - Analyze the impacts of globalization on societies, economies, and cultures.

9. Effective Communication:

- Communicate geographical information effectively through written reports, oral presentations, and visual representations.
- Develop skills in using geospatial technologies for effective communication.

10. Ethical and Social Responsibility:

- Understand the ethical considerations involved in geographical research and applications.
- Demonstrate awareness of social responsibility in addressing geographic challenges, promoting equity, and respecting cultural diversity.

11. Critical Thinking and Problem-Solving:

- Apply critical thinking skills to analyze and solve complex geographical problems.
- Demonstrate the ability to synthesize information, draw conclusions, and make informed decisions.

12. Lifelong Learning:

- Develop a curiosity for ongoing learning in Geography, keeping abreast of current developments and emerging trends in the field.
- Foster a commitment to continuous personal and professional development within the discipline.

These learning outcomes collectively aim to prepare undergraduate students in Geography for a dynamic and interconnected world, providing them with the knowledge, skills, and perspectives necessary for academic success and future career endeavors.

आधुनिक हिंदी भाषा एवं साहित्य का इतिहास

किसी भी साहित्य का अपना एक इतिहास होता है। अतीत के यथार्थ स्वरूप का अनुशीलन ही इतिहास है। किसी भी देश के साहित्य के सम्यक मूल्यांकन में इतिहास की महत्वपूर्ण भूमिका होती है। दूसरे शब्दों में इतिहास की जानकारी के बिना साहित्य के क्रमिक विकास को समझा नहीं जा सकता। 'जेम्स थाम्पसन' ने इतिहास के स्वरूप को स्पष्ट करते हुए ठीक ही कहा है कि "इतिहास को एक ऐसा महान् पुल समझा जा सकता है, जो काल की नदी पर मेहराब डालता है तथा भूत एवं वर्तमान को परस्पर संयुक्त करता है। किसी भी युग का इतिहास वर्तमान की उपेक्षा करके नहीं लिखा जा सकता। इतिहासकार अतीत की कहानी को वर्तमान के परिपेक्ष्य में रखकर ही लिखता है। यह सर्वविदित है कि हर पीढ़ी को अपना इतिहास नये सिरे से लिखना चाहिए। अतः इतिहास को अतीत के ज्ञान के रूप में स्वीकार करने की धारणा युक्ति युक्त नहीं है।

यह इतिहास ही है जो साहित्य की विभिन्न रचनाओं, परम्पराओं और प्रवृत्तियों का विश्लेषण करता है, साथ ही आगे की दिशा निर्देशित करता है। किसी भी साहित्य की प्रेरक शक्ति और बदलती हुई प्रवृत्तियों को समझने में इतिहास की सहायता लेनी पड़ती है। हम हिंदी साहित्य के इतिहास में हिंदी साहित्य के इतिहास लेखक की परम्परा, साहित्येतिहास के पुनर्लेखन की समस्याओं पर विचार करेंगे। किसी भी विषयवस्तु का बौद्धिक एवं वैज्ञानिक अध्ययन करने के लिए उसे किन्हीं काल्पनिक पक्षों, खंडों, वर्गों या तत्वों में विभक्त कर लिया जाता है। जिससे कि उसके विभिन्न अवयवों को सम्यक रूप में ग्रहण किया जा सके। ऐसा न केवल सैद्धान्तिक क्षेत्र में अपितु व्यावहारिक क्षेत्र में भी किया जाता है।

1.1 इकाई के उद्देश्य

1.2 सभी इकाई के अध्ययन पश्चात विद्यार्थियों को निम्न जानकारी प्राप्त होगी -

1. साहित्येतिहास लेखन के विभिन्न पक्षों से परिचित हो सकेंगे;
2. साहित्येतिहास की विभिन्न पद्धतियों का परिचय प्राप्त कर पाएंगे;
3. हिंदी साहित्य के इतिहास लेखन की परम्परा से अवगत हो पाएंगे;
4. हिंदी साहित्येतिहास लेखन की विभिन्न समस्याओं को समझ सकेंगे
5. हिंदी साहित्य के काल-विभाजन और नामकरण की समस्या को समझ सकेंगे;
6. हिंदी साहित्य के काल-विभाजन के आधारों का विश्लेषण कर पाएंगे
7. हिन्दी साहित्य के इतिहास में आधुनिक काल का परिचय प्राप्त कर सकेंगे। आधुनिक काल की विभिन्न प्रवृत्तियों का विस्तार से अध्ययन किया।
8. हिन्दी भाषा और साहित्य की दृष्टि से यह काल संक्रमण का है, विषय पर विचार कर सकेंगे।

9. आधुनिक काल की कौन-सी कारक प्रवृत्तियाँ थी, जिसने गद्य लेखन का आरम्भ किया। इकाई में हिंदी गद्य साहित्य के विकास के बारे में विस्तार से चर्चा करेंगे। आधुनिक युग को गद्य युग के नाम से जाना जाता है। इसका कारण यह है कि गद्य की जितनी विकास आधुनिक युग में हुआ, उतना पूर्व में कभी नहीं हुआ।
10. राष्ट्रीय आन्दोलन में आधुनिकयुग की भूमिका के महत्व को समझ सकेंगे।
11. भारतेंदु और द्विवेदी युग के गद्य साहित्य के विकास का उल्लेख कर सकेंगे; साथ ही भारतेंदु युगीन व द्विवेदी युगीन काव्य प्रवृत्तियों का मूल्यांकन से अवगत हो सकेंगे।
12. छायावाद, प्रगतिवाद एवं प्रयोगवाद के विषय में जान पाएंगे।
13. नई कविता, नवगीत एक समकालीन कविता के स्वरूप से परिचित हो सकेंगे।
14. आधुनिक काल के गद्य का स्वरूप किस प्रकार का है। हिंदी गद्य की लोकप्रियता विधाओं से परिचित हो पाएंगे;
15. गद्य और पद्य में अंतर कर सकेंगे;
16. अंग्रेजों के शासन के दौरान भाषा संबंधी विभिन्न दृष्टिकोणों को समझ सकेंगे;
17. खड़ी बोली गद्य की आरंभिक स्थितियों का उल्लेख कर सकेंगे;
18. प्रेमचंद और उनके बाद के कथा साहित्य के विकास को संक्षेप में समझ सकेंगे;
19. हिंदी गद्य की प्रमुख विधाओं (कहानी, उपन्यास, नाटक, निबंध, संस्मरण, रेखाचित्र, जीवनी एवं आत्मकथा) की विकास यात्रा को समझ सकेंगे;

1.2 हिंदी साहित्येतिहास के अध्ययन की पूर्व पीठिका

इतिहास दर्शन साहित्येतिहास की जानकारी को बढ़ाती है। इसीलिए साहित्येतिहास को जानने से पूर्व इतिहास-दर्शन को जानना अति आवश्यक है -

मनुष्य एक सामाजिक प्राणी है। समाज में अनेक घटनाएं घटती रहती हैं। घटनाओं का इतिहास बनता जाता है और वही इतिहास हमें अतीत से जोड़कर रखता है। इतिहास शब्द इति ह आस से बना है। 'इति' का अर्थ होता है 'ऐसा ही' 'ह' का अर्थ है निश्चित रूप से और 'आस' का अर्थ होता है 'था'। इस प्रकार इतिहास का शाब्दिक अर्थ -निश्चित रूप से ऐसा ही हुआ था, अर्थात् जो घटनाएं भूतकाल में घटित हुई हैं, उन्हीं के क्रमबद्ध तथा विवेचनात्मक वर्णन को 'इतिहास' कहा जाता है।

इस प्रकार हिंदी साहित्य के इतिहास लेखन की परम्परा सतत् चलती रही है। पूर्णकालीन इतिहास ग्रन्थों से प्रेरणा लेते हुए नई मान्यताओं और मौलिकताओं के साथ नए इतिहास ग्रंथ सामने आते रहे हैं। हिंदी साहित्य के प्रारम्भिक इतिहास लेखक गार्सा-द-तासी से लेकर आज तक इस दिशा में क्रमिक विकास चलता रहा है। समय-समय पर नई दृष्टि, नई पद्धति और नए चिन्तन के आधार पर अनुकूल और

संतोषजनक साहित्य इतिहास के तथ्यों का उद्घाटन होता रहा है। इस प्रकार कहा जा सकता है कि हिंदी साहित्य के इतिहास की सुदृढ़ परम्परा सतत् प्रवाहित होती रही है।

1.3 साहित्येतिहास के पुनर्लेखन की समस्याएँ

साहित्येतिहास के स्वरूप का उल्लेख करते हुए आचार्य रामचन्द्र शुक्ल ने लिखा है कि 'जबकि प्रत्येक देश का साहित्य वहाँ की जनता की चित्तवृत्ति का स्थायी प्रतिबिम्ब होता है। तब यह निश्चित है कि जनता की चित्तवृत्ति के परिवर्तन के साथ-साथ साहित्य के स्वरूप में परिवर्तन होता चला जाता है। आदि से अन्त तक इन्हीं चित्तवृत्तियों की परम्परा को परखते हुए साहित्य परम्परा के साथ सामंजस्य दिखाना ही 'साहित्य का इतिहास' कहलाता है। जनता की चित्तवृत्ति बहुत कुछ राजनीतिक, सामाजिक, साम्प्रदायिक, तथा धार्मिक परिस्थिति के अनुसार होती है। हिंदी साहित्य के प्रारम्भ का प्रश्न-हिंदी साहित्य के लेखन की पहली समस्या यह है कि इसका प्रारम्भ कब से माना जाए। शिवसिंह सेंगर, जार्ज ग्रियर्सन और मिश्र बंधुओं ने हिंदी साहित्य का प्रारम्भ सातवीं शती से स्वीकार किया है। राहुल सांस्कृत्यायन ने सातवीं शती के सरहपा को हिंदी का प्रथम कवि माना है, जबकि आचार्य रामचन्द्र शुक्ल ने इसका आरम्भ दसवीं शताब्दी माना है। लेकिन शुक्ल ने जिन कृतियों के आधार पर अपने मत का निर्धारण किया था उनका अस्तित्व भी संदेह की नजर में आ गया है। कुछ विद्वानों ने बारहवीं शती से हिंदी का आरम्भ माना है। इसमें डॉ. गणपति चन्द्र का उल्लेख किया जा सकता है। डॉ. उदयनारायण तिवारी, डॉ. नामवरसिंह आदि विद्वानों ने हिंदी साहित्य एवं भाषा का आरंभ चौदहवीं शती से माना है। इससे स्पष्ट होता है कि हिंदी साहित्य के प्रारम्भ के संबंधों में कई मत प्रचलित हैं। लेकिन 12 वीं शती को विद्वानों ने तर्कसंगत एवं प्रामाणिक माना है।

1. काल विभाजन की समस्या: हिंदी साहित्य को आदिकाल, भक्तिकाल, रीतिकाल तथा आधुनिक काल में विभाजित किया गया है। आचार्य शुक्ल ने अपने हिंदी साहित्य का इतिहास में इसी विभाजन को अपनाया है। लेकिन बाद में यह काल विभाजन भी विद्वानों के संदेहों के घेरे में आ गया। साहित्य की लगातार विकासशील प्रकृति के कारण कोई भी काल अन्तिम सत्य के रूप में नहीं स्वीकार किया जा सकता। इतिहास लेखन के लिए काल-विभाजन जितना महत्वपूर्ण है उतना ही समस्यापूर्ण भी है।
2. नामकरण की समस्या: हिंदी साहित्येतिहास के लेखन में काल-विभाजन के साथ ही नामकरण की समस्या भी जुड़ी हुई है। इसके लिए कभी प्रमुख साहित्यिक प्रवृत्ति को आधार बनाया जाता है और कभी साहित्यकार को, कभी पद्धति का आश्रय लिया जाता है और कभी विषय का। आचार्य शुक्ल ने जिन ग्रन्थों के आधार पर आदिकाल को वीरगाथाकाल कहना उपयुक्त समझा था उसके

बाद के विचारकों ने उस पर एकदम असहमति व्यक्त की और अपने-अपने मत के समर्थन में विभिन्न प्रकार के तर्क प्रस्तुत किये।

3. साहित्यकारों के चयन और निर्धारण की समस्या: हिंदी साहित्येतिहास लेखन में साहित्यकारों के चयन और उनके निर्धारण की भी गंभीर समस्या रहती है। इतिहास लेखक के सामने यह संकट बना रहता है कि किस रचनाकार की रचना को वह अपनी कृति में स्थान दे और किस को न दे। इस कार्य कारण संबंध के बिना इतिहास में काफी त्रुटियाँ होने की संभावना बनी रहती हैं।
4. मूल्यांकन की समस्या: हिंदी साहित्येतिहास लेखन में मूल्यांकन की समस्या भी एक गंभीर समस्या बनी रहती है। इस विषय में डॉ. नामवर सिंह का मत इस प्रकार प्रतिपादित हुआ है कि साहित्य के इतिहास में काल-विभाजन और नामकरण से अधिक महत्वपूर्ण मूल्यांकन की समस्या होती है। किसी इतिहासकार की वास्तविक शक्ति रचनाओं, रचनाकारों और रचना प्रवृत्तियों के मूल्यांकन से ही प्रकाश में आ पाती है। इसके लिए यह आवश्यक हो जाता है कि साहित्यलेखक तटस्थ एवं निष्पक्षतापूर्ण कार्य को सम्पन्न करें।
5. इतिहास-लेखन की पद्धति संबंधी समस्या: साहित्येतिहास-लेखन की पद्धति भी साहित्य-इतिहास-लेखन की एक समस्या है। हिंदी साहित्य के प्रारम्भिक इतिहास ग्रन्थों में इस प्रकार की समस्या संबंधी परिचय प्राप्त होता है। आचार्य रामचन्द्र शुक्ल ने पहली बार हिंदी साहित्य लेखन को वैज्ञानिक स्वरूप प्रदान करने का सफल प्रयास किया। उनके बाद इतिहासकारों ने इतिहास-लेखन का वैज्ञानिक तरीके से अध्ययन किया। आज तक हिंदी साहित्य में युगपरक विभाजन के आधार पर ही अध्ययन की प्रवृत्तियों की पद्धति प्रचलित रही है। इस पद्धति का प्रमुख दोष यह है कि प्रत्येक युग की साहित्यिक प्रवृत्तियों को उस युग की काल सीमाओं तक ही सीमित मान लिया जाता है।



Program Outcomes (PO'S) and Course Outcomes (CO'S)

HISTORY



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR-
845401

HISTORY

A History major with a focus on concepts such as Bharatbarsha, Indian culture, tradition, dharma, philosophy, world civilizations, Classical Greece, Roman Empire, the rise of Christianity, and Islam would offer a comprehensive understanding of diverse historical periods and cultural contexts. Here are some potential learning outcomes for such a program:

1. **Cultural and Historical Diversity:** Students will gain a deep appreciation for the rich cultural and historical diversity of Bharatbarsha (India) and other civilizations, understanding how cultural practices, traditions, and philosophies have evolved over time.
2. **Philosophical Foundations:** The program may explore the philosophical underpinnings of Indian thought, including concepts such as dharma, karma, and moksha, as well as contrasting philosophical traditions in other parts of the world.
3. **Religious and Social Transformations:** Students may study the historical development of major religions, including Hinduism, Buddhism, Jainism, Christianity, and Islam, and how they have shaped societies and cultures.
4. **Comparative Studies:** The curriculum might encourage students to compare and contrast different civilizations, such as Bharatbarsha, Classical Greece, and the Roman Empire, examining their political structures, social organization, and cultural achievements.
5. **Global Interactions:** Students will explore the interactions between different civilizations, including trade, cultural exchanges, and the spread of ideas, contributing to a broader understanding of world history.
6. **Historical Methodology:** The program would likely include training in historical research methods, allowing students to critically analyse sources, use archival materials, and engage in historical interpretation.
7. **Classical Greece and Roman Empire:** Students will gain an understanding of the political, social, and cultural developments in Classical Greece and the Roman Empire, examining their influence on subsequent historical periods.
8. **Rise of Christianity and Islam:** The program may delve into the historical contexts of the rise of Christianity and Islam, exploring their impact on societies, politics, and cultures.
9. **Cultural Continuity and Change:** Students will examine how cultural traditions in Bharatbarsha and other civilizations have experienced continuity and change over time, considering the factors that have influenced these dynamics.
10. **Critical Thinking and Analysis:** Through the study of diverse historical periods and cultures, students will enhance their critical thinking skills, enabling them to analyse complex historical situations and events.
11. **Ethical and Moral Considerations:** The program might encourage students to explore the ethical and moral dimensions of historical events, including the impact of religious and philosophical ideas on ethical frameworks.
12. **Effective Communication:** Students will develop strong written and oral communication skills, allowing them to articulate historical analyses, research findings, and complex ideas.
13. **Interdisciplinary Connections:** The program may foster interdisciplinary connections, encouraging students to explore how history intersects with fields such as philosophy, literature, art, and political science.

This interdisciplinary approach, incorporating elements of Indian history, philosophy, and world civilizations, provides students with a well-rounded education that prepares them for various careers, including academia, research, cultural preservation, international relations, and more. The skills acquired are transferable and valuable in a globalized world.



Program Outcomes (PO'S) and Course Outcomes (CO'S)

MATHEMATICS



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR-
845401

MATHEMATICS

Upon successful completion of the undergraduate course in Mathematics, encompassing a diverse syllabus including Algebra, Cartesian Coordinate Geometry, Calculus, Geometry, Differential Equations, Ring Theory, Numerical Methods, and Metric Space, students can expect to achieve the following learning outcomes:

1. **Algebra Proficiency:** Develop a strong foundation in algebraic structures, including groups, rings, and fields. Master algebraic techniques and methods for solving equations and inequalities.
2. **Cartesian Coordinate Geometry Skills:** Acquire a deep understanding of Cartesian coordinate geometry, including the representation of geometric objects, transformations, and analytical methods for solving problems in both two and three dimensions.
3. **Calculus Competence:** Gain proficiency in calculus, covering topics such as limits, derivatives, integrals, and their applications. Understand the fundamental theorems of calculus and apply calculus techniques to solve mathematical problems.
4. **Geometry Knowledge:** Develop a solid understanding of classical geometry, including Euclidean geometry, and explore geometric concepts such as congruence, similarity, and properties of geometric figures.
5. **Differential Equations Mastery:** Acquire expertise in solving ordinary and partial differential equations. Understand the application of differential equations in modeling real-world phenomena.
6. **Ring Theory Understanding:** Explore the abstract algebraic concepts of ring theory, including the study of rings, ideals, and homomorphisms. Understand algebraic structures beyond groups and fields.
7. **Numerical Methods Proficiency:** Gain skills in numerical methods for solving mathematical problems that may not have analytical solutions. Learn algorithms for approximating solutions to equations and integrals.
8. **Metric Space Knowledge:** Understand the concept of a metric space and its properties. Explore topological concepts, sequences, and series in metric spaces.
9. **Advanced Problem-Solving Skills:** Develop advanced problem-solving skills by applying mathematical concepts and techniques to solve complex mathematical problems and proofs.
10. **Logical Reasoning Skills:** Hone logical reasoning skills, including the ability to formulate mathematical arguments, proofs, and justifications.
11. **Mathematical Modeling Capability:** Acquire the ability to model real-world problems mathematically and apply appropriate mathematical techniques to analyze and solve these problems.
12. **Computer Programming Skills:** Develop basic programming skills, especially in numerical methods, to implement and solve mathematical problems using computational tools.
13. **Communication Skills:** Enhance written and oral communication skills to effectively convey mathematical concepts, proofs, and solutions to both specialized and non-specialized audiences.
14. **Research Skills:** Gain skills in mathematical research, including literature review, problem formulation, and the ability to contribute to the mathematical literature.
15. **Ethical and Rigorous Mathematical Practice:** Understand and adhere to ethical standards in mathematical research and practice. Cultivate a rigorous and disciplined approach to mathematical reasoning.

16. Preparation for Further Studies and Careers: Prepare for advanced studies in mathematics or related fields, or enter the workforce with a strong foundation in mathematical theory and problem-solving applicable to various professions, including academia, industry, and research.

These learning outcomes aim to provide students with a well-rounded education in mathematics, covering foundational and advanced topics, and preparing them for both advanced studies and diverse career opportunities in the field.



Program Outcomes (PO'S) and Course Outcomes (CO'S)

PHILOSOPHY



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR-
845401

PHILOSOPHY

Upon successful completion of the undergraduate course in Philosophy, with a diverse syllabus including branches of logic, statistical methods, Indian philosophy, ethics, Western philosophy, Western ethics, philosophy of religion, social philosophy, and cultural philosophy, students can expect to achieve the following learning outcomes:

1. **Foundational Logic Competency:** Develop a strong foundational understanding of the branches of logic, including formal logic, informal logic, and symbolic logic. Acquire skills in logical reasoning and argumentation.
2. **Statistical Method Proficiency:** Gain proficiency in the application of statistical methods to philosophical inquiries, allowing for the analysis and interpretation of data relevant to philosophical questions.
3. **Indian Philosophy Understanding:** Acquire a comprehensive understanding of Indian philosophy, including major schools of thought such as Vedanta, Samkhya, Nyaya, and Buddhism. Explore the diverse philosophical traditions that have shaped Indian intellectual history.
4. **Ethics Knowledge:** Develop a solid understanding of ethical theories and principles, including deontology, consequentialism, virtue ethics, and applied ethics. Analyse ethical dilemmas and develop skills in moral reasoning.
5. **Western Philosophy Mastery:** Gain a comprehensive overview of Western philosophy, covering major historical periods and key figures. Understand the evolution of philosophical thought from ancient Greece to contemporary philosophy.
6. **Western Ethics Competence:** Explore Western ethical theories, including those of Aristotle, Kant, Mill, and contemporary ethical perspectives. Apply ethical theories to real-world moral issues.
7. **Philosophy of Religion Insight:** Delve into the philosophy of religion, exploring concepts such as the nature of God, religious experience, faith, reason, and the relationship between religion and science.
8. **Social Philosophy Understanding:** Analyse social and political philosophies, examining concepts like justice, equality, freedom, and the role of the state. Explore the intersection of philosophy with societal structures and institutions.
9. **Cultural Philosophy Appreciation:** Develop an appreciation for cultural philosophy, understanding how philosophical ideas intersect with and shape various aspects of culture, including literature, art, and societal norms.
10. **Critical Thinking Skills:** Hone critical thinking skills, allowing for the evaluation of philosophical arguments, the identification of fallacies, and the development of well-reasoned positions on philosophical issues.
11. **Philosophical Writing Proficiency:** Enhance written communication skills, enabling students to articulate complex philosophical ideas in a clear and coherent manner. Develop the ability to construct well-structured arguments.
12. **Interdisciplinary Connections:** Explore interdisciplinary connections between philosophy and other fields such as psychology, sociology, literature, and the natural sciences. Understand how philosophical concepts intersect with diverse areas of human inquiry.
13. **Cross-Cultural Perspective:** Develop a cross-cultural perspective by examining philosophical traditions from different cultures. Appreciate the diversity of human thought and its impact on global intellectual traditions.

14. **Research and Methodology Skills:** Acquire research skills, including the ability to conduct philosophical inquiries, gather and analyse relevant literature, and present findings in a scholarly manner.
15. **Preparation for Further Studies and Careers:** Prepare for advanced studies in philosophy or related fields, or enter the workforce with critical thinking skills applicable to various professions, including law, education, research, and public service.

These learning outcomes aim to provide students with a well-rounded education in philosophy, covering a wide range of topics and preparing them for both advanced studies and diverse career opportunities in the field.



**Program Outcomes (PO'S) and Course
Outcomes (CO'S)**

PHYSICS



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR

PHYSICS

Upon successful completion of the undergraduate course in Physics, covering a diverse syllabus including Mathematical Physics, Classical Mechanics, Oscillations and Waves, Electricity and Magnetism, Optics, Modern Physics, Statistical Mechanics, Quantum Mechanics, Electronics, Solid State Physics, and Spectroscopy, students can expect to achieve the following learning outcomes:

1. **Mathematical Physics Proficiency:** Develop advanced mathematical skills and techniques applicable to physics, including vector calculus, differential equations, and complex analysis.
2. **Classical Mechanics Understanding:** Gain a comprehensive understanding of classical mechanics, including the principles of Newtonian mechanics, Lagrangian mechanics, and Hamiltonian mechanics. Apply these principles to solve complex problems in classical physics.
3. **Oscillations and Waves Mastery:** Understand the concepts of oscillations and waves, including harmonic motion, wave propagation, and interference. Apply these principles to analyse mechanical and electromagnetic waves.
4. **Electricity and Magnetism Knowledge:** Acquire a deep understanding of electricity and magnetism, including electrostatics, magnetostatics, and electromagnetism. Apply Maxwell's equations to analyse electromagnetic phenomena.
5. **Optics Competence:** Gain proficiency in the principles of optics, including geometric optics, wave optics, and modern optics. Understand the behaviour of light and its interaction with matter.
6. **Modern Physics Expertise:** Explore the principles of modern physics, including special relativity, quantum mechanics, and the theory of relativity. Understand the foundations of quantum theory and its applications.
7. **Statistical Mechanics Understanding:** Acquire knowledge of statistical mechanics, including the concepts of entropy, probability distributions, and the statistical interpretation of thermodynamics.
8. **Quantum Mechanics Mastery:** Develop a deep understanding of quantum mechanics, including wave-particle duality, the Schrödinger equation, and quantum states. Apply quantum principles to analyse atomic, molecular, and subatomic systems.
9. **Electronics Skills:** Gain skills in electronics, including the principles of electronic circuits, semiconductor devices, and electronic instrumentation. Apply these skills to design and analyse electronic systems.
10. **Solid State Physics Knowledge:** Understand the principles of solid-state physics, including crystal structure, electrical properties of materials, and semiconductor physics. Explore the behaviour of matter in condensed phases.
11. **Spectroscopy Expertise:** Acquire expertise in spectroscopic techniques, including the principles of atomic and molecular spectroscopy. Understand the use of spectroscopy in analysing the structure and composition of matter.
12. **Laboratory Techniques:** Develop practical skills in experimental physics, including laboratory techniques, data acquisition, and analysis. Conduct experiments to validate theoretical concepts.
13. **Problem-Solving and Critical Thinking Skills:** Hone problem-solving skills and critical thinking abilities to analyse complex physical phenomena, formulate hypotheses, and derive solutions.

14. **Communication Skills:** Enhance written and oral communication skills to effectively convey scientific concepts, experimental results, and theoretical analyses to both specialized and non-specialized audiences.
15. **Research and Innovation Capability:** Gain skills in scientific research, including literature review, experimental design, data analysis, and the ability to contribute to the advancement of physics knowledge.
16. **Ethical and Professional Conduct:** Understand and adhere to ethical standards in scientific research and professional practice. Cultivate a sense of responsibility and integrity in the practice of physics.
17. **Preparation for Further Studies and Careers:** Prepare for advanced studies in physics or related fields, or enter the workforce with a solid foundation in theoretical and experimental physics applicable to various professions, including academia, industry, and research.

These learning outcomes aim to provide students with a comprehensive education in physics, covering foundational and advanced topics, and preparing them for both advanced studies and diverse career opportunities in the field.


DR. PINAKI LAHA
H.O.D., PHYSICS
L. N. D. COLLEGE, MOTIHAR
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MUZAFFARPUR

Program Outcomes (PO'S) and Course Outcomes (CO'S)

POLITICAL SCIENCE

JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR-
845101

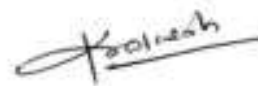
POLITICAL SCIENCE

Upon successful completion of the undergraduate course in Political Science, covering a comprehensive syllabus that includes political theory, constitution, democracy of India, political process in India, government and politics, public administration, international relations, world history, and global politics, students can expect to achieve the following learning outcomes:

1. **Foundational Political Theory Knowledge:** Develop a strong foundational understanding of political theory, including major political thinkers, ideologies, and concepts that have shaped political thought.
2. **Constitutional Expertise:** Acquire in-depth knowledge of constitutional principles, structures, and mechanisms. Understand the constitutional history of India and analyse the functioning of democratic institutions.
3. **Democracy in India Mastery:** Gain a comprehensive understanding of the functioning of democracy in India, including electoral processes, political parties, and the role of various political institutions in shaping Indian politics.
4. **Political Process in India Analysis:** Analyse the political processes in India, including policy-making, political behaviour, political participation, and the impact of various social, economic, and cultural factors on the political landscape.
5. **Government and Politics Understanding:** Develop an understanding of the structure and functioning of governments, both at the national and sub-national levels. Analyse political systems, forms of government, and governance structures.
6. **Public Administration Competence:** Acquire knowledge of public administration, including administrative theories, bureaucratic processes, and the role of public institutions in policy implementation and governance.
7. **International Relations Expertise:** Understand the principles and theories of international relations, including the study of international organizations, diplomacy, conflict resolution, and the role of states in the global arena.
8. **World History Appreciation:** Explore world history with a focus on political developments, revolutions, and global movements that have influenced the political landscape. Understand the historical context of contemporary political issues.
9. **Global Politics Insight:** Gain insight into global politics, including the study of international institutions, global governance, transnational issues, and the interconnectedness of political systems worldwide.
10. **Modern Political Philosophy Proficiency:** Study modern political philosophy, including the works of influential thinkers from the Enlightenment to contemporary political thought. Analyse philosophical foundations of political ideas and institutions.
11. **Critical Thinking Skills:** Hone critical thinking skills to evaluate political ideas, policies, and events. Develop the ability to critically analyse and assess political arguments and positions.
12. **Research and Methodology Skills:** Acquire research skills, including the ability to conduct political science research, gather and analyse data, and present findings in a scholarly manner.
13. **Effective Communication Skills:** Enhance written and oral communication skills, enabling students to articulate political analyses, policy recommendations, and research findings effectively.
14. **Ethical and Political Awareness:** Develop an awareness of ethical considerations in political decision-making. Understand the ethical dimensions of political actions, policies, and governance.

15. Preparation for Further Studies and Careers: Prepare for advanced studies in political science or related fields, or enter the workforce with analytical and critical skills applicable to various professions, including public policy, international relations, governance, and political research.

These learning outcomes aim to provide students with a comprehensive education in political science, covering various aspects of political theory, governance, international relations, and global politics. The skills acquired are transferable and valuable in a wide range of professional and academic pursuits.

A handwritten signature in black ink, appearing to read 'K. K. Kishore', written over a horizontal line.

HEAD
DEPARTMENT OF POLITICAL Sc.
L.N.D. COLLEGE, MOTIHARI



Program Outcomes (PO'S) and Course Outcomes (CO'S)

PSYCHOLOGY



JANUARY 1, 2024

PSYCHOLOGY

Upon completion of the undergraduate course in Psychology, students can expect to achieve the following learning outcomes:

1. **Foundational Understanding of Psychology:** Develop a comprehensive understanding of the foundational theories, concepts, and historical developments in the field of psychology.
2. **Social Psychology Knowledge and Application:** Acquire knowledge of social psychological theories and phenomena, including social influence, group dynamics, prejudice, and interpersonal relationships. Apply this understanding to analyse and explain social behaviours and interactions.
3. **Child Psychology Expertise:** Gain an in-depth understanding of child development, including cognitive, emotional, and social aspects. Analyse and interpret developmental milestones, identify factors influencing child behaviour, and comprehend the impact of environment on child growth.
4. **Clinical Psychology Competence:** Develop competence in clinical psychology, including the assessment, diagnosis, and treatment of psychological disorders. Understand therapeutic approaches, ethical considerations, and cultural factors influencing clinical practice.
5. **Biopsychology Proficiency:** Explore the relationship between biological processes and behaviour. Understand the role of the brain, nervous system, and genetics in influencing psychological functions and behaviour.
6. **Health Psychology Knowledge:** Gain insight into the interconnection between psychological factors and physical health. Explore how behaviours, attitudes, and stress impact overall well-being. Understand health promotion and illness prevention strategies.
7. **Psychometrics Mastery:** Acquire proficiency in psychometric methods, including the design and interpretation of psychological tests and measurements. Understand the principles of reliability, validity, and standardization in psychometric assessment.
8. **Criminal Psychology Understanding:** Develop a foundational understanding of criminal psychology, including the psychological factors contributing to criminal behavior. Explore the role of forensic psychology in legal and criminal justice contexts.
9. **Research Skills:** Develop skills in research design, data collection, and statistical analysis. Apply research methods to investigate psychological phenomena, critically evaluate existing research, and contribute to the advancement of psychological knowledge.
10. **Critical Thinking and Analytical Skills:** Cultivate critical thinking skills to analyse and evaluate psychological theories, research findings, and real-world applications. Apply critical thinking in problem-solving and decision-making.
11. **Effective Communication Skills:** Enhance written and oral communication skills, enabling the clear and concise articulation of psychological concepts, research findings, and theoretical perspectives.
12. **Ethical and Professional Conduct:** Understand and adhere to ethical principles and standards in the practice of psychology. Develop awareness of cultural diversity, societal issues, and the importance of promoting inclusivity in psychological practice.
13. **Integration of Knowledge:** Integrate knowledge across different subfields of psychology to analyse complex psychological phenomena from a holistic perspective.
14. **Preparation for Further Studies and Careers:** Prepare for advanced studies in psychology or related fields, or enter the workforce equipped with a versatile skill set

applicable to various professions, including counselling, human resources, research, and mental health advocacy.

These learning outcomes aim to provide a well-rounded education in psychology, covering diverse subfields and equipping students with the knowledge and skills needed for both further studies and professional applications.

اردو مشترکہ لہجہ کی پہچان ہے۔ لہذا اعلیٰ لہجہ کی علامت ہے۔
 اردو ایک بیاری اور مٹی زبان ہے۔ اس کا ادب دنیا کی دوسری زبانوں سے
 کسی طرح کم نہیں۔ ادب چونکہ سماج تک اور قوم کا درہم اور آئینہ ہوتا ہے
 یہ محض نفع طلب اور ذہنی آمودگی کا ذریعہ نہیں ہے۔ یہ سماج کی اخلاقی بنیادوں
 اور قدروں کی آبیاری کرتا ہے۔ بیاری پر نوری سے اردو سچکھنے کے اندر جن
 کتابوں اور مواد کو جلدی ہے۔ ان کتابوں کے مطالعہ سے بہتات واضح ہوتی ہے
 کہ یہ ایک عمدہ سماج اور ترقی یافتہ ملک اور متحدہ قومیت کا تعمیر میں کافی معاون
 ثابت ہوئی ہے۔ ان کے مطالعہ سے درج ذیل فوائد و مضامین حاصل ہوتے ہیں۔

- ۱۔ اردو زبان و ادب کی تاریخ سے واقفیت حاصل ہوتی ہے۔
- ۲۔ اردو فکشن کی تاریخ کی معلومات ہوتی ہے۔
- ۳۔ داستان کی تاریخ اور اس کے فن سے آگاہی ہوتی ہے۔
- ۴۔ اردو ناول کے فن اور اس کی تاریخ سے واقفیت حاصل ہوتی ہے۔
- ۵۔ مختصر افسانہ کے فن اور اس کی تاریخ سے طلبہ بخوبی واقف ہو سکیں گے۔
- ۶۔ اردو ڈراما کے فن اور اس کی تاریخ سے طلبہ متعارف ہوں گے۔
- ۷۔ غیر افسانوی ادب سے اردو میں طلبہ کی جان کاری میں اضافہ ہوگا۔
- ۸۔ غیر افسانوی نثر کی تکنیک سے طلبہ واقف ہو سکیں گے۔
- ۹۔ مضمون نگاری کے فن اور اس کی تاریخ کے بارے میں جان سکیں گے۔
- ۱۰۔ طلبہ انٹرنیٹ کے فن کو سیکھ سکیں گے۔
- ۱۱۔ طلبہ خاکہ نگاری کے فن سے بھی باخبر ہو سکیں گے۔

۱۲ - طلبہ کو اردو نظم کے فن اور اس کے اجراء کی سرگرمی اور اردو نظم کی روایت سے واقفیت حاصل ہو سکے گی۔

۱۳ - اردو نظم کی مختلف اور اس کے استعارات سے طلبہ متعارف ہو سکیں گے۔

۱۴ - اردو نظم سے متعلق طلبہ کی ذہنی استعداد کا پتہ لگایا جائے گا۔

اس سلسلے میں اردو کی نظم نگار شعرا میں عوامی شعرا کی نظم نگاری کی شاعری، الخفاف حسین حالی، بیرون شاہد اور جمیل نظری جیسے بارہا شعرا کی نظم نگاری سے طلبہ مستفید ہو سکیں گے۔

۱۵ - اردو غزل کے فن اور اس کی روایت سے طلبہ آگاہ ہو سکیں گے۔

۱۶ - اردو غزل کی تاریخ سے طلبہ واقف ہو سکیں گے۔

۱۷ - اردو غزل کے مختلف دلنمایاں سے طلبہ متعارف ہوں گے۔

اس ضمن میں وہی کہیں کہ غزل گوئی، شکر شاعری اور نشا ونگار عظیم آبادی جیسے

ایم غزل گو شعرا کی غزلوں سے طلبہ کو علم حاصل ہو گا، ساتھ ہی غزل سے

متعلق طلبہ کی ذہنی استعداد کا پتہ لگایا جائے گا۔

۱۸ - شاعری کی اہم صنف مثنوی نگاری کے فن سے طلبہ آگاہ ہو سکیں گے۔

۱۹ - مثنوی کی روایت اور اس کی تاریخ سے طلبہ متعارف ہو سکیں گے۔

۲۰ - مثنوی نگاری کے فن اور روایت سے طلبہ باخبر ہوں گے۔

۲۱ - مثنوی نگاری کی تاریخ سے طلبہ کو آگاہی حاصل ہوگی۔

۲۲ - قصیدہ جو کہ اردو شاعری کا اہم جز ہے، اس کی صورت و صنف سے

طلبہ اس صنف سے بھی واقف ہوں گے۔

مذکورہ بالا کتابوں کے تصنیف و تالیف کے مشہور و معروف شعراء میر تقی میر کی مشہور کتاب کی جڑ میں
کی ترجمہ نگاری اور مسودہ کی تصدیق نگاری سے طلبہ کی ذہنی نشوونما اور شخصیت
کی تعمیر میں اضافہ ہوگا۔

۲۳۔ اردو میں تنقید کی تعریف اور اس کے آغاز و ارتقاء سے طلبہ واقف ہوں گے۔

۲۴۔ اردو تنقید کی تاریخ سے بارہ میں طلبہ کو علم و اہانت ہوگا۔

۲۵۔ طنز و مزاح کی روایت اور اس کے ارتقاء کی تاریخ معلوم ہو سکے گی۔

۲۶۔ اردو زبان میں طنز و مزاح کے شعراء اور نثر میں طنز و مزاح کے ادیبوں سے
طلبہ واقف ہو سکیں گے۔

۲۷۔ مختلف شہزادوں سے طلبہ کو آگاہی حاصل ہوگی۔

۲۸۔ طلبہ کو عرفی و بلاغی اور ترجمہ نگاری کے فن واقفیت حاصل ہوگی۔

۲۹۔ ترجمہ نگاری کے فن سے واقفیت کے بعد طلبہ روزگار سے ہمکنار ہو سکیں گے۔

۳۰۔ اردو زبان و ادب کے شہزادوں سے طلبہ کو عبادت حاصل ہوگی۔

۳۱۔ لہجہ میں غلطیوں سے فرار میں اضافہ ہوگا۔


۳۲۔ وطن سے محبت کا جذبہ پیدا ہوگا۔

۳۳۔ سہ ماہی میں نامی واری، علم و ادب اور دیگر خرابیوں کے خاتمہ میں معاون ثابت ہوگا۔

۳۴۔ مختلف قوموں کے درمیان ہم آہنگی کا جذبہ پیدا ہوگا۔

الغرض اردو زبان و ادب کے تعلیم و ترویج کے بہ شمار فوائد اور مقاصد میں

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Program Outcomes (PO'S) and Course Outcomes (CO'S)

ZOOLOGY



JANUARY 1, 2024
L.N.D. COLLEGE, MOTIHARI, EAST CHAMPARAN, BIHAR-
845401

ZOOLOGY

Upon successful completion of the undergraduate course in Zoology, encompassing a diverse syllabus including Diversity of Chordates, Non-Chordates, Physiology, Cell Biology, Ecology, Biochemistry, Animal Behaviour, Genetics, Molecular Biology, Immunology, and Microbiology, students can expect to achieve the following learning outcomes:

1. **Diversity of Chordates and Non-Chordates Mastery:** Develop a comprehensive understanding of the diversity of both chordate and non-chordate animals. Explore the classification, anatomy, and evolutionary relationships among different animal groups.
2. **Physiology Competence:** Acquire a deep understanding of animal physiology, including the study of organ systems, homeostasis, and physiological processes in animals. Analyse how animals' function at the cellular and systemic levels.
3. **Cell Biology Proficiency:** Gain expertise in cell biology, including the structure and function of cells, organelles, and cellular processes. Understand the cellular basis of physiological functions and adaptations in animals.
4. **Ecology Knowledge:** Explore ecological principles and concepts, including population ecology, community ecology, ecosystem dynamics, and conservation biology. Understand the interactions between animals and their environments.
5. **Biochemistry Understanding:** Acquire a foundational understanding of biochemistry, including the study of biomolecules, enzymatic reactions, and metabolic pathways. Relate biochemical processes to the physiological functions of animals.
6. **Animal Behaviour Expertise:** Understand the principles of animal behaviour, including ethology, communication, mating behaviours, and social structures. Analyse how environmental factors influence animal behaviour.
7. **Genetics Mastery:** Develop a deep understanding of genetics in animals, including inheritance patterns, genetic variation, and the role of genetics in evolution. Explore the genetic basis of traits and diseases in animal populations.
8. **Molecular Biology Knowledge:** Acquire knowledge in molecular biology, including the structure and function of nucleic acids, gene expression, and molecular processes that regulate cellular activities in animals.
9. **Immunology Competence:** Understand the principles of immunology, including the immune system's structure and function, immune responses, and the mechanisms of defence against pathogens in animals.
10. **Microbiology Understanding:** Explore microbiological concepts relevant to animals, including the study of microorganisms, their roles in symbiosis and pathogenesis, and the impact of microbes on animal health.
11. **Laboratory Techniques:** Develop practical skills in laboratory techniques specific to zoology, including microscopy, dissection, DNA analysis, and physiological experiments. Apply these skills to conduct research and analyse data.
12. **Data Analysis and Interpretation Skills:** Acquire skills in collecting, analysing, and interpreting scientific data. Apply statistical methods to draw conclusions from experimental results and field observations.
13. **Communication Skills:** Enhance written and oral communication skills to effectively convey scientific concepts, research findings, and experimental results to both specialized and non-specialized audiences.
14. **Research and Problem-Solving Skills:** Develop research skills in zoological sciences, including the ability to design experiments, conduct fieldwork, and contribute to the scientific literature. Apply critical thinking to address complex zoological problems.

15. **Ethical and Responsible Conduct:** Understand and adhere to ethical standards in animal research, conservation efforts, and the treatment of animals in scientific studies. Cultivate a sense of responsibility and integrity in zoological practices.
16. **Preparation for Further Studies and Careers:** Prepare for advanced studies in zoology or related fields, or enter the workforce with a solid foundation in zoological sciences applicable to careers in research, conservation, education, and environmental management.

These learning outcomes aim to provide students with a comprehensive education in zoology, covering a wide range of topics and preparing them for both advanced studies and diverse career opportunities in the field.