

LIKHAN SAI GOVERNMENT COLLEGE TAPKARA DIST. JASHPUR, CHHATTISGARH

Program Outcome Program Specific Outcome & Course Outcome

PROGRAM OUTCOME, PROGRAM SPECIFIC OUTCOME, AND COURSE OUTCOME

DEPARTMENT OF ARTS:

PROGRAM OUTCOME : After completing bachelor program in Arts, a student will be able to develop:

1. **Critical Thinking:** Ability to identify, construct and evaluate arguments, ability to engage in reflective and independent thinking, integrates diverse sources of knowledge in solving problems.
2. **Communication Skills:** Develop oral and written skill for effective Communication, active participation in group activities will improve active learning skills and expressive skills and self confidence.
3. **Social Adoptability Skills:** Ability to communicate and share our thoughts & feeling with others, develop social interactions and become socially responsible individual (human being).
4. **Ideal Citizen:** Respect the value, principle ethics and contribute to society and community engage in civic responsibility and participate in civic life through volunteering.
5. **Ethical Value:** Inculcate ethical, moral and human values.
6. **Environmental Awareness:** Border understands of the local, national and global environment issues.
7. **Employability:** Preparing students for job prospect in organized sector.

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

Course: BA ECONOMICS	Outcomes
Microeconomics	Students will be able to apply supply and demand analysis to examine the impact of government regulation and it also enable them to explain determinantsof demand, responses of market and the benefits of exchange.
Macroeconomics	It provides knowledge regarding the formulation of broad economic policies thatmaximize the level of national income, providing economic growth to achieve sustainability, full employment, price stability, external balance, increasingproductivity in the long run.
Money and banking	It attempts to impart an understanding of monetary economics. It describescarefully the basics of monetary economics like money, value of money, theories of money, banking and international financial institutions.
International trade and public finance	Enable the students the pattern and nature of international trade and their contribution to economic development. It also enables learners to know the role of public authorities in raising revenue and its spending.
Economic thought	Gives idea to the students about the systematic development of economictheories beginning from pre-modern and modern era.
Economics of development	It makes the students to understand the aspect of development process in lowincome counties. Its focus is on improving the potential for the mass of population through health and education.
Indian economy	It makes learners to understand the economic functioning and conditions of ourcountry in the context of past, present and future.
Environmental economics	As environmental problems are the burning issues of present day, the study ofenvironmental economics helps them to know the methods of controlling environment pollution and thereby to achieve sustainable development.

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES OF ECONOMICS

Program Outcome:

1. Economics subject enables the learners to build up a professional carrier as economists, financial advisors, economics planners and policy makers. It prepares them to cope up with the stress and strain involved in the process of economic development.
2. Department supports the education and training of students, teachers and research in economics.

Program Specific Outcome:

Through organizing guest lectures, workshops, seminars, industrial visit and extension activities it enables students to learn economics, particularly its applications and foster the development of their own skills in economic reasoning and understanding.

Course Outcomes:

B.A.-I Subject: Economics

Paper-I:

Microeconomics:- Students will be able to apply supply and demand analysis to examine the impact of government regulation and it also enable them to explain determinants of demand, responses of market and the benefits of exchange.

Paper-II:

Indian economy:- It makes learners to understand the economic functioning and conditions of our country in the context of past, present and future.

B.A.-II Subject: Economics

Paper-I:

1. Macroeconomics:- It provides knowledge regarding the formulation of broad economic policies that maximize the level of national income, providing economic growth to achieve sustainability.
2. International trade and public finance:- Enable the students the pattern and nature of international trade and their contribution to economic development. It also enables learners to know the role of public authorities in raising revenue and its spending.

Paper-II:

1. Money and banking:- It attempts to impart an understanding of monetary economics. It describes carefully the basics of monetary economics like money, value of money, theories of money, banking and international financial institutions.

B.A.-III Subject: Economics

Paper-I:

1. Economics of development:- It makes the students to understand the aspect of development process in low income countries. Its focus is on improving the potential for the mass of population through health and education.
2. Environmental economics:- 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.

Paper-II:

1. Explain the Uses of index Number Identity the Problem Involved in the Construction of Index Number Fisher Index number explain and calculate wholesale price index number and cost of Living number .
2. Explain time analysis estimate trend Curve.
3. Describe Population, Sample and its related Concepts differentiate between sample Survey and complete explain different me trends of Sampling.

Program Name: B.A. / B.Com. /B.Sc. (Foundation Course II)

DEPARTMENT OF ENGLISH

PROGRAM SPECIFIC OUTCOME OF ENGLISH

1. Students will be acquainted with various literary forms in English.
2. Students will have understanding of various figures of speech.
3. Students will be acquainted with the history of English literature and English language.
4. Students will get an understanding of American English literature.
5. Students will have an understanding of linguistics, its aspects, levels and characteristics.

B.A. / B.Sc. /B.Com. - Part-I Subject: English Language:

On studying this paper, the student will be able to:

1. Development of comprehensive ability.
2. Improvement of vocabulary.
3. Effective communication skills.
4. Inculcation of moral and human values.
5. Acquire knowledge of Indian culture and tradition.
6. Write effectively and coherently.

B.A. / B.Sc. /B.Com. - Part-II Subject: English Language:

On studying this paper, the student will be able to:

1. Ability to discuss and respond to the content of the passage.
2. Knowledge of development of science and information technology.
3. Develop the writing skills through exercises in grammar and composition.

B.A. / B.Sc. /B.Com. - Part III Subject: English Language:

On studying this paper, the student will be able to:

1. Familiarity with values of Indian life and social system.
2. Development of India in the Modern context.
3. Development of linguistic competence and communication skills.
4. Writing skills through essay writing and comprehension

PROGRAM SPECIFIC OUTCOMES OF GEOGRAPHY

- To learn the location of places and the physical and cultural characteristics of those places in order to function more effectively in our increasingly interdependent world.
- To understand the geography of past times and how geography has played important roles in the evolution of people, their ideas, places and environments.
- To develop map of territory, country and the world to understand the – where of places and events.
- To recognize spatial distributions at all scales- local and worldwide- in order to understand the complex connectivity of people and places.
- To appreciate Earth as the homeland of humankind and provide insight for wise management decisions about how the planet's resources should be used.
- To understand global interdependence and to become a better global citizen.

COURSE OUTCOMES:

B.A. –I Subject Geography

Paper-I (Physical Geography)- Understand the Structure of different part of earth and applied Geomorphology to know the elements of weather and climate, Atmosphere and Structure of oceans.

Paper-II : (Human Geography) - Understand different part of geographical knowledge and evolution of Geographical thoughts.

Paper-III : Practical Geography Map making and scale of the maps and diagrams.

B.A. –II Subject Geography

Paper-I Economic and Resources Geography- Understand importance of resources and environment and related problems.

Paper- II : Geography of India- Knowledge of physical and cultural characteristics of India.

Paper- III: Practical Geography- Making projections and statistical methods.

B.A. –III Subject Geography

Paper I Remote Sensing and GIS- To Know the Basic and usage Remote Sensing and GIS in Geography.

Paper-II Geography of Chhattisgarh- Knowledge of physical and cultural characteristics of Chhattisgarh.

Paper III Practical Geography- Understand Topographical Sheets and socio-economic survey of village.

Program Name: B.A./ B.Com. /B.Sc. (Foundation Course I)

DEPARTMENT OF HINDI

PROGRAM SPECIFIC OUTCOME OF HINDI

1. To be able to speak in Hindi and develop confidence in the Skills, Listening, Speaking readings writing Communicating.
2. Vocabulary Buildup and required to structure out their thoughts in hindi language.
3. Practically learn the Language Techniques.
4. to Identification of Problem Solving Self Expression, Presentation in hindi language.
5. Preparation for higher Education.
6. To encourage the students with T.V. Medias or Mass Medias.

COURSE OUTCOME

B.A./ B.Com. /B.Sc. part I: To impart knowledge of grammer and vocublary in hindi language.

B.A./ B.Com. /B.Sc. Part II: To be able to speak in Hindi and develop confidence in the Skills, like readings writing and correspondence

B.A. / B.Com. /B.Sc. Part III: To enhance writing skills like report for Media, Press

PROGRAM SPECIFIC OUTCOME OF POLITICAL SCIENCE

1. Understand the basic concept of politics.
2. Inculcate the basic principles of Indian constitution.
3. Understand the application of human rights in practice.
4. Primary knowledge of public administration.
5. Analyze the political behavior of voters.

Course Outcomes:

B.A.-I Subject: Political Science

Paper-I:

1. Know about state, its essential elements and different theories of the origin of state and basic knowledge about political science.
2. Know about citizenship equality liberty and many other important things.

Paper-II:

1. Know about constitution its main characteristics and fundamental rights and duties.
2. Know about state government, Election Commission and electoral reform.

B.A.-II Subject: Political Science

Paper-I:

1. Know about main western political thinker just like Plato, Aristotle, Hobbes, Locke, Rousseau and their thoughts about political institutions.
2. Know the different principles given by various thinkers.

Paper-II:

1. Know the main political system which is adopted by different countries.
2. Know about the main characteristics of political system of different countries like Britain, China, America and Switzerland.

B.A.-III Subject: Political Science

Paper-I:

1. Know about the significance of international politics and its impact on different countries.

2. Know about the Disarmament, Globalization and Diplomacy etc.

Paper-II:

1. Knowledge of Public Administration its importance and scope.

2. Knowledge about government's part like legislature, executive and judiciary and its control on administration.

DEPARTMENT OF SCIENCE

PROGRAM SPECIFIC OUTCOME: B.Sc.

After completing bachelor program in Science, a student will be able to develop:

1. **Critical Thinking:** The ability to gather and assess relevant information using abstract ideas to interpret it effectively.
2. **Scientific Skills:** Ability to understand scientific principles or concept and demonstrate scientific knowledge and skills in scientific reasoning.
3. **Communication Skills:** Develop oral and written skills to develop the communication, Ability to work productively on team projects with team spirit.
4. **Social Adoptability:** Inculcate values which provide guidelines for social conduct and social interaction, communication skills are the key to build a strong social support network.
5. **Effective Citizenship:** Develop into an ideal citizen who performs the duties towards himself, family, society, community and towards the country.
6. **Environmental Awareness:** Borders understanding of current national and global environmental problem.
7. **Ethics:** Moral and ethical value are at the development of scientific temper or mind, capacity to think and judge about oneself.

Programme Specific Outcome B.Sc. – Botany

Practical Skill – Student learn to Carry out practical laboratory. Plant identification vegetation Analysis Interpreting plant morphology & anatomy.

The Botanist and Society :- Apply Reasoning informed by the contextual Knowledge to assess Plant diversity Its importance for society, health safety, & the consequent responsibilities relevant to the biodiversity Conservation practice.

Ethics :- Apply ethical principles and commit to environmental ethics and responsibilities and norms of the biodiversity conservation.

Scientific Knowledge :- Apply the Knowledge of basic science, life sciences and fundamental process of plants to study and analyze any plant form.

Problem Analysis :- Identify the taxonomic position of plants, formula the research literature and analyze non reported plants with Substantiated Conclusions using first principles and method of home culture and classification in Botany.

Program Specific Outcome Of Botany

Bacteria, Viruses, Fungi and Algae

On Completion of the course student are able to.

Understand the diversity among Algae. Know the Systematic, Morphology and structure and life cycle pattern, Useful and harmful activities of algae.

Understand the diversity of fungi bryophytes Pteridophytes Morphology and anatomy structure taxonomic position, occurrence reproductions and their economics importance.

Student are able to know about mushroom biotechnology their cultivation methods & importance of mushroom.

Gymnosperms and Palaeobotany

Know the taxonomic position occurrence plant body structure anatomy and morphology of Gymnosperms plants.

Know the scope of palaeobotany types of fossil its code in global economy and geological time scale.

Student are able to know the economics importance of gymnospermic plants Understand the various fossils genera repressing different fossil groups.

Plan Taxonomic Economics botany, plant anatomy and embryology

Student are able to know plants description Identification nomenclature and systematic position of generas species and families.

The student develop knowledge about plant nomenclature, economics plants medical plants and C.S. medical plants.

Ecology and Plant Physiology

Student will able to understand the various physiological life processes in plants. Plant nutrient uptake and translocation of food photosynthesis reparation and nitrogen metabolism, lipid metabolism.

PROGRAM SPECIFIC OUTCOME OF B.Sc. CHEMISTRY :

- Understand the basic principles and concepts underlying the inorganic, organic and physical chemistry and Spectroscopy and Chromatography.
- Comprehend the application of chemistry in various walks of life.
- Perform procedures as per laboratory standards in the areas of analytical chemistry, coordination chemistry, inorganic chemistry, organic chemistry and physical chemistry.
- Able to use instrumental methods of chemical analyses.

COURSE OUTCOMES

B.Sc.-Part- I Subject: Chemistry

Paper-I: Inorganic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe atomic structure on the basis idea of de-Broglie matter-waves, Heisenberg uncertainty principle Schrodinger wave equation and atomic orbital.
2. Describe the shapes of S, p, d orbital's auf-bare and Pauli excessive principle hunt's rule
3. Write down the electronic configuration of elements and calculate EAN.
4. Describe the periodic (IE, EA, EN) trends in periodic table and their application.
5. Describe covalent bond on the basis of valence bond theory, directional characteristics of covalent bond hybridization with example of simple inorganic molecule.
6. Define bond parameters such as bond strength and bond energy and explain percentage ionic character. Ionic solids with reference to ionic structure, radius ratio, lattice defect, and semiconductor.
7. Describe lattice energy, salvation energy, polar sing power, Fagan's rule and metallic bonds.
8. Comparative study of s-block elements and salient feature of hydrides, salvation & compellation tendencies, function in bio systems and alky! & aryls, chemistry of noble gases.
9. Comparative study of p-block elements, halides, hydrides, oxides and oxy acids of B, Al, N & P and their compounds.

10. Describe the principle involved in the detection of acids and basic radicals including interfering radicals.

Paper-II: Organic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe resonance, hyper conjugation, inductive effects, and H- bonding.
2. Describe mechanism of organic reaction including cleavage of bond types of reagent and reaction intermediates.
3. Describe optical and geometrical isomerism including resolution, inversion, retention, racemizations, relative & absolute configuration and nomenclature.

4. Describe the cycloalkanes, Bayer's strain theory, and theory of strain in ring and banana bonds and reaction mechanism benzene & naphthalene their structure.

5. Study of chemical reactions of Alcohols, Alkanes, dienes and alkynes including eiuciation, Diels-aidier reaction.

6. Study of alkyls halides and aryl halides, mechanism and stereochemistry of nucleif Phillies substitution and elimination reaction.

Paper-III: Physical Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe the mathematical chemists including logarithmic relation, cure sketching, linear graph, straight line with slope and intercept.

2. Determine and workout integration and differentiation, permutation combination and probabilitv.

4. Describe molecular velocities - RMS, average and most probable velocities, Maxwell's law and other relevant details including J-T effect and lignifications of gases.

5. Describe ideal, real gases and derivation including Vander - Waal's equation.

6. Describe the liquid state, viscosity and surface tension, ideal and no ideal solutions.

7. Describe the colloid properties relate to vapor pressure osmosis, boiling and freezing points, molar masses and vent Hoff factor, Liquid crystals, emulsion, micelle, gel.

8. Describe the solid state - classification, symmetry, X-ray diffraction, miller indices and identification of unit cell.

9. Describe the chemical kinetics- rate of reaction, order of reaction and their determination.

10. Describe the catalysis - homogeneous and heterogeneous, industrial applications of catalysis.

Lab Course:

The aim of the this is to deliver practical knowledge and the implementation of the concepts studied.

B.Sc.-Part- II Subject: Chemistry
Paper-I: Inorganic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe the characteristic properties of d-block elements and elements of first transition series, their binary compounds and complexes.
2. Describe the chemistry of elements of second and third transition series.
3. Describe oxidation and reduction, use of red-ox potential data and red-ox diagrams.
4. Describe coordination chemistry, Werner theory, EAN, chalets, nomenclature, isomerism, VBT.
5. Describe the chemistry of lanthanides and actinides.
6. Describe acids and bases by Arrhenius, bronzed- lowery, Lax-flood, solvent system and Lewis concepts.
7. Describe the properties and reactions of non- aqueous solvents w.r.t liquid ammonia and liquid Sulphur dioxide.

Paper-II: Organic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe the nomenclature, formation & chemical reactions of dihydric and trihydric alcohols and phenols.
2. Describe mechanism of rearrangements reactions, nucleophilic additions to carbonyl group.
3. Describe oxidation and reduction of aldehydes and ketoses.
4. Describe methods of formation & chemical reactions of carboxylic acid and substituted carboxylic acids.
5. Describe reactivity, structure and nomenclature, basicity, structure of amines.
6. Describe Gabriel phthalamide, Hofmann bromamide azo coupling reactions.
7. Describe orbital picture and aromatic character of pyrrole, furan, thiophene and pyridine.
8. Describe preparation and reaction of indole, quinoline and isoquinoline and reaction of indole, quinoline and isoquinoline and electrophilic substitution reactions.

Paper-III: Physical Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe fundamentals of thermodynamics system, internal energy, enthalpy, heat capacity of gases at constant volume and constant pressure.
2. Calculate w , q , du & dh for the liquefaction of expansion of ideal gases under isothermal and adiabatic conditions, entropy and entropy change.
3. Apply phase rule to one, two and three component systems.
4. Describe Nerst distribution law, Henry's law and their application.
5. Describe specific and equivalent conductance & effect of dilution on conductance.
6. Describe applications of Kohlrausch's law and theories of strong electrolytes, transport no. and its determination by different methods.
7. Describe electrochemical cell and its conventional representation pH and pKa.
8. Describe corrosion, types, theories and its prevention. 66

Paper: Lab Course The aim of this is to deliver practical knowledge and the implementation of the concepts studied.

B.Sc.-Part- III Subject: Chemistry

Paper-I: Inorganic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe metal- ligands bonding in transition metal complexes crystal field theory.
2. Describe the thermodynamics and kinetic aspect of metal complexes, factor affecting the stability of complexes, substitution reaction in square planer complexes.
3. Describe the magnetic properties of the complexes, determination of magnetic susceptibility, L-S coupling, magnetic moments and application of magnetic moment data.
4. Describe the electronic spectra of transitional metal complexes including types of electronic transition, spectroscopic ground state, Orgel diagrams, spectra of hexa aqua titanium complex.
5. Describe organo metallic chemistry including definition, nomenclature and classification. Alkyls and aryls of Li, Al, Hg, Sn and Ti.
6. A brief account of metal- ethylene complexes, homogenous hydrogenation and mononuclear carbonyl and their nature of bonding.

7. Describe the bio-inorganic chemistry including essential and trace elements in biological system, the hemoglobin and myoglobin, biological role of alkali and alkaline earth metals with special reference to Ca^{2+} and the nitrogen fixation.

8. Classification of acids and bases as hard and soft.

9. Describe HSAB concept, symbiosis and theoretical basis.

10. Describe inorganic polymers - silicon phosphorus.

Paper-II: Organic Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe the formation, structure and chemical reactions of Grignard reagent, organ zinc and organ lithium.

2. Describe the nomenclature, structure formation and reactions of trios, trio ether, euphonic acids, sylph on amides and sylph on guanidine.

3. Describe the organic synthesis via insolates including acidity of alpha hydrogen's, diethyl Malone's and ethyl ace to ace tale and their synthesis.

4. Describe the chaise condensation, Keto Enola, taut amorism, alkylation of 1, 2 dithianes and a Kyla ion - acryl ion of enemies.

5. Classification, nomenclature of carbohydrates, mechanism of ova zone formation.

6. Describe the inter conversion of glucose & fracture, glucose to mannose, formation of gluers ides.

7. Describe mechanism of mote rotation, structure of ribose & doxy RI base disaccharides and poly saccharine.

8. Describe the chemistry of fats, oils and detergents including sanctification value, iodine value, acid value, soap and detergents.

9. Describe synthetic polymers polymerization such as free radical vinyl, ionic vinyl, Z-N, vinyl polymerization condensation or step polymerization.

10. Describe the polyester, polyamides, phenol formaldehyde resin urea formaldehyde resin, epoxy resin and rubbers.

11. Describe synthetic dyes, their classification and chemistry.

12. chemistry and synthesis of methyl orange, Congo red, malachite green, crystal violet, phenolphthalein, fluoresce in, alizarins and indigo.

13. Describe the absorption spectra including UV absorption spectroscopy, Beer's law and type of electronic transition, concept of chromophores and Auxochrome, different shift.

14. Describe infra-red spectroscopy including type of vibration, Hooke's law, selection rule, intensity of IR bands, fingerprint region and characteristic absorption of functional group.

15. Describe the NMR spectroscopy including all parameters such as nuclear shielding, deshielding, chemical shift, spin-spin splitting coupling.

16. Interpret the PMR spectra of simple organic molecule.

Paper-III: Physical Chemistry

Upon successful completion of this subject the student will be able to:

1. Describe elementary quantum mechanism through black-body radiation, Planck's law, photoelectric effect and heat capacity and Bohr model of H-Atom.

2. Describe de-Broglie hypothesis, uncertainty principle, wave function, Schrodinger wave equation complete.

3. Describe elementary quantum mechanism with reference to molecular orbital theory.

4. Describe the spectroscopy and define its basic and spectrophotometer.

5. Describe the rotational spectrum and Vibration spectrum.

6. Describe the electronic spectrum along with concept of PE curves, Frank-Condon principle.

7. Describe the photochemistry, law of photochemistry, Jablonski diagram.

8. Describe the fluorescence, phosphorescence and quantum yield.

9. Describe the physical properties and molecular structure including optical activity, polarization, dipole moment and magnetic properties.

10. Describe the solutions; dilute solution and Colligative properties in details.

Paper- Lab Course The aim of this is to deliver practical knowledge and the implementation of the concepts studied.

Course Outcome Zoology

B.Sc. –I

Paper –I

Structural and function aspects of basic unit of life i.e. cell concepts classify phylum protozoa to echinodermata with eq.

Paper –II

Impact conceptual knowledge of vertebrates their adaptation and association in reltia to their environment

Gain knowledge about gametogenesis cleavage gastrulation and role of hormones in metamorphic and regeneration.

B.Sc. –II

Paper –I

Gain knowledge of functional anatomy of vertebrates from fishes to mammals. Comparative animal physiology is a comprehensive subject that gives in depth knowledge of various physiology processes in the animal kingdom.

Paper –II

Understand the function of various hormones process of reproduction. Impact knowledge regarding the various theories of evolution evolutionary process such as variation, isolation mutation evolution of horse.

B.Sc. –III

Paper –I

Interaction of biota understand Toxicology, industrial micro biology and milk and milk products.

Paper –II

Concept behind genetic disorder gene mutation, various course associated with inborn errors of metabolism.

Student gain knowledge about various tools & techniques used in biological system and gives then insight about their use in research.

Program Specific Outcomes of Zoology

Students gain knowledge and skill in the fundamentals of animal science understand the complex interaction among various living organisms.

Apply the knowledge of internal structure of cell its function in control of various metabolic function of organisms.

Gain knowledge of agro based small scale industries like sericulture, fishfarming, apiculture and vermicompost preparation.

Understands about various concepts of genetics and its importance in human health.

Correlates the physiological processes of animals and relationship of organ system.

Apply the knowledge and understanding of zoology to one's own life and work.

Develops empathy and love towards the animals.