

# Government Larangsai P.G. College Ramanujganj

*Affiliated to Sant Gahira Guru Vishwavidyalaya Sarguja, Ambikapur, Chhattisgarh Website*

[www.glspgcr.in](http://www.glspgcr.in), E-mail: [cgglsr@gmail.com](mailto:cgglsr@gmail.com)

---

## DEPARTMENT OF ENGLISH

### PROGRAM SPECIFIC OUTCOME

English Literature courses in the Department of English expose students to a wide range of writing from British, American and Anglophone traditions. It helps students explore how writers use the creative resources of language-in fiction, poetry, nonfiction prose, and drama-to explore the entire range of human experience. Students are expected to strive, to be imaginative, rhetorically dexterous, and technically proficient and as a result, to gain a deeper insight into life. With the introduction of new syllabus from this year, which promotes a new thematic framework where classical Indian Bhasa literature share space with contemporary literary crosscurrents, UG syllabus at Govt. Larang Sai P.G. College Ramanujganj will help students build skills of analytical and interpretive argument, and become careful and critical readers. Again, students' engagement with various strategies of drafting and revising, style of writing and analytical skills, diagnosing and developing scholarly methodologies, use of language as a means of creative expression, will make them effective thinkers and communicators — qualities which are crucial for choosing careers in our information - intensive society.

**Specific learning outcomes for English courses include the following:**

1. **Reading:** Students will gain awareness about the best literary traditions of the world. By learning how others live and handle their lives, one becomes connected with the world in a way we might not otherwise experience. They will discover that

they are part of a huge conglomerate of human thought and emotion. All the great texts that a student of English Literature will get chance to study will expand their range of experience. They can gain courage and strength by living vicariously through well-developed characters. Through reading students will have an awareness for various perspectives. This will also expand their range of experience and in the process they will learn to be more empathetic toward the plights of others.

**2. Literature, Nation and Tradition:** The current syllabus in the UG level will provide students an opportunity to know India's age old literary and cultural tradition through their exposure to Sanskrit texts and modern Indian vernacular literature in translation. How reading literature in English can be an effective means to address the complex issues of identity, nationalism, historical tradition in Indian context, is a new focus area of the present course.

**3. Awareness about Culture and History:** Students gain an understanding of the relations between culture, history and texts. They learn to use texts as a gateway to various cultural traditions and interpret them in their historical contexts. How a literary text can appear as an ideal platform to locate dominant and marginalized voices of a society, is an important focus of the under-graduate literature programme.

**4. Gaining of Critical Insight:** An exposure to various social and cultural traditions and through the reading of representative texts from different periods help a student gain a critical insight about the reality as a whole. With the help of their Knowledge of various critical theories it is expected that they will be able to construct their own meaning about the reality and his historical situatedness.

**5. Issue of Sexuality and Gender:** Literature course teaches a student to believe that one's own sense of identity is not enough to persuade the rest of the world to agree. Human beings are no longer bound by such binary concepts as male -female or masculine-feminine. They will learn that sex is a biological concept based on biological characteristics, whereas gender deals with personal, societal and cultural perceptions of sexuality. Appropriation of literary texts as tools of cultural study will help students to challenge centuries of social tradition and scientific belief which promote such and other types of differentiations.

**6. Cross Fertilization with allied Arts:** Students of English Literature should also be able to articulate the relations among culture, history, and texts—for example, ideological and political aspects of representation, economic processes of textual production, dissemination and reception, and cross-fertilization with other arts: architecture, sculpture, music, film, painting, dance, and theatre.

**7. Acquisition of Values:** Acquisition of values is needed for individual development and social transformation. English literature course at UG level, like any other literary course, helps a student to gain subjective experience of the text's aesthetic value. This helps in developing quality of thinking and imagination and is a step forward to emerge as a better human being. Through their judgment of the aesthetic value of a literary text students will learn to appreciate whatever is good and beautiful in life. Their healthy mind will thus be storehouse of healthy thoughts.

**7. Writing skills and Process:** Students will be able to recognize and comprehend different varieties of English language and develop a writing style of their own. English Literature students should be aware also that textual analysis can be extended with profit to political, journalistic, commercial, technical, and web-based writing. It is expected that their exposure to the ideas of variety of writers and their cultural backgrounds, will have a bearing in their own literary styles. With the development of their writing skills and finesse of style there will be a possibility of them emerging as perspective writers, editors, content developers, teachers etc.

**8. Means of Effective Communication:** Study of literature is intertwined with the study of language. Learning various language patterns, sentence structures and dialogue forms can help one in real life in effectively communicating with others. English is the language of science, computers, diplomacy and tourism. Knowing English increases students' chances of getting a good job in future.

## **COURSE OUTCOME**

The Department of English of Govt. Larang Sai P.G. College Ramanujganj seeks to foster the intellectual development of its students by encouraging study of literature and writing. The Department strives to make its pass and programme students familiar with a wide range of works of British writers in particular and World literature in general with a special focus on Indian writings in English. The issues of culture, history, gender, race, ethnicity, politics are addressed and negotiated in the process of imparting knowledge of English literature in its pluralistic forms, to help student develop a critical mindset of their own. The Department wishes that each student who graduates with a BA in English from GCB, will have an enduring interest in language and literature, an awareness of their historical and cultural legacies, knowledge of complexities of human existence, the political and social upheavals and its bearing on literature, an understanding of the ability of great literature to arouse and challenge people to struggle with insightful questions of human identity and values. With the introduction of the syllabus by Sant Gahira Guru Vishwvidayalya Sarguja, the Department of English, Govt. Larang Sai P.G. College Ramanujganj is now offering two types of courses: (1) English Literature an Elective English courses in BA Part I+II+III mode, (2) Under graduate Foundation Course English as a Second Language., While students from first year will continue with the B.A, B.Sc.,and B.Com Part I+II+III pattern.

### ➤ **COMPULSORY ENGLISH (B.A., B.Sc., B.Com. I, II, III)**

The main purpose of this course is to equip the students with the nuances of the English language which includes proficiency in grammar and its effective usage in speaking and writing. It further helps them to prepare for various competitive exams and to keep up with the increasing demand for English in Indian society and at the global level. It also develops their overall confidence and personality.

- ❖ Enhance language through a task-based & learner – centric syllabus
- ❖ Familiarize with various aspects of our new state of Chhattisgarh.
- ❖ Carry out all the LSRW skills
- ❖ Channelize energy through soft skills and Value orientation

- ❖ Learn good English to prosper in professional and personal lives
- ❖ Become proficient in English for global competency
- ❖ The students of General English Three years Course learn the use rather than usage of English.
- ❖ They develop their critical thinking capabilities focused through the course as an important need.
- ❖ Through the selected text, the students are exposed to a range of contexts where the language is used to meet a variety of real life communication needs.
- ❖ The students learn/are equipped with the practical, emotional, intellectual and creative aspects of language by integrating knowledge and skills.
- ❖ The text focuses on readability, reachability and testability. The students can successfully pass the three years exam at the undergraduate level by the Sant Gahira Guru University Sarguja.
- ❖ The exercises and the pre & post reading activities in the text draw the student into the book and make them to read it with understanding and insight and also encourage them to think beyond the text.
- ❖ The students gain ample practice in writing skills. They can write essays and reports and differentiate between objective and subjective writing.
- ❖ They become aware of the varieties of English through inputs in British and American Vocabulary. They are also exposed to different literary genres of prose and poetry.

### **ELECTIVE ENGLISH (B.A. I, II, III)**

This subject expands the knowledge of the students about the major writers and their works in English Literature. It equips them to compose sophisticated written works in various areas of

literature along with the usage of literary devices. The course aims to widen the knowledge of the students about the history of the various Periods and Movements in English Literature (British and Indian literature in particular). It improves their prospects of acquiring admission in M.A. English in prestigious institutes. It also helps them to cope more effectively with the syllabus of postgraduate courses.

- ❖ Educate students in both the artistry and utility of the English language through the study of literature and other contemporary forms of culture.
- ❖ Provide students with the critical faculties necessary in an academic environment, on the job, and in an increasingly complex, interdependent world.
- ❖ Assist students in the development of intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning.
- ❖ Students should be familiar with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.
- ❖ Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.
- ❖ Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.
- ❖ Students should be able to write analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.
- ❖ Students should be able to ethically gather, understand, evaluate and synthesize information from a variety of written and electronic sources.
- ❖ Students should be able to understand the process of communicating and interpreting human experiences through literary representation using historical contexts and disciplinary methodologies.

## **B. A. I Sociology**

**Department of Sociology – After successful completion of there year degree Sociology a Student should be able to.**

### **Program Outcome of Bachelor of Arts (B.A.)**

Student seeking admission for B. A. Programme are expected to imbue with following quality which help theme in their future life to achieve the expected goals.

PO1- Realization of human values.

PO2- Sense of social service.

PO3- Responsible and dutiful citizen.

PO4- Critical temper.

PO5- Creative ability.

**Programme Specific Outcomes**

- PSO1- to Introduce with Social transaction, Social relations. Social formations, social control, social value And culture.
- PSO2- Knowing the significance of social institution caste system religion nationalism integrity equality And justice.
- PSO3- Learn/Getting the knowledge of the works of social reformers all over the nation.
- PSO4- Ability to follow new stream of thoughts and theories of social thinkers.
- PSO5- Getting the deep knowledge about various social groups like tribal community, woman bulk etc.
- PSO6- Ability to deal with research in sociology.

**Course outcome****B. A. Part – I**

Paper no-I, Introduction to sociology

Paper no-II, Contemporary Indian society

CO1- Introduction to the basic concept of sociology, subject matter & importance of sociology and origin and development of sociology.

CO2- Understanding in brief the knowledge of human society and sociology.

**Scientific method**

CO1- Implementing the Scientific approach in the student.

CO2- Introduction to the various scientific methods in the Students.

CO3- Developing the research attitude among student.

**B. A. Part-II**

Paper no-I, Society of India

Paper no-II, Crime and Society

CO1- Getting acquainted with structure and composition of India society.

CO2- Discussing a brief outline of the making of the India society.

CO3- Awareness of contemporary social problems in India.

CO4- Introduction to major theories of Punishment and social structure and anomie.

**B. A. Part-III**

Paper-I, Sociology of Tribal Society

Paper-II, Social Research Methods

CO1- Acquaintance with different types of research and issues in research.

CO2- Importing basic Research Skills.

CO3- Analysing the concept of Tribe.

CO4- Understanding sociocultural profile.

CO5- Introduction to various Steps in conducting Research.

CO6- Understanding problems of Tribal people.

# **Department of Political Science**

## **Program Outcomes: B. A. Political Science**

### **After completion of B. A. Programme students should be able to**

Students enable to increase understanding of basic facts and concepts about the Indian Political system, including its history, Constitutional and legal foundations, leading Political Values and ideas, governing institutions and Policymaking processes.

Students enable to increase understanding of Political science research and analytical skills including the ability to think critically; to construct logical arguments; to collect analyze and interpret evidence and data and to formulate reasoned conclusions.

### **Programme Specific Outcomes B. A.**

#### **(Political Science)**

On completion of the B. A. (Political Science) Students are able to:

PSO1- Work as a teacher in college's schools and high schools.

PSO2- Work in elections and Political as well as administrative system.

PSO3- Creating appropriate and efficient political leaders.

PSO4- Getting knowledge of constitution of India.

PSO5- Study from competitive examination point of view.

### **Course Outcomes**

#### **Political Theory**

Analysing what is Politics and explaining the approaches to the Study of Political Science Traditional Behavioural post Behavioural, Feminist, Nationalism.

CO1- Explaining the concept of state sovereignty: monistic and Pluralistic Theories.

CO2- Assessing the theories of state (Origin, Nature, Functions) Contract Idealist and Equality theories.

CO3- Explaining the kinds of Government: Unitary and Federal, Parliamentary and presidential.

CO4- Discussing the Organs of Government: Executive Legislature and Judiciary. Theory of separation of powers and checks and balances.

#### **Indian Government and Politics**

CO1-Introducing the Indian constitution with a focus on the role of the constituent Assembly and examining the essence of the Preamble.

CO2- Examining the Fundamental Rights and duties of Indian citizens with a study of the significance and status of directive principles.

CO3- Critically analysing the important institutions of the Indian Union: The union Executive president, vice president, council of ministers and prime minister. Union legislature: parliament Lok sabha and Rajya sabha. Parliament procedure.

CO4- Critically evaluating the Indian party system, Election commission and Election Reforms National and regional parties.

CO5- Evaluating the major issues of Indian politics Caste, Religion, Language and Region. Panchayati Raj



System.

## **Political Thought**

- CO1- To understand the Plato: Ideal state Justice, Education, Communism, Philosopher king.
- CO2- Providing an insight into the dominant features of western Political Thought: Plato, Aristotle, Machiavelli, Hobbes, Locke, Rousseau and Marx.
- CO3- Analysing Marx's concept of freedom and democracy: Nature, Features and critiques.
- CO4- Analysing the nationalist thought of Ambedkar.
- CO5- Discussing the nationalism of Gandhi: Truth, Nonviolence, satyagrah and Political Thoughts.

## **Comparative Government and Politics**

- CO1- Getting information about the system of the British Constitution: Evolution, Salient features, Executive and Legislature judiciary.
- CO2- Knowing about the Constitution of USA: Salient Features, Executive, Legislature and judiciary.
- CO3- Exploring the constitution of china: Salient Features, Executive, Legislature and judiciary, communist Party.
- CO4- Making a comparative analysis of the institutions of UK, USA, China and Switzerland.

## **International Politics and Foreign Policy of India**

- CO1- Explaining scope and subject matter of International Relations as an autonomous academic discipline.
- CO2- Study of the relations of India with neighbouring countries.
- CO3- Student enable to analyse importance of International relation in process of nation progress.
- CO4- Students enable to understand the foreign Policy of India: Determinating elements, characteristics  
Non-Alignment: meaning, features, relevance.

## **Public Administration**

- CO1- Explaining the nature, scope and evaluation of Public Administration: Private and public Administration.
- CO2- Discussing making of public policy making and methods of Implementation.
- CO3- Analysing the major concepts in Public administration.
- CO4- Analysing the civil Service in India.

# **Department of History**

## **History of India (From Beginning to 1206 A.D.)**

- CO1- Understand the salient features of Indus valley civilization.
- CO2- Evaluate the features of Buddhism and Jainism.
- CO3- Visualize the administration of mauryas and the art and architecture of mauryas.
- CO4- Identify the administration of Guptas and their contribution of Nalanda University.
- CO5- Examine the Arab conquest of sindu and the battle of Tarain.
- CO6 Introduction of Chhattisgarh – geographical condition, nomenclature, Regional and prominent dynasties, kalchuri dynasty.

## **History of the World (1453 A.D. to 1890 A.D.)**

- CO1- Describe the Geographical discoveries and the Renaissance movement in Europe.
- CO2- Assess the cause and effects of Reformation and Counter Reformation movements.
- CO3- Describe – Mercantilism, Colonialism the Industrial Revolution.
- CO4- The American war of Independence the French Revolution (1789 A.D.) causes and Impact the Napoleon era.
- CO5- Conservatism: Vienna congress, Metternich; Internal and External policies.
- CO6- The Eastern Question; Causes, Crimean war, Berlin congress Unification of Italy and Germany.

## **History II Year**

### **History of India (from 120 A.D. to 1761 A.D.)**

- CO1- Understand the foundation of the Delhi sultanate and the sultanate administration.
- CO2- Identify the condition of India under the Mughal Empire.
- CO3- Explain the administration and art and architecture of sultanate and Mughals.
- CO4- Recognise the socio, economic and religious conditions under Vijayanagar Empire.
- CO5- Analyse the rise of the Marathas and the contribution of Shivaji.

### **History of the World (1789 A.D. to 1871 A.D.)**

- CO1- The Revolution of France from 1789 to 1815 A.D. National convention, Administration of directory.
- CO2- Rise Achievement and the downfall of Napoleon Bonapart.
- CO3- Vienna congress and the concept of Europe Age of Metternich the Revolution of 1830 A.D. and 1848 A.D.
- CO4- Liberalism in England Reforms of 1832 A.D. and 1867 A.D.
- CO5- Nationalism in Europe; Unification of Italy and Germany.

## **History III Year**

### **History of India from 1761 A.D. to 1950 A.D.**

- CO1- Extend of British Empire : Carnatic war, Baksar war, and Plassey war. Subsidiary alliance.
- CO2- Commercialism: Industry and Business collapse permanent settlement: Ryotwari, Mahalwari.
- CO3- Indian renaissance-Social and Religious reform.
- CO4- The revolution of 1857 Gandhian movement.
- CO5- Constitutional development of India-Diarchy of 1919 and specialty of constitutional of India.

### **World History from 1871 to 1945 A.D.**

- CO1- The third Republic of France foreign policy of William II.
- CO2- Modernization of Japan, Russo-Japanese war 1905 A.D. Chinese Revolution 1911 A.D.
- CO3- Eastern problem: Berlin congress, Young Turk Revolution and Balkan wars.
- CO4- Warsaw Treaty.
- CO5- United Nations.

## **Program Specific Outcomes**

- PSO1- A History graduate can find employment with archaeological survey of India or with private firms related to archaeology.
- PSO2- For History graduates the option of public service is always open.
- PSO3- Work as a teacher in schools and High schools.
- PSO4- Serve as conservator and tourist guide in historical movements.
- PSO5- NGOs and social welfare organization also employ BA History graduates.

## **Program Outcome of B.A.**

- PO1- Students will increase their understanding of the culture and society in which they live.
- PO2- Students will understand the historical and Organisational foundation of the American education system and be able to address contemporary issues in the teaching profession.

## **Department of Mathematics**

### **Program Outcomes**

#### **B. Sc. Program, Student will be able to:**

Be able to analyse, test, interpret and form Independent Judgments in both endemic and non-academic contexts.

Recognize and appreciate the connections between theory and applications.

PO1- Have an appropriate set of professional skills to ensure a productive career.

PO2- Work effectively in a multi-disciplinary environment.

PO3- Be prepared for life-long learning.

PO4- Exhibit positive attitudes and values toward the discipline, so that they can contribute to an increasingly complex and dynamic society.

PO5- Develop effective communication skills in English and regional/national Language.

PO6- Communicate effectively with whom they are interacting and the society to make effective presentations, and give receive clear instructions.

PO7- Function effectively as an individual, and as a member or leader in diverse teams.

### **Program Specific Outcome**

#### **B. Sc. Program in Mathematics a Student will able to:**

PSO1- Be familiar with different areas of Mathematics.

PSO2- Construct abstract models using appropriate mathematical and statistical tools.

PSO3- Be prepared to use mathematics. Not only in the discipline of mathematics, but also in other disciplines and in their future endeavours.

PSO4- Recognize what constitutes mathematical thinking. Including the ability to produce and judge the validity of rigorous mathematical arguments.

PSO5- Identify suitable existing methods of analysis, if any, and assess his/her strengths and weaknesses in the context of the problem being considered.

PSO6- Develop the skills necessary to formulate and understand proofs and to provide justification.

PSO7- Think critically and communicate clearly mathematical concepts and solution to real-world

problems.

PSO8- Understand the Concepts of algebra which include equations numbers and algebraic structures.

PSO9- Students will be able to use concepts of analysis in solving problem. The concept include sets, numbers, functions and convergence.

PSO10- Understand mathematics ideas from basic axioms.

PSO11- Identify the application of mathematics in other disciplines and society.

PSO12- On completion of the program the Students are well poised to pursue careers in academia, industry and other areas of mathematics.

**Course Outcome**  
**B. Sc. I**  
**Algebra And Trigonometry**

After completing this course the learner should be able to:

CO1- To find the inverse of matrix by Cayley Hamilton theorem.

CO2- To find the Descartes' rule of sign and solutions of cubic equation (Carton's Method)

**Calculus**

After completing this course the learner should be able to:

CO1- Find the higher order derivative of the product of two functions.

CO2- Expand a function using Taylor's and McLaurin's series.

CO3- Learn about partial derivatives its applications.

**Vector Analysis and Geometry**

After completing this course the learner should be able to:

CO1- Represent vectors analytically and geometrically and compute dot and cross products for presentations of lines.

CO2- Analyse vector functions to find derivatives, tangent lines, integrals, arc length and curvature.

CO3- Compute limits and derivatives of function of 2 and 3 variables.

CO4- Evaluate double and triple integral for area volume.

CO5- Differentiate vector fields.

**B. Sc. II**  
**Advanced Calculus**

After completing this course the learner should be able to:

CO1- Compute double integrals, application to area and volume, Green's theorem in the plane and the change of variables in double integrals.

CO2- Understand basic notions such as derivative of the scalar field w.r to vector field gradient of scalar field, paths and line.

CO3- Recognize fundamental vector product, area of various parametric surfaces.

**Differential Equation**

After completing this course the learner should be able to:

CO1- Obtain an integrating factor which may reduce a given differential equation into an exact one and eventually provide its solution.

CO2- Method of solution of the differential equation.

CO3- Solve differential equations using the Laplace transform technique.

## **Mechanics**

After completing this course the learner should be able to:

- CO1- Relative motion inertial and non-inertial reference frames.
- CO2- Parameters defining the motion of mechanical system and their degree of freedom.
- CO3- Study of the interaction of forces between solids in mechanical systems.
- CO4- Centre of mass and inertia tensor and mechanical systems.
- CO5- Application of the vector theorems of mechanics and interpretation of their results.

## **B. Sc. III**

### **Analysis**

After completing this course the learner should be able to:

- CO1- Learns various field axioms the Archimedean property , triangle and Cauchy Schwartz inequality.
- CO2- Extend the idea to set theory, functions, countable and uncountable sets.
- CO3- Examine the convergence of any sequence in a metric space.
- CO4- Relate function to point set topology.

### **Abstract Algebra**

After completing this course the learner should be able to:

- CO1- Analyze and demonstrate example of subgroups, normal subgroups and quotient groups.
- CO2- Analyze and demonstrate example of ideals and quotient rings.
- CO3- Use the concepts of isomorphism and homomorphism for groups and rings.

### **Discrete Mathematics**

After completing this course the learner should be able to:

- CO1- Study the concept of Relation and functions.
- CO2- Classify the concept of Lattices and Boolean Algebra.
- CO3- Create structural designs using patterns of graphs in graph theory.

**PROGRAMME OUTCOMES: B.SC PHYSICS**

After successful completion of three year degree programme in physics student should be able to;

**Programme outcomes:-**

PO1- To enhance the student's academic abilities personal qualities and transferable skills which will give them an opportunity to develop as responsible citizens?

PO2- To define the basic laws involved in physics.

PO3- To understand the significance of the various physical phenomena.

PO4- To understand the concepts.

PO5- To carry out experiments to understand the laws and concepts of physics.

PO6- To apply the theory learnt and skills acquired solve time problems.

PO7- Solve the problem and also think methodically and draw a logical conclusion.

PO8- To include the scientific temperament in the scientific community.

**PROGRAMME SPECIFIC OUTCOMES:**

PSO1- Gain knowledge of physics through theory and practical's.

PSO2- Understand good laboratory practices and safety.

**COURSE OUTCOMES B.SC. 1<sup>ST</sup> YEAR**

**PAPER-I**

**PH. MECHANICS:**

CO1- Know laws of motion, coordinate system (Cartesian cylindrical and spherical.)

CO2- To study system of particles, centre of mass, conservation of energy.

CO3- To understanding kepler's laws, Gravitational laws and field.

**PH. OSCILLATIONS:**

CO1- To understanding oscillations, simple harmonic oscillations.

CO2- To study two simple harmonic motion of the same frequency.

CO3- Know Lissajous figures, cases and applications.

CO4- To study damped and driven harmonic oscillations.

**ELECTRIC FIELD AND MAGNETIC FIELD:**

CO1- To study motion of charged particles in E. field and M. field.

CO2- To study mutually parallel electric and magnetic fields.

CO3- To study CRO.

## **PH. PROPERTIES OF MATTER**

CO1- Know the elasticity.

CO2- To study Hook's laws

CO3- To understanding cantilever experimentally.

CO4- To understanding surface tension and surface energy.

## **PH MATHEMATICAL BACKGROUND**

CO1- To study scalars and vectors, dot and cross products, reciprocal vectors.

CO2- To study divergence and curl of vector fields line, surface and volume integrals.

CO3- To study gauss divergence theorem.

CO4- To study stock's theorem.

CO5- To study flux of the electric field.

CO6- To study dielectric. Dielectric constant polarization.

CO7- To understanding steady current.

CO8- To study biot and seart's law.

CO9- To study ampere's law, torque on a current loop.

## **PH. ELECTROMAGNETIC THEORY:**

CO1- Know electromagnetic wave introduction, characteristics.

CO2- To understanding faraday's laws electromagnetic force.

CO3- To study mutual and self-inductance.

CO4- To study transformers.

CO5- To study Maxwell's equations

CO6- To study poynting vector.

## **COURSE OUTCOMES B. Sc. II PHYSICS**

### **PAPER-I**

Course: After completion of these courses students should be able to:

## **PH. THERMODYNAMICS:**

CO1- Know the concept of path function.

CO2- To study first, second, third law of thermodynamics.

CO3- To understand the Entropy concept.

CO4- To study change in entropy in simple cases.

CO5- To study thermodynamics relationship.



### **PH. KENETIC THEORY:**

CO1- To study Maxwell relations.

CO2- To study Maxwell distributions of R.M.S. and most probable speed value depending on temperature and pressure.

### **PH. STATISTICAL PHYSICS:**

CO1- Understanding statistical distribution of system of particles.

CO2- To study the elementary concept of statistics.

CO3- To study Bose-Einstein theory.

CO4- To study partition function.

CO5- To study black-body radiation and its applications.

CO6- To study Fermi-Dirac statistics.

## **PAPER- II**

### **WAVES:**

CO1- To study waves; characteristics speed and nature.

CO2- To study reflection, reflection and diffraction of sound wave.

### **PH. ACCOUSTICS AND OPTICS:**

CO1- To study interference of light.

CO2- To study Fermat's principle.

CO3- To study principle of sonar system ranging.

### **PH. LASER:**

CO1- Know the coherence spontaneous and stimulated emission.

CO2- To study Einstein's A and B coefficients.

CO3- To understanding principle of laser and condition required for laser action.

CO4- To study optical pumping, population inversion and its applications.

## **COURSE OUTCOMES B. Sc. III PHYSICS**

CO1- After determination of these course students should be able to:

### **PAPER-I**

### **PH. RELATIVITY:**

CO1- Know the reference system, Galilean invariance, conservation laws.

CO2- To understand the special theory of relativity.

CO3- Discuss the Michelson-Morley experiment.

CO4- Discuss about Compton Effect.

CO5- Know and discuss about Zero rest mass etc.

### **PH. QUANTAM MECHANICS:**

CO1- Understand De-Broglie hypothesis and uncertainty principle.

CO2- Understand the concept and derive Schrodinger time dependent and independent.

CO3- Get knowledge of photoelectric effect.

CO4- Know different operators in quantum mechanics.

### **PH.ATOMIC AND MOLECULAER PHYSICS:**

CO1- To study the Raman spectra.

CO2- To study the Zeeman Effect.

CO3- To understand molecular spectra of atom.

## **PAPER-II**

### **PH.SOLID STATE PHYSICS:**

CO1- To study the amorphous and crystalline solid.

CO2- To study Miller indices.

CO3- To study Einstein and Debye theories.

CO4- To study Bragg's law.

### **PH.SOLID STATE DEVICE AND ELECTRONICS:**

CO1- To study Kronig-penny model.

CO2- To study about insulator, conductor.

CO3- To understand special purpose diode.

CO4- To study Zenor diode.

CO5- To study half and full wave rectifier.

# **Department of Botany**

## **Programme outcome B. Sc. Botany**

**After awarding degree of Bachelor- B. Sc. With Botany students will be able to –**

PO1- They shall be full of Scientific temperament.

PO2- They shall be able to see the thing in a scientific way.

PO3- They shall be able to perform practical work.

PO4- Students shall be able to deal with the topics related to cell biology, genetics and Biochemistry.

PO5- They will be able to discuss on lower plants, Cryptogams and phanerogams.

PO6- They will be able to explain morphological characters, Anatomical character of a plant.

## **Programme Specific outcomes**

PSO1- Students shall be able to explain the functioning, utilisation and important of a plant in their surrounding.

PSO2- They shall be able to clarify the systemic of plant according to morphological characteristics.

PSO3- They shall be able to explain the experimental demonstration of plants to the others.

PSO4- They shall be able to understand the developmental biology.

PSO5- They will be able to discuss on lower plants, Cryptogams and phanerogams.

PSO6- They will be able to explain morphological characters, Anatomical character of a plant.

PSO7- They shall be able to clarity difference between divisions of plant kingdom.

PSO8- Students shall be able to explain the concept of biotechnology, genetic, engineering, gene mapping and Tissue culture.

PSO9- They shall be able to understand concepts of Biomolecules, Biochemistry and physiology of plants.

# **Course outcome**

## **B. Sc. I (A)**

### **Bacteria, Viruses, Fungi, Lichens and Algal**

- CO1- They shall understand the general features, structures, reproduction and economic importance of microbes.
- CO2- Students shall be able to understand habit, habitat, cellular composition, nutrition, reproduction of fungi and Algae and their association.
- CO3- Students shall be able to identify the useful and harmful fungi and their use in life.
- CO4- They shall be able to explain the value of lichens.

## **B. Sc. I (B)**

### **Brvophytes, Pteridophytes, Gymnosperm and Palaeobotany**

- CO1- To identify the characteristics, affinities, range of thallus organisation, classification and ecological importance of Bryophytes, Pteidophytes and gymnosperm.
- CO2- Students shall be able to explain the different type of gymnospermic plant with their morphological characteristics.
- CO3- Students shall be able to understand the use of fossil to study the plant as well as importance of geological era.

## **B. Sc. II (A)**

### **Diversity of Seed Plants and their Systematics**

- CO1- Students shall be able to understand the classification of different taxonomists.
- CO2- They shall be able to understand the relation of taxonomy to cytology, phytochemistry and taxometrics.
- CO3- Students shall be able to understand Principle and rules, taxonomic rank, Principles of priority of Botanical nomenclature.

## **B. Sc. II (B)**

### **Structure, Development and reproduction in flowering plants**

- CO1- Students shall be able to understand the morphological, Anatomical and developmental structures of plants.
- CO2- They Shall understand the histological organisation and vascularisation of plants.
- CO3- Students shall be able to understand the horticultural concepts, vegetative propagation grafting and economic aspects.

### **B. Sc. III (A)**

#### **Plant Physiology, Biochemistry and Biotechnology**

- CO1- Students shall be able to understand physiological process of plants and relationship of plant to water, soil, and organic substances.
- CO2- They shall be able to deal with enzymology, growth and developmental process of plants.
- CO3- They shall be able to understand the basic concepts of genetic engineering and Biotechnology.

### **B. Sc. III (B)**

#### **Ecological and Utilisation of Plants**

- CO1- Students shall be able to understand the biological and physical factors of environment and their existence and importance to environment.
- CO2- Students shall be able to explain the functioning of ecosystem.
- CO3- They shall be able to Explain about economically important plants.
- CO4- They shall be able to explain the ecological related topics.

### **Department of Zoology**

Three year degree course in zoology a student should be able to....

#### **Programme outcome-**

- PO1- Depict, carry out & learn of major concept in zoology.
- PO2- develop an awareness of the impact of zoology on the atmosphere.
- PO3- to ingrain scientific temperament in the student.
- PO4- understand the phylum history and evolution of chordates & non – Chordates by graph /picture/model
- PO5- to study and understand the micro-organism and their pathogenicity, signs .symptoms & prevention.

#### **PROGRAMM SPECIFIC OUTCOME**

##### **B. Sc. - I**

- PSO1- Gain the knowledge about structural organization of Animal and their component.
- PSO2- understand the embryological stage and their role.
- PSO3- to study and understand the vertebrate & invertebrate and their Physiology and anatomy.
- PSO4- understand the cell transformation .immunity & cancer.

#### **First paper-**

#### **COURSE OUTCOME-**

##### **1. The Cell & their component-**

- CO1- Understand the structure & function of cells and their component.
- CO2- understand the DNA&RNA .structure and Importance.

##### **2. Cell transformation and immunity**

- CO1- to study the cell transformation & cancer and their agent.
- CO2- understand about immunity and their role .transplant rejection.

### **3. INVERTEBRATE& UNICELLULAR ANIMALS-**

CO1- to study the internal as well as external character of Vertebrate.

### **4. PATNOGENIC VECTOR-**

CO1- understand about pathogenic vector and their life cycle in Different types of host.

CO2- To study the pathogenicity, prevention, sings, and symptoms.

### **5. PHYLLUM-MOLLUSCA AND ECHINODERM-**

CO1- To study the classification & general character of Mollusca and their role in pear/formation.

CO2- uses as a source of sea food, and economic importance.

**B. Sc. I**  
**Second paper**

**COURSE OUTCOME**

**1. HEMICHORDATA AND PROTOCHORDATA**

CO1- to study the evolutionary importance of hemichordate & protochordata .

CO2- understand the character, histology and affinities of hemi & protochordates.

**2. FISH, AMPHIBIA, & REPTILES HISTOLOGY AND PARANTAL CARE.**

CO1- understand the method of parental care in fishes and amphibian.

CO2- understand about migration of fishes, poisonous and non –poisonous snakes. & antivenin.

**3. BIRDS & MAMMALS**

CO1- the flight adaptation system of birds

CO2- to study the different types of mammals their adaptation and affinities.

**4. PARTHENOGENESIS, EMBRYOLOGY OF CHICK & FROG**

CO1- understand the formation of different types of organ of chick and frog.

CO2- understand the artificial fertilization and their role.

**5. REGENERATION, PLACENTA & EMBRYONIC MEMBRANE**

CO1- the extra embryonic membrane and their role.

CO2- study the types of placenta in different organism.

CO3- understand the cell repair method in the organism.

**B. Sc. II**

**Program specific outcome –**

PSO1- Understand the comparative anatomy of various organ system. Of vertebrate by picture .model & Slide, graph.

PSO2- Know about cellular organization.

PSO3- Understand the physiology –heart, muscle, nerve, ear & eye.

PSO4- Understand the blood coagulation system and their type's .through practical.

PSO5- To study the hormones receptor .hormones gland .and their disorder.

PSO6- To study and understand the evolutionary biology.

PSO7- Understand the method of apiculture, pisciculture .sericulture .etc.

PSO8- Understand the parturition and their abnormalities.

PSO9- To study about ethology & their pattern.

## **Course outcome**

### **Paper I**

#### **1. INTEGUMENTARY, ALIMENTARY & RESPIRATORY SYSTEM**

CO1- Understand the role of integument in adaptation, evolution and protection.

CO2- to study the digestive & Respiratory system.

#### **2. SKELETON, URINOGENITAL & CIRCULATORY SYSTEM**

CO1- To study the evolution of heart & kidney, aortic arch and urogenital system.

CO2- understand the skeleton system in the chordate and their role.

#### **3. ENDOCRINE GLAND & NERVOUS SYSTEM**

CO1- to study the different types of endocrine gland and their role in the chordate.

CO2- understand about nervous system and their types by model and graph.

#### **4. PHYSIOLOGY OF DIGESTION & RESPIRATION**

CO1- To study and understand the mechanism of digestion and absorption ,

CO2- understand the mechanism and control of breathing and cardiac cycle.

#### **5. OSMOREGULATION, EXCRETION & STRUCTURE OF EYE AND EAR**

CO1- understand the mechanism of osmoregulation .nerve impulse and excretion.

### **PAPER –II**

#### **COURSE OUTCOME**

##### **1. ENDOCRINOLOGY**

CO1- to study the general character, action and disorder of hormones.

CO2- understand the role of hormones and their disorder.

##### **2. REPRODUCTIVE BIOLOGY**

CO1- Understand the Reproductive cycle in vertebrates

CO2- To study the Lacto genesis and pregnancy and parturition

CO3- Understand the Genic Labours related problem and their Disorder.

##### **3. Evolutionary Biology**

CO1- Understand the process of evolution and their evidences.

CO2- Understand the evolution factor and their role.

##### **4. Ethnology Drugs and Envious**

CO1- Understand the role of behaviours in adaptation and different stager of ages.

CO2- Understand the drugs behaviours and their disorder.

##### **5. Element and pest control and culture**

CO1- To study the method of apiculture **pisciculture** sericulture, Poultry keeping and their economic Importance.

CO2- Understand the biological and chemical method for pest control.



### **B.Sc –III**

#### **PROGRAM SPECIFIC OUTCOME**

PSO1- To study and understand the aims & scope of ecology .

PSO2- solve the problems and also think methodology and draw a logical conclusion .

PSO3- to study the general & applied microbiology and their role .

PSO4- understand about pathogenic micro- organism their symptoms and treatment.

PSO5- Study and understand the DNA recombinant technique and cell physiology.

#### **COURSE OUTCOME -PAPER –I**

**1. ECOLOGY** –to study the major ecosystem of the world ,population & communities, and succession.

CO1- to study about pollution and their pathogenic effect.

#### **2. ENVIRONMENTAL BIOLOGY**

CO1- understand the ecological interaction and their role in the environmental stability.

CO2- to study the environmental conservation & environmental impact assessment .

#### **3. TOXICOLOGY**

CO1- understand about different type of toxic material and their fatal period treatment.

CO2- and also animal poison signs & symptoms and treatment .

#### **4. medical microbiology**

CO1- understand about the pathogenic micro-organism & their vector and treatment .

#### **5. Microbiology**

CO1- to study the advantages of micro – organism and their role in hormones, antibody and alcohol production.

CO2- understand the process of water and sewage treatment.

#### **PAPER –II COURSE OUTCOME**

**1. GENETICS**- understand the gene interaction and expression method.

CO1- understand the chromosomal disorder & single gene disorder .

#### **2. CELL PHYSIOLOGY**

CO1- to study the general idea about buffer and pH system.

CO2- understand the cell membrane transportation & their role in the metabolic activity.

#### **3. BIOCHEMISTRY**

CO1- to study the basic structure & function of amino acid.

CO2- understand the metabolism of carbohydrates, protein and lipid,

#### **4. BIOCHEMISTRY**

CO1- -understand the scope & importance of biotechnology.

CO2- to study the recombinant DNA technology and their application.

## **5. BIOTECHNIQUE**

CO1- to study the separation method of biomolecule by chromatography, centrifuge.CO2- types of microscopy and their uses.

**Department of chemistry**

After successful completion of three year degree program me in chemistry a

student should be able to-

**Program outcomes:- B.Sc. Chemistry**

PO (1) Demonstrate & an understanding of major concepts in all disciplines of chemistry.

PO (2) Solve the question & also think concept and Independently draw a logical conclusion.

PO (3) Employ critical thought and scientific knowledge to design record and analyze the results of chemicals reaction.

PO (4) Developed an awareness of the impact of chemistry on the environment, society and development the scientific community.

PO (5) Find out the Green path for chemical reaction for sustainable development.

**Program specific outcomes:**

PSO (1) Obtain the knowledge of chemistry through theoretically & practically.

PSO (2) To describe nomenclature, stereo chemical, structure, reactivity& mechanism of the chemical reaction.

PSO(3) Understand chemical formula solve numerical questions.

PSO (4) Use latest chemical tools, modes, charts & equipment's.

PSO (5) Understand better laboratory practices and safely.

PSO (6) Developed research related skills and Innovative technique.

## **Course outcome B.Sc. 1st year**

**After completion of these courses students should be able to:-**

### **(1) Inorganic chemistry**

CO (1) To understand the including effect & other field effect.

CO(2) To discuss the crown ether & inclusion compound.

CO (3) Knowledge about the intermediate like carbocation, carbanion, carbene, nitrene like etc

CO (4)knowledge the hybridization in molecules.

### **(2) Organic chemistry**

CO (1) Define organic acids & base.

CO (2) Distinguish between geometrical & optical isomers.

CO (3) Know kinetic, mechanism and stereochemistry SN1& SN2 reaction.

CO(4) Compare between E1 and E2 reaction.

### **(3) Physical chemistry**

CO(1) To discuss about Gaseous theory.

CO (2) To know the solid state theory and Braggs equation.

CO (3) Discuss the colloidal state and Tyndall effect in surface chemistry.

CO (4) Knowledge the rate of reaction & order of reaction – first, second & third order reaction.

### **Practical course outcome**

CO(1) To know about two acid radical and two basic radical to separate in inorganic mixture.

CO(2) Knowledge about identification of functional group in given organic compound.

CO(3) To understand the calculation of surface tension with the help of stalagmometer and pycnometer.

### **Course outcome B.Sc. 2<sup>nd</sup> year**

**After completion of these courses students should be able to:-**

#### **(1) Inorganic chemistry**

CO (1) Understand the electronic configuration & various properties of d & f block elements.

CO (2) Know the VBT theory for complexes.

CO(3) To understand the extraction methods for lanthanides & actinoids.

CO (4) Know the electronic spectra of elements.

#### **(2) Organic chemistry**

CO (1) To understand the monohydric, dihydric and trihydric alcohol.

CO (2) Know the benzoin condensation and various name reaction.

CO (3) Knowledge the heterocyclic compound and their synthesis.

CO (4) Understanding the amine acids, lipids and other biomolucular compound .

### **(3) Physical chemistry**

CO (1) Knowledge the thermodynamic 1<sup>st</sup> , 2<sup>nd</sup> and third law of thermodynamic.

CO (2) To understand the cell reaction and cell rotation.

CO (3) Know the Nernst equation and Gibbs' free energy.

CO (4) Discuss about the corrosion.

### **practical course outcome**

CO (1) Discussion about synthesis and analysis by preparing the standard solution given.

CO (2) To knowledge about functional group specific group identification in given organic compound.

CO (3) Know the determination of transition temperature by thermometric method of  $\text{MnCl}_2$  or  $\text{SrBr}_2$  technique.

CO (4) To understand chromatography

## **B.Sc. 3<sup>rd</sup> year**

**Course Outcomes –After completion of these course student should be able to**

### **(1) Inorganic chemistry**

CO (1) Know the metal ligand bonding nature & its properties.

CO(2) Study the magnetic properties and its behavior.

CO (3) Get knowledge about Bioinorganic chemistry.

CO (4) Study about Essential & toxic element.

## **(2) Organic chemistry**

CO (1) To study UV, IR, & NMR, ESR spectroscopy

CO (2) Discuss about electronic transition molecule.

CO (3) Knowledge about synthetic dyes & Rubbers.

CO (4) Understand the organometallic chemistry & its daily use.

## **(3) Physical chemistry**

CO (1) Understand the completion effect & black body radiation.

CO (2) Know about Hook's law.

CO (3) Discuss about Jablonski diagram.

CO (4) Knowledge the result's law.

## **Practical course outcome**

CO(1) To study binary mixture with removal of borate and phosphate.

CO(2) Perform the binary mixture.

CO(3) Preparation of organic compounds their purification and run. TLC

CO(4) Determination of physical constant M.P. & B.P.

CO(5) Determination specific relations and percent age of to optically active substance by polarometrically.

# Government Larangsai PG College Ramanujganj

*Affiliated to Sant Gahira Guru Vishwavidyalaya Sarguja, Ambikapur, Chhattisgarh*

Website [www.glspgcr.in](http://www.glspgcr.in), E-mail: [cgglsc@gmail.com](mailto:cgglsc@gmail.com)

---

## Programme Outcome

Bachelor of Commerce is the graduation course. It's main objective is to aware the students regarding commercial language of business enterprises, legal rules relating to business, sole proprietorship, partnership firms, Hindu Undivided Family and Company. Students learn about the company law, Contract Act which is fruitful to the real life of the people and business applicability. Students learn how to enter into a contract. Essential elements of Contracts are taught which is very important to the real life. Business organizations and management, principles of management, wages theory are included in the syllabus. In Business Economics students learn about micro economics, macroeconomics, factors of production, national income.



# Course Outcome

Bachelor of Commerce is a three years undergraduate course. Course includes six subjects in each year.

B.Com. First Year:

Group: 1

Subject: Financial Accounting: students are benefitted by the knowledge of basics of financial accounts in which golden rule of accounting, accounting concepts & principles, equation, journals, ledger, trial balance and final accounts as income statements like trading, P&L a/c, Financial Position (Balance Sheet). Bank reconciliation statement is directly related to rectify the transactions of bank passbook and bank statement. Students can apply this knowledge in various field of accounting. Tally is software package for accounting.

Group: 1

Subject: Business Communication:

- To understand the basic elements and classification of communication.
- To develop knowledge about evaluation of communication thoughts.
- To enhance their writing skill and report writings.
- Better communication skill and interview techniques.
- Effective listening and proper feedback.

Group: 2

Subject: 1. Business Mathematics:

1. To understand the basic calculations and simplest techniques of calculation.
2. To provide practical knowledge regarding simple interest and compound interest.
3. Ratio and proportion is taught which is practically used in the real life.
4. Average and percentage is used everywhere.
5. Logarithm is used to calculate large numbers.

Group: 2

Subject: 2. Business Regulatory Framework

- To help the students to understanding about the Law of contract in which proposal, acceptance, consideration, legal object, capacity of the party entering into the contract.
- To introduce the concept of sales, its rules and regulations and remedies for the unpaid seller.

- Negotiable instruments are dealt with the students in which cheques, bills of exchange, promissory notes etc.
- Consumer Protection Act is very essential to the present scenario which is taught to the students.

Group: 3

Subject: 1. Business Environment:

- Knowledge of Basics in business environment is provided to the students.
- Environmental protection awareness is spread among the students.
- Theory of monetary and fiscal policy, globalization, and devaluation of money is discussed.
- Balance of trade and balance of payments is included in the syllabus.
- Students are provided the knowledge regarding WTO, UNCTAD, World Bank, IMF and its implication on trade.

Group: 3

Subject: 2. Business Economics:

- Students are provided the knowledge about micro economics, macroeconomics.
- Concepts of demand and supply, factors of production.
- National income is taught which is very important to the students.
- Pricing policy in perfect competitive market, monopoly, monopolistic competition.

B.Com. Second Year:

Group 1:

Subject: 1. Corporate Accounting:

- Corporate account

# Government Larangsai PG College Ramanujganj

*Affiliated to Sant Gahira Guru Vishwavidyalaya Sarguja, Ambikapur, Chhattisgarh*

Website [www.glspgcr.in](http://www.glspgcr.in), E-mail: [cgglsc@gmail.com](mailto:cgglsc@gmail.com)

---

## Programme Outcome

Bachelor of Commerce is the graduation course. It's main objective is to aware the students regarding commercial language of business enterprises, legal rules relating to business, sole proprietorship, partnership firms, Hindu Undivided Family and Company. Students learn about the company law, Contract Act which is fruitful to the real life of the people and business applicability. Students learn how to enter into a contract. Essential elements of Contracts are taught which is very important to the real life. Business organizations and management, principles of management, wages theory are included in the syllabus. In Business Economics students learn about micro economics, macroeconomics, factors of production, national income.

## Course Outcome

Bachelor of Commerce is a three years undergraduate course. Course includes six subjects in each year.

B.Com. Second Year:

Group: 1

SUBJECT: 1. CORPORATE ACCOUNTING:

- Students learnt about share and debenture.
- Valuation of shares and redemption of debenture is taught to the students.
- Company final account is essential to know at this competitive era.
- Merger and acquisition is the trending features of the era, thus it is important for all students.

SUBJECT: 2. COMPANY LAW:

- Students are made aware of the company law 2013 in which new salient features are included.
- Types of company and its formation is essential to know every students.
- How company is incorporated and started its business in the market, all rules and regulations are explained.

Group: 2

SUBJECT: 1. COST ACCOUNTING:

- Costing is essential to every manufacturing concern.
- Unit costing and cost sheet is taught to the students.
- Job Costing and Batch Costing is important.
- Contract costing is very useful to the real life.

SUBJECT: 2. Principles of Business Management

- To introduce the meaning and scope of Business Management.
- Induce students by motivational theories.
- Understand the concept of planning decision making.
- Introduction on Managerial control.

Group: 3

SUBJECT: 1. Business Statistics

- To understand the basic knowledge about statistics.
- To provide practical Exposure on calculation of measures of central tendency.
- To provide practical approach on correlation and regression.
- To understand the concept of Index number.
- Concept of probability and its applications.

SUBJECT: 2. Fundamentals of Entrepreneurship

- To develop the concept of entrepreneurship and its applicability.
- To create awareness on various entrepreneurial program.
- Entrepreneurial behavior and environment is essential.
- Role of entrepreneurship and its scope.

# Government Larangsai PG College Ramanujganj

*Affiliated to Sant Gahira Guru Vishwavidyalaya Sarguja, Ambikapur, Chhattisgarh*

Website [www.glspgcr.in](http://www.glspgcr.in), E-mail: [cggpsc@gmail.com](mailto:cggpsc@gmail.com)

---

## Programme Outcome

Bachelor of Commerce is the graduation course. It's main objective is to aware the students regarding commercial language of business enterprises, legal rules relating to business, sole proprietorship, partnership firms, Hindu Undivided Family and Company. Students learn about the company law, Contract Act which is fruitful to the real life of the people and business applicability. Students learn how to enter into a contract. Essential elements of Contracts are taught which is very important to the real life. Business organizations and management, principles of management, wages theory are included in the syllabus. In Business Economics students learn about micro economics, macroeconomics, factors of production, national income.

# Course Outcome

Bachelor of Commerce is a three years undergraduate course. Course includes six subjects in each year.

## **B.Com. Final Year:**

### **SUBJECT: 1. Income Tax**

- To introduce the basic concepts of income from all major headings.
- Residential status of the income tax payer is introduced.
- Income from Salary, House Property, Business/Professions, Capital Gains and income from other sources are explained to the students.
- Students are taught about deductions allowed u/s 80C to 80 U.
- Income tax calculation and tax planning is beneficial to the students.

### **SUBJECT: 2. Auditing**

- To know the nature and scope of auditing.
- To promote the internal check system.
- Audit of Company, partnership firms, PPP Firms etc. are important for the students.
- Auditing is essential in the competitive era.

### **Subject: 3. Indirect Tax**

- To develop an idea about Central Excise.
- To enlighten the concept of state excise, CENVAT.
- Enabling the students to have the fair idea on role of customs in international trade.
- To determine the concept of central sales tax and state commercial tax.

### **Subject: 4. Management Accounting**

- To enlighten the knowledge of management accounting.
- Helps to give proper idea on financial statement analysis in practical points of view.
- Cash Flow and Fund flow statements are essential in the real world.
- Accounting ratios are very useful to the business.
- Marginal costing and differential costing is important to the students.

### **Group: 1**

### **Subject: 1. Principles of Marketing**

- Nature and scope of marketing and applicability of marketing.

- To enhance the knowledge of students on consumer behavior.
- Product life cycle and its stages are very important for the manufacturing concern.
- Pricing policies and sales forecasting are essential for the concern.

**Subject: 2. International Marketing**

- To help the students regarding international marketing.
- Identifying and selecting foreign market.
- Trade association and international distribution are taught.
- Importance of foreign trade and EXIM policy.
- understanding of thinkers related to modern theories.



## **Department of Zoology**

### **Program outcomes M.Sc. Zoology:-**

After successful completion of two year (Four semester)

Degree programmed in Zoology a students should be able to :-

PO:-1. Understand the Nature and basic concepts of cell biology, Genetics , taxonomy, Ecology and Applied Zoology.

PO:-2. Analyse the relationship among animals, plants and Microbes.

PO:-3. Understand the application of Biological Science in Apiculture, Aquaculture, Agriculture and medicine.

PO:-4. Understand the Evolutionary Process and Behavior of animals.

PO:-5. Correlate the Physiological process of animals and relationship of organs system.

PO:-6. Apply the knowledge and understanding of zoology to one's own life and work.

PO:-7. Develop Empathy and love towards the animals

### **Programmed specific Outcome:-**

PSO.1. Perform procedure as per laboratory standards in the areas of taxonomy ,physiology, Ecology, tools and technique of zoology, Toxicology, Entomology, Nematology , and research methodology.

PSO.2. Contribute the knowledge about nation building.

PSO.3. Apply Ethical Principles and commit to professional ethics and responsibility in delivering his duties

PSO.4. To Understand the Ecosystem and Environment.

PSO.5 .To Understand the food cycle, food web, Energy flow, Ecological pyramid and Ecological succession process.

PSO.6. To Understand the Biodiversity, pollution control and protection of Endangered species and Environments.

### **Course outcome of M.Sc. 1st semester Zoology:-**

After completion of these courses students should be able to –

#### **A. Systematic Biodiversity and Evolution (ZOO101)**

1. To understand the systematic position of all animals.
2. To Understand the diversity of animals
3. To Understand the Evolution of first organism in earth.
4. To understand the development process and diversification of animals.
5. To Understand the speciation, Reproductive isolation and natural selection,.
6. To understand the general organization of invertebrates and vertebrate animals.

#### **B. Principles of Ecology (ZOO102)**

1. To understand the various ecological principles.
2. To understand the knowledge is crucial for better development and management of natural resources and global Environment.

#### **C. Computational biology, Biostatistics and bioinformatics. (ZOO103)**

1. The purpose of this course is make the students to understand computational biology-Bioinformatics & biostatistics.
2. To understand the various phylogenetic programme like PHYLIP, DISTANCES, GROWTREE etc.

#### **D. Research methodology & computer application basics (ZOOS 01)**

1. Understand the concept and places of research in concerned subject.
2. Gets acquainted with various resources for research.
3. becomes familiar with various tools of research.

#### **E. Entomology- Insect diversity society and Evolution theory (ZOO A 02)**

1. This course is outcome towards generating fundamental knowledge of insect diversity, society and evolution theory.
2. To understand the systematic position of insect.
3. To understand the Forensic entomology.

### **Course outcome of M.Sc. 2nd semester Zoology:-**

#### **A. Genetics and cytogenetic (Z00201)**

1. This course is outcome towards generating fundamental knowledge ,concept related to genetics and cytogenetic
2. To understand the Nature of gene and its function.
3. To understand the sex determination ,mutation and DNA Repair.
4. To understand the Human genome and gene mapping .
5. To understand the genetics and Cancer.

### **B. Principles of gene manipulation (ZOO202):-**

1. This course is out come towards generating fundamental knowledge, concept related to principle of gene manipulation
2. To understand the concept of recombinant DNA Technology.
3. To understand the DNA Finger printing and PCR Technique.
4. To understand the Biology of cloning vector.
5. To understand the DNA Sequencing .

### **C. Structure and function of gene(ZOO203):-**

1. This course is out come towards generating fundamental knowledge, concept related to Structure and function of gene.
2. To understand the Hybridization and super coiling of DNA.
3. To understand the DNA replication.
4. To understand the Gene Expression.
5. To understand the Post Transcriptional gene control.

### **D. Social Outreach and Skill development (ZOO221)**

1. This course is out come towards generating fundamental knowledge, concept related to Social Outreach and Skill development.
2. To Elaborate the social work in student.
3. To Develop Scientific temperament of Students.
4. To Develop communication skills of students.

### **E. Fish Biology –Aquatic resources and their conservation (ZOOB03)**

1. This course is out come towards generating fundamental knowledge, concept related to Aquatic resources and their conservation.
2. To understand the Reverie Fisheries in India.
3. To understand the Estuarine Fisheries In India.
4. To understand the Modern Fishing Technique.

### **Course outcome of M.Sc. 3rd semester Zoology:-**

#### **A. Comparative animal Physiology (ZOO301)**

1. This course is outcome towards generating fundamental knowledge, concept related to Comparative animal Physiology.
2. To understand the Respiratory and circulatory system of animals.
3. To understand the Acid –Base balance in our body.
4. To understand the Osmoregulation in Aquatic and terrestrial animal.
5. To understand the Feeding Mechanism in animals.

#### **B. Developmental Biology (ZOO302):-**

1. This course is out come towards generating fundamental knowledge, concept related to Developmental Biology.
2. To understand the History and concept of developmental biology.
3. To understand the structure of gametes.
4. To understand the embryonic stem cell.

#### **C. Immunology (ZOO303):-**

1. This course is out come towards generating fundamental knowledge, concept related to Immunology.
2. To understand the component of Immune system.
3. To understand the Innate and adaptive Immunity.

4. To understand the Immunity in Health and disease.

#### **D. Intellectual Property Right ,Human rights and Environment basics.(ZOOS02)**

1. To understand the concept and place of research in concerned subject.
2. Get Equated with various resources of Research.
3. becomes familiar with various tools of Research.
4. Get conversant with sampling technique.

#### **E. Endocrinology and Reproduction (ZOOC04)**

1. This course is out come towards generating fundamental knowledge, concept related to Endocrinology and Reproduction.
2. To understand the Leyding Cell and Sertoli cell.
3. To understand the concept of male infertility.
4. To understand the concept of Fertilization.

### **Course outcome of M.Sc. 4th semester Zoology:-**

#### **A. Animal Behavior (ZOO401)**

1. This coarse is outcome towards generating fundamental knowledge, concept related to Animal Behavior.
2. To understand the Reflex action and kinesis.
3. To understand the concept of co-operative behavior.
4. To understand the concept of fix action pattern.
5. To understand the Altruistic Behavior.

#### **B. Biology of Parasitism(ZOO402):-**

1. This course is out come towards generating fundamental knowledge, concept related to Biology of Parasitism
2. To understand the Nematodes Parasites of plant .
3. To understand the various viral ,Bacterial and fungal diseases
4. To understand the Mechanism of Host parasites Interaction.

#### **C. Comparative Endocrine physiology (ZOO403):-**

1. This course is out come towards generating fundamental knowledge, concept related to Comparative Endocrine physiology.
2. To understand the various class of Hormone.
3. To understand the Origin and Evolution of various glands .
4. To understand the concept of Adrinomedullary Interaction .

#### **D. Dissertation. (ZOO421)**

1. This course is out come towards generating fundamental knowledge, concept related to Dissertation work.
2. To Elaborate the Research Aptitude in student.
3. To Develop Scientific temperament of Students.
4. To Develop Research skills of students

#### **E. Metagenomics - Epigenetics chromatin Biology(ZOOD02)**

1. This course is out come towards generating fundamental knowledge, concept related to Metagenomics - Epigenetic chromatin Biology.
2. To understand the Chromatin structure.
3. To understand the Epigenetic in saccharomyces cerevisiae .
4. To understand the Chromatin remodeling.





## **COURSE OUTCOMES**

### **B.A.– I (YEAR) Economics**

<b>COURSE</b>	<b>OUTCOMES</b>
<b>PAPER- I (MICRO ECONOMICS)</b>	CO-1. Knowing the decision making of consumer. CO-2. Identifying the nature of revenue and cost of production. CO-3. Comprehending the demand function and production function. CO-4. Realizing various production theories CO-5. Awareness of different markets structure. CO-6. Understanding pricing in different markets. CO-7. Judging the factor pricing.
<b>PAPER- II(INDIAN ECONOMY)</b>	CO-1. Understanding characteristics, features, structural changes in Indian Economy. CO-2. Comprehension of the nature and impact of New Economic Reforms on the Indian Economy. CO-3. Knowing the problems of unemployment, poverty, rising economic and social inequality and problems of regional imbalances in India. CO-4. Evaluating the changing role of agriculture, industrial and service sector and foreign sector in Indian Economy. CO-5. Measuring the problems and prospects of cottage and small scale industries, and industrial sicknesses.

## **COURSE OUTCOMES**

### **B.A.– II (YEAR)**

<b>COURSE</b>	<b>OUTCOMES</b>
<b>PAPER- I (MACRO ECONOMICS)</b>	<p>CO-1. Identifying the basic concepts and theories of Macro economics.</p> <p>CO-2. Awareness about changing macro economics policies and theories.</p> <p>CO-3. Judging the role of fiscal policy and monetary policy in a Developing economy</p> <p>CO-4. Realizing the law of markets, consumption function and investment function.</p> <p>CO-5. Study the function and objective of IMF, WTO, WORLD BANK etc.</p> <p>CO-6. To Understand the International trade and its policy.</p> <p>CO-7. To understand the say's law , Hawtrey's monetary theory, Schumpeter's theory of innovation.</p>

<p><b>PAPER- II (MONEY, BANKING AND PUBLIC FINANCE)</b></p>	<p>CO-1. Understanding the meaning, function and role of commercial banking.</p> <p>CO-2. To understand the quantity theory of money cash transaction and cash balance approaches .</p> <p>CO-3. Study the concept of demonetization.</p> <p>CO-4. Knowing the structure, function and role of RBI in economic development.</p> <p>CO-5. Understanding the role and types of development banks and Non banking financial intermediaries.</p> <p>CO-6. Study the sources of public revenue .</p> <p>CO-7. Major trends in tax revenue of the Central and State Government in India.</p>
-------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## **COURSE OUTCOMES**

### **B.A.– III (YEAR)**

<b>COURSE</b>	<b>OUTCOMES</b>
<p><b>PAPER- I (DEVELOPMENT AND ENVIROMENTAL ECONOMICS)</b></p>	<p>As environmental problems are the burning issues of present day, the study of environmental economics helps them to know the methods of controlling environment pollution and thereby to achieve sustainable development.</p>
<p><b>PAPER- II (STATISTICAL METHODS)</b></p>	<p>CO-1. Calculate and interpret the correlation between two variables.</p> <p>CO-2. Calculate the simple linear regression equation for a set of data.</p> <p>CO-3. Know the association between the attributes</p>



	<p>CO-4. Employee the principles of linear regression and correlation, including least square method, predicting a particular value of Y for a given value of X and significance of the correlation coefficient.</p> <p>CO-5. Know the association between the attributes.</p>
--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## **DEPARTMENT OF HINDI M. A. I Semester**

### **Course Outcome** (हिन्दी साहित्य का इतिहास)

CO1- छात्रों को हिन्दी रचना के आदिकाल से आधुनिक काल तक के सम्पूर्ण रचनाकारों की रचनाएं तथा उनके विषय का ज्ञान कराना।

CO2- छात्रों को हिन्दी गद्य के आविर्भाव के प्रधान कारणों, परिस्थितियों का परिचय कराना।

CO3- छात्रों को आधुनिक हिन्दी कविता के विकास के प्रमुख चरणों की प्रवृत्तियों, प्रभावों, उपलब्धियों तथा सिमाओं से अवगत कराना।

### **Course Outcome** (प्राचीन एवं मध्यकालीन काव्य)

CO1- छात्रों को आदिकाल एवं भक्तिकाल के प्रमुख कवियों का ज्ञान कराना।

CO2- छात्रों को आदिकालीन, भक्तिकालीन तथा रीतिकालीन काव्य प्रवृत्तियों की जानकारी देना।

CO3- छात्रों को कवियों एवं उनकी कृतियों से परिचय कराना।

### **Course Outcome** (हिन्दी भाषा एवं भाषा विज्ञान)

CO1- छात्रों को हिन्दी भाषा के अंगों एवं विभिन्न शाखाओं का ज्ञान कराना।

CO2- छात्रों को विकास के संबंध में देवनागरी लिपि की विशेष जानकारी देना।

CO3- छात्रों को हिन्दी के शब्द भेदों के विकासक्रम का विवरण देना।

CO4- छात्रों को हिन्दी के शब्द भण्डार एवं व्याकरणिक स्वरूप से परिचित कराना।

CO5- छात्रों को साहित्य के अध्ययन में भाषा विज्ञान की उपयोगिता से अवगत कराना।

### **Course Outcome** (शोध प्रविधि एवं कम्प्यूटर एप्लीकेशन की पृष्ठभूमि)

CO1- छात्रों को शोध प्रविधि का ज्ञान कराना।

CO2- छात्रों में कम्प्यूटर एप्लीकेशन की समझ विकसित करना।

CO3- छात्रों में शोध के प्रति रुचि विकसित करना।

### **Course Outcome** (संत कवि कबीर दास)

CO1- छात्रों को कबीर के व्यक्तित्व एवं कृतित्व से परिचित कराना।

CO2- छात्रों को हिन्दी की भक्तिकालीन काव्य प्रवृत्तियों की जानकारी देना।

CO3- कबीर के साहित्य के प्रति आलोचनात्मक दृष्टि विकसित करना।

## **M. A. II Semester**

### **Course Outcome** (आधुनिक काव्य)

CO1- छात्रों को आधुनिक हिन्दी काव्य की प्रवृत्तियों से परिचित कराना।

CO2- छात्रों को आधुनिक काल के प्रबंध और मुक्तक काव्य के तात्त्विक स्वरूप की जानकारी देना।

CO3- छात्रों को आधुनिक युग के काव्य प्रकारों के विकासक्रम से परिचित कराना।

**Course Outcome** (कथा साहित्य)

CO1- छात्रों को प्रमुख गद्यविधाओं के विकासक्रम की जानकारी देना।

CO2- छात्रों में रचना के आस्वादन एवं समीक्षण की क्षमता विकसित करना।

CO3- छात्रों में विधा विशेष के तात्त्विक स्वरूप एवं ऐतिहासिक विकास के परिप्रेक्ष्य में रचना विशेष का महत्व

समझाना एवं मूल्यांकन करने की क्षमता बढ़ाना।

**Course Outcome** (भारतीय काव्यशास्त्र)

CO1- छात्रों को भारतीय काव्यशास्त्र से परिचित कराना।

CO2- छात्रों को भारतीय काव्यशास्त्र के विकासक्रम से परिचित कराना।

CO3- छात्रों को भारतीय साहित्यशास्त्र के सिद्धांतों का ज्ञान कराना।

CO4- छात्रों को साहित्यशास्त्रीय अध्ययन के माध्यम से छात्रों में समिक्षात्मक दृष्टि विकसित करना।

**Course Outcome** (सामाजिक अधिगम एवं कौशल विकास)

CO1- छात्रों को कौशल विकास के प्रति जागरूकता पैदा करना।

CO2- छात्रों में पर्यावरण की चेतना विकसित करना।

CO3- छात्रों को सामाजिक दायित्वों के प्रति जागरूक करना।

**Course Outcome** (छायावादी काव्य)

CO1- छात्रों को छायावाद से परिचित कराना।

CO2- छात्रों में छायावाद की प्रवृत्तियों की समझ विकसित कराना।

CO3- छात्रों में प्रमुख कवि तथा उनकी कृतियों से परिचित कराना।

CO4- छात्रों में पाठ्य कृतियों के संदर्भ में समिक्षा की क्षमता बढ़ाना।

**M. A. III Semester****Course Outcome** (हिन्दी निबंध एवं अन्य गद्य विधाएं)

CO1- छात्रों में हिन्दी गद्य साहित्य की विकासक्रम की जानकारी देना।

CO2- छात्रों में गद्य की प्रमुख विधाओं के तात्त्विक स्वरूप का परिचय कराना।

CO3- छात्रों में मूल्यांकन करने की क्षमता विकसित करना।

**Course Outcome** (छायावादोत्तर हिन्दी काव्य)

CO1- छात्रों को छायावादोत्तर हिन्दी काव्य की प्रवृत्तियों से परिचित कराना।

CO2- छात्रों को छायावादोत्तर हिन्दी काव्य के विकासक्रम से परिचित कराना।

CO3- छायावादोत्तर हिन्दी काव्य के तात्कालीन स्वरूप एवं विकासक्रम के परिप्रेक्ष्य में रचनाओं के आस्वादन,

अध्ययन और मूल्यांकन की दृष्टि देना।

**Course Outcome** (पाश्चात्य काव्यशास्त्र)

- CO1- छात्रों को पाश्चात्य साहित्यशास्त्र का परिचय देना।
- CO2- छात्रों को पाश्चात्य साहित्यशास्त्र के सिद्धांतों का ज्ञान कराना।
- CO3- छात्रों को नई समीक्षा के सिद्धांतों का ज्ञान कराना।
- CO4- छात्रों को आलोचना की विविध प्रणालियों तथा नई अवधारणाओं का ज्ञान देना।
- CO5- छात्रों में साहित्य शास्त्रीय अध्ययन के माध्यम से समीक्षात्मक दृष्टि विकसित करना।

**Course Outcome** (लोक साहित्य)

- CO1- छात्रों को लोक साहित्य के स्वरूप तथा उसके अध्ययन के महत्व से परिचित कराना।
- CO2- छात्रों को लोक साहित्य के विभिन्न विधाओं की जानकारी देना।
- CO3- छात्रों को लोक साहित्य का महत्व समझाकर उसके विशेष अध्ययन के लिए प्रेरित करना।
- CO4- छात्रों को छत्तीसगढ़ के लोक साहित्य से परिचित कराना।

**Course Outcome** (बौद्धिक सम्पदा मानवाधिकार एवं पर्यावरण)

- CO1- छात्रों को बौद्धिक सम्पदाओं की जानकारी देना।
- CO2- छात्रों को मानवाधिकारों से परिचित कराना।
- CO3- छात्रों में पर्यावरणीय चेतना विकसित करना।

**M. A. IV Semester****Course Outcome** (भारतीय साहित्य)

- CO1- छात्रों को हिन्दी साहित्य के अखिल भारतीय परिप्रेक्ष्य से परिचित कराना।
- CO2- छात्रों को हिन्दी भाषाओं के साहित्य का स्थूल परिचय देना।
- CO3- छात्रों को भारतीय साहित्य में व्यक्त भारतीयता की पहचान कराना।
- CO4- छात्रों में हिन्दी में अनूदित साहित्य से परिचित कराना।

**Course Outcome** (हिन्दी पत्रकारिता)

- CO1- छात्रों को हिन्दी पत्रकारिता के विषय से परिचित कराना।
- CO2- छात्रों में हिन्दी में कम्प्यूटर के प्रयोग की विधि से अवगत कराना।
- CO3- छात्रों को विभिन्न क्षेत्रों में हिन्दी के कार्यसाधक प्रयोग की कुशलता विकसित करना।

**Course Outcome** (प्रयोजनमूलक हिन्दी)

- CO1- छात्रों में प्रयोजनमूलक हिन्दी के प्रति अभिरुचि विकसित करना।
- CO2- छात्रों में जीवन और समाज की विभिन्न आवश्यकताओं और दायित्वों की पूर्ति के लिए विभिन्न व्यावहारिक क्षेत्र में उपयोग की जाने वाली हिन्दी प्रयोजनमूलक का ज्ञान कराना।

**Course Outcome** (लघुशोध प्रबंध)

CO1- छात्रों में शोध की अभिरुचि विकसित करना।

CO2- छात्रों में शोध परक दृष्टिकोण का विकास करना।

CO3- छात्रों को शोध के विभिन्न आयामों से परिचित कराना।

**Course Outcome** (भाषा शिक्षण)

CO1- छात्रों को भाषा शिक्षण के स्वरूप से परिचित कराना।

CO2- छात्रों को भाषा शिक्षण के महत्व और उपयोगिता का ज्ञान कराना।

## **Department of Botany**

### **Programmes outcome M.Sc. Botany**

**After successful completion of two year (four semester) degree programme in botany a student should be able to –**

PO-1 Learn about to modern tools and technique of cell biology .

PO-2 Study of genetics and cytogenetics .

PO-3 Study of plant physiology and biochemistry.

PO-4 The student also learn to about research methodology and computer application.

PO-5 Study of recombinant DNA technology and proteomics.

PO-6 Study of developmental biology.

PO-7 Study of plant pathogens and pests of crop plant.

PO-8 Study of plant biotechnology and resource utilization.

PO-9 Study of systematic, evolution and environmental science.

PO-10 Study of algae environment and human welfare.

PO-11 Learn to about principles of ecology.

PO-12 Study of advance in archegoniatae.

PO-13 Study of evolutionary biology.

PO-14 The students also learn to about intellectual property, human rights and environment basics.

PO-15 Study of in vitro technology and industrial application.

PO-16 Study of reproductive biology of flowering plants.

PO-17 Study of molecular interaction of plants with symbionts, pathogens and pests.

PO-18 Contemporary concept and methods in cell biology.

### **Programme specific outcome**

PSO-1 Learn to about modern tools and techniques of cell biology.

PSO-2 Determine the gene structure, regulation and expression in eukaryotes.

PSO-3 Study of microbial genetics.

PSO-4 Study of development genetics.

PSO-5 Determine the structure of chromosome and study of molecular techniques.

PSO-6 Study of protein structure, enzyme activities, plant hormones and other growth regulators.

PSO-7 Study of plant reproduction according to their physiology.

PSO-8 Study of concept, tools, methods of research and also learn to computer fundamentals.

PSO-9 Study of principle and tools of recombinant DNA technology and also learn to about DNA and genomic libraries, proteomics, gel electrophoresis.

PSO-10 Study of archegoniatae, vascular plants, development of flower, pollen pistil interaction and embryogenesis.

PSO-11 Study of plant pathogenic micro organism of viruses, bacteria, fungus, insects, and nematodes in crop

plants.

PSO-12 Study of algae including in diversity, distribution, biotechnology, cryopreservation and industrial phycology.

PSO-13 Study of plant tissue culture and plant resource utilization.

PSO-14 Study of systematic and evolutionary biology including in taxonomy, macroevolution, diversity and classification of flowering plants.

PSO-15 Learn to about principle of ecology including in population ecology , evolutionary ecology, nature of ecosystem and also study of various type of environmental pollution.

PSO-16 Study of bryophytes, pteridophytes and gymnosperm.

PSO-17 Study of intellectual property and human rights.

PSO-18 To provide students with an overview of plant tissue culture.

PSO-19 Learn to about reproductive biology of flowering plant including in modes of reproduction, male gametophytes, pollen pistil interaction and double fertilization.

PSO-20 Learn to about molecular interaction of plants with fungi, insects, nematodes, bacteria .

PSO-21 Study of infective particles such as prions , viroids and also including in cell wall, biological membrane, cytoplasmic components, biopolymers, nucleus, and cell turnover.

**Course outcome M.Sc. 1<sup>st</sup> Semester Botany**



**After completion of these courses students should be able to-**

**(1) Cell and molecular biology (MBT101)**

CO (1) To understand about cell basic fundamental and molecular biology.

CO (2) After study of these course also known as cell cycle , DNA replication, transcription, translation and gene expression.

**(2) Genetics and cytogenetics(MBT102)**

CO (1) To know about microbial genetics including viral, bacterial and fungal genetics.

CO (2) Learn to about mendelian and non mendelian inheritance and also understand about mechanism of mutation and developmental genetics.

**(3) Physiology and biochemistry (MBT103)**

CO (1) To understand about hierarchical structure of protein and also known about protein folding , ticketing , purification etc.

CO (2) Learn to mechanism of signal transduction , sensory photobiology and various type of plant hormones.

**(4) Recombinant DNA technology and proteomics (MBTA02)**

CO(1) Learn to about various type of tools and techniques of recombinant DNA technology.

CO (2) To understand how to use these technique in plant

genetics, breeding and diversity studies.

**Course outcome M.Sc. 2nd Semester Botany**  
**After completion of these courses students should be able to-**

**(1) Developmental biology(MBT201)**

CO (1) To understand about morphology and developmental anatomy of various group of bryophytes.

CO (2) Learn about to mechanism of how to develop of flower and also understand mechanism of embryogenesis and seed development.

**(2) Pathogens and pests of crop plants (MBT202)**

CO(1) Learn to about plant pathogenic micro organism and their interation.

CO(2) To understand case studies of economically important causative agents with specific references to crop plant.

**(3) Plant biotechnology and resource utilization**

CO(1) To know about various plant tissue culture.

CO(2) To understand about plant resource utilization.

**(4) Systematic evolution and environmental science(MBTB02)**

CO (1) Learn about to plant taxonomy.

CO (2) To understand macroevolution, diversity and classification of flowering plant.

**Course outcome M.Sc. 3rd Semester Botany**

**After completion of these courses students should be able to-**

**(1) Algae environment and human welfare(MBT301)**

CO (1) To Know about industrial phycology.

CO(2) To understand about algal biotechnology

**(2) Principle of ecology (MBT302)**

CO(1) To understand evolutionary ecology and population ecology.

CO(2) To know how to environment stresses and their management.

**(3) Advance in archegoniatae (MBT303)**

CO (1) To know about vegetative and reproductive innovation of early land plant including bryophytes.

CO (2) To understand about pteridophytes and gymnosperm plant and their evolution and diversification.

**(4) Evolutionary biology (MBTCO3)**

CO(1) To understand evolutionary biology before Darwin, after Darwin, evolutionary synthesis.

CO(2) To know about how to origin of life and also

understand macroevolution and microevolution.

### **Course outcome M.Sc. 4th Semester Botany**

**After completion of these courses students should be able to-**

#### **(1) In vitro technology and industrial application (MBT401)**

CO (1) To learn germplasm conservation of in vivo and in vitro.

CO(2) To know about use of bioreactor in secondary metabolite production.

#### **(2) Reproductive biology of flowering plant (MBT40A2)**

CO (1) To understand modes of reproduction in plant.

CO (2) To know about male gametophyte and pollen pistil interaction.

#### **(3) Molecular interaction of plant with symbionts, pathogens and pests(MBT403)**

CO (1) To understand biotic introduction with plant.

CO (2) To know about recent advance in symbiotic interaction with plant with special reference to mycorrhiza and plant interaction.

#### **(4) Contemporary concept and methods in cell biology (MBTD04)**

CO (1) To learn infective particle and life form such as viroids, prions.

CO (2) To understand plasma membrane , biopolymers, cytoplasmic component, and nucleus and also know cell turnover.

### **Programme Outcome B. A. Hindi**

- PO1- छात्रों को हिन्दी भाषा की उत्पत्ति, विकास एवं उपभाषाओं एवं बोलियों का ज्ञान प्राप्त कराना।
- PO2- छात्रों में हिन्दी के कवियों एवं लेखकों की सृजनात्मक लेखन का ज्ञान कराना।
- PO3- छात्रों को हिन्दी व्याकरण एवं भाषा शुद्धियों का ज्ञान कराना।
- PO4- छात्रों में हिन्दी साहित्य के इतिहास के विकास क्रम एवं लेखन परंपरा के संबंध में ज्ञान विकसित कराना।
- PO5- छात्रों में साहित्य के प्रति भावात्मक अभिरुचि विकसित कराना।
- PO6- छात्रों में छत्तीसगढ़ी साहित्य के प्रति अभिरुचि विकसित कराना।

### **Programme Specific Outcome**

- PSO1- हिन्दी भाषा का बोध कराना।
- PSO2- हिन्दी साहित्य का ज्ञान कराना।
- PSO3- हिन्दी भाषा और साहित्य की अभिवृद्धि करना।
- PSO4- राष्ट्रभाषा एवं राज्यभाषा के रूप में हिन्दी का विकास करना।
- PSO5- भाषा के माध्यम से सांस्कृतिक एकता के सूत्र विकसित करना।

### **Course Outcome B. A. I (प्राचीन हिन्दी काव्य)**

- CO1- छात्रों को हिन्दी के गद्य और पद्य के कवियों एवं लेखकों से परिचित कराना।
- CO2- साहित्य के विभिन्न विद्याओं के माध्यम से छात्रों का भावात्मक एवं सृजनात्मक ज्ञान विकसित कराना।
- CO3- छात्रों में साहित्य एवं साहित्यकारों के सृजनात्मक लेखन के प्रति अभिरुचि विकसित कराना।

### **Course Outcome B. A. I (हिन्दी कथा साहित्य)**

- CO1- छात्रों में कथा साहित्य के प्रति अभिरुचि विकसित करना।
- CO2- छात्रों में भाषा के रचनात्मक पहलूओं की समझ विकसित कराना।
- CO3- छात्रों में राष्ट्रभाषा हिन्दी तथा मानक लिपियों का समझ विकसित कराना।
- CO4- छात्रों में कहानियों एवं उपन्यासों के माध्यम से लेखकों की सृजनात्मक लेखन शैली की समझ विकसित करना।

### **Course Outcome B. A. II (अर्वाचीन हिन्दी काव्य)**

- CO1- छात्रों को हिन्दी के कवियों एवं उनकी रचनाओं से अवगत कराना।
- CO2- छात्रों का हिन्दी के कार्यालयीन एवं व्यावहारिक पत्रों के स्वरूप से अवगत कराना।
- CO3- छात्रों को हिन्दी व्याकरण का ज्ञान कराना।
- CO4- छात्रों में देवनागरी लिपि के अंतर्गत उसके उत्पत्ति, वैज्ञानिकता तथा विशेषता से अवगत कराना।

**Course Outcome B. A. II (हिन्दी निबंध तथा अन्य विधाएं)**

CO1- छात्रों को नाटककार, एकांकीकार एवं निबंधकारों तथा उनकी रचनाओं से परिचित कराना।

CO2- छात्रों में नाटक एवं एकांकियों के माध्यम से सामाजिक समस्याओं से परिचित कराना।

CO3- छात्रों में लेखकों के लेखन शैली के प्रति आलोचनात्मक दृष्टि विकसित करना।

**Course Outcome B. A. III (छत्तीसगढ़ी भाषा एवं साहित्य)**

CO1- छात्रों को काव्यांग-काव्य का स्वरूप एवं प्रयोजन का ज्ञान कराना।

CO2- छात्रों में कम्प्यूटर में हिन्दी का अनुप्रयोग, हिन्दी में पदनाम की समझ विकसित करना।

CO3- छात्रों में छत्तीसगढ़ी भाषा के प्रति अभिरुचि विकसित करना।

CO4- छात्रों में छत्तीसगढ़ी साहित्य की समझ विकसित करना।

**Course Outcome B. A. III (हिन्दी भाषा एवं साहित्य का इतिहास तथा काव्यांग विवेचन)**

CO1- छात्रों में हिन्दी भाषा के विभिन्न रूपों का ज्ञान कराना।

CO2- छात्रों में हिन्दी साहित्य के इतिहास, आदिकाल, पूर्व माध्यकाल, उत्तर मध्यकाल और आधुनिक काल की सामाजिक सांस्कृतिक पृष्ठभूमि प्रमुख युग प्रवृत्तियां विशिष्ट रचनाकार और उनकी प्रतिनिधि कृतियां, साहित्यिक विशेषताओं से अवगत कराना।

CO3- छात्रों में हिन्दी साहित्य के इतिहास लेखन परंपरा का ज्ञान विकसित करना।

**Programme Outcome M. A. Hindi**

PO1- छात्रों में युगीन परिस्थितियों और साहित्यिक प्रवृत्तियों के आधार पर हिन्दी साहित्य के इतिहास के काल विभाजन तथा नामकरण का परिचय देना।

PO2- छात्रों में पाठ्यकृतियों के संदर्भ में समीक्षा की क्षमता बढ़ाना।

PO3- छात्रों को हिन्दी के विविध रूपों से परिचित कराना।

PO4- छात्रों को भाषा विज्ञान के सैद्धांतिक पक्ष से अवगत कराना।

PO5- छात्रों में को कबीर के व्यक्तित्व एवं कृतित्व से परिचित कराना।

PO6- छात्रों को तात्कालीन प्रमुख कवि तथा उनकी कृतियों से परिचित कराना।

PO7- छात्रों को आधुनिक हिन्दी काव्य की प्रवृत्तियों से परिचित कराना।

PO8- छात्रों को गद्य की प्रमुख विधाओं के तात्त्विक स्वरूप का परिचय देना।

PO9- छात्रों को भारतीय एवं पाश्चात्य साहित्यशास्त्र से परिचित कराना।

**Programme Specific Outcomes**

PSO1- छात्रों में हिन्दी भाषा और साहित्य के प्रति रचनात्मक दृष्टि का विकास करना।

PSO2- छात्रों में हिन्दी में रोजगार परक आयामों का विकास करना।

PSO3- छात्रों में पत्रकारिता और विज्ञापनों के क्षेत्र में समन्वयक दृष्टिकोण विकसित करना।

PSO4- छात्रों में लोकसाहित्य के विकास की अभिव्यक्ति विकसित करना।

PSO5- छात्रों में शोधपरक दृष्टि विकसित करना।