



Programs and program outcomes

1.B.Sc. (Bio Group) –

3 years Undergraduate program

Courses includes subject choices from

Zoology, Botany, and Industrial Microbiology.

Chemistry is compulsory for B.Sc. Bio group

Programme Outcomes (PO)

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

Besides teaching the basic concepts of Zoology / Botany / Microbiology in addition have broader vision for students so that the students therefore be exposed to societal interface of in the development of biological sciences.

The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives. The students will be able to communicate effectively through speaking, reading, writing and listening clearly and thereby express themselves to the world by connecting with different ideas, books, people, media and technology.

Programme Specific Outcomes–

1.1ZOOLOGY-

The students will have a clear knowledge of Biological world around them.

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

Blood composition basics and diseases related to blood

Blood types in different animals

Principles of cardiac cycle and understanding of human Cardiac cycle

Animal and human Exo and endoskeleton

Comparative studies of different animals

The students after the completion of this program will be able to understand and apply the knowledge of Reproductive biology and Developmental biology and Embryology.

The students will be able to understand Anatomy & Physiology.

They will understand better Vertebrate Endocrinology, Reproductive Biology Behavior and Evolution Applied Zoology will make them understand the Economic aspect of zoology and help them to sustain themselves.

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

1.2 BOTANY

On completion of this course students will understand and apply basics of

Cell biology and genetics

Basics of classification, Taxonomy, Systemic positions of plants

Economic and medicinal aspects of plants.

Embryology and developments in plants

Environment and ecology so that students can understand and respect environment around them

Study of population and its inter and intra relations

Diseases in plants and its prevention.

Photosynthesis and other cellular mechanisms.

Plant hormones .

1.3 INDUSTRIAL MICROBIOLOGY-

Study of this course will help them to understand

Basics of microbiology so that their industrial connections can also be explored.

Industrial applications of microbes

Microbial culture and identification

Study of environment

Waste disposal organic and inorganic

Biofertilizers

Basic statistics

glycolysis, Krebs's cycle. Fermentation. Pentose Phosphate Pathway.

Fermentation of alcohol, Citric acid and acetic acid.

2.B.Sc. (Maths Group) –

3 years Undergraduate program

Program Outcomes

The undergraduate program in Mathematics / Physics / Chemistry is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts so that the formulated syllabus becomes in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning. It is desired that undergraduate programme in Mathematics / Physics / Chemistry besides teaching the basic concepts of Mathematics / Physics / Chemistry should in addition have broader vision for students so that the students therefore be exposed to societal interface of subjects, in the development of physical, chemical and mathematical sciences & technologies.

Programme Specific Outcomes

Courses include choices from

Physics

Maths

Computers and

Chemistry

2.1 PHYSICS-

Students study this subject to understand the

Laws of thermodynamics, Functions empathy, Speed of gas. Waves, Optics

And a better understanding of principles and applications of Laser systems

2.2 MATHS

This course helps students to give better understanding of Definition of a sequence. Theorems on limits of sequences. Bounded and monotonic sequences. Cauchy's convergence criterion. Series of non-negative

terms. Comparison tests, Cauchy's integral test, Ratio tests, Raabe's, Logarithmic, De Morgan and Bertrand's tests. Alternating series, Leibnitz's theorem.

Beta and Gamma functions, Double and triple integrals, Dirichlet's integrals, Change of order of integration in double integrals.

Series solutions of differential equations- Power series method, Bessel and Legendre functions and their properties-convergence, recurrence and generating relations, Orthogonality of functions, Sturm-Liouville problem, Orthogonality

Calculus of Variations- Variational problems with fixed boundaries- Euler's equation for functionals containing first order derivative and one independent variable, Extremals, Functionals dependent on higher order derivatives, Functionals dependent on more than one independent variable, Variational problems in parametric

Jacobi and Legendre conditions, Second Variation. Variational principle of least action.

Thus the students can apply their knowledge in different aspects.

2.3 B.Sc. COMPUTERS

OBJECT OF THE COURSE –

1. To introduce the overall organization of the microcomputers.
2. To introduce the common peripheral devices used in computers.
3. To introduce the hardware components, use of micro processor and function of various chips used in microcomputer.

Classification and organization of computers- digital and analog computers and its evolution.

Major components of digital computer.

Central processing Unit., Memory of computers.

System software and programming techniques. Macro, Micro programming,

Program html basics & web site design principles

Image, internal and external linking between webpages

Pointers and virtual function

2.4 CHEMISTRY

Acid Base, Aqueous, NonAqueous, Basic knowledge of elements

Organic and inorganic and Physical chemistry.

Molecular deductions

Rules of thermodynamics

Photochemistry and rules of equilibrium

CHEMISTRY OF ORGANIC HALIDES

Alcohols: Nomenclature, preparation, properties and relative reactivity of 1°, 2°, 3° alcohols, Bouvaelt-Blanc Reduction for the preparation of alcohols, Dihydric alcohols – methods of formation, chemical reactions of vicinal glycols, oxidative cleavage [$\text{Pb}(\text{OAc})_4$ and HIO_4] and pinacol-pinacolone rearrangement.

Structure and bonding in phenols, physical properties and acidic character, Comparative acidic strength of alcohols and phenols, acylation and carboxylation.

ALDEHYDES AND KETONES

CHEMISTRY OF TRANSITION SERIES ELEMENTS

OXIDATION AND REDUCTION

COORDINATION COMPOUNDS: Werner's theory and its experimental verification, IUPAC nomenclature of coordination compounds, isomerism in coordination compounds. Stereochemistry of complexes with 4 and 6 coordination numbers. Chelates, polynuclear complexes.

CHEMISTRY OF LANTHANIDE ELEMENTS Electronic structure, oxidation states and ionic radii and lanthanide contraction, complex formation, occurrence and isolation, lanthanide compounds. B.

CHEMISTRY OF ACTINIDES General features and chemistry of actinides, chemistry of separation of Np, Pu and Am from uranium, similarities between the latter actinides and the latter lanthanides

3. B.Com.–

3 years

Undergraduate program

Program Outcomes -

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

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

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

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

The students after the completion of this course will be enabled to submit Income Tax Returns, Advance Tax & Tax deducted at source ,will be able to identify the procedures of Tax collection authorities under Income Tax Act.

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

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

The students after the completion of this program will become well versed with financial accounting, business communication. Business mathematics and business regulatory framework and essentials of cost accounting

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

4. B.Sc. Home Science – 3 years Undergraduate programme

Programme Outcomes and Programme Specific Outcomes

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

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

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

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

The students after completing this course will be able to understand the importance of early childhood care and significance of intervention programs for early child development. CO2. The students after completing this course will be able to understand the major theoretical approaches and implication for early child development.

5. B.A.–

ENGLISH LITERATURE, HINDI LITERATURE, SANSKRIT LITERATURE, ECONOMICS, SOCIOLOGY, GEOGRAPHY, POLITICAL SCIENCE

3 years Undergraduate programme Programme Outcomes. The undergraduate programme in Hindi Literature / English Literature / Sanskrit Literature / Economics / Political Science / Sociology / Geography is aimed at providing the students necessary inputs so as to set forth the task of bringing about new and innovative ideas/concepts. The formulated model curricula in Hindi Literature / English Literature / Sanskrit Literature / Economics / Political Science / Sociology / Geography are in tune with the changing scenario and incorporate new and rapid advancements and multi-disciplinary skills, societal relevance, global interface, self-sustaining and supportive learning.

5.1.Hindi

Enable students to understand the literary contents in Hindi language.

Improves the knowledge on business letter writing PatraaurShabdavali.

Enhances the knowledge of stories and essays in Hindi language.

Improves professional commercial vocabulary of students for career opportunities.

Collection of Poems enables students to understand the Poetry aspects in Hindi literature.

Increases the knowledge of Doha and Poetry in Hindi literature.

Improves professional commercial vocabulary through Hindi meanings

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

5.2. Sanskrit

Equips students with basic grammar skills and improve their ability to converse in Sanskrit.

Generates an idea about Sanskrit prose and shed light on prose writers.

Ignites an affinity for study of prose and develop adequate ability in concepts of Grammar.

Improves translation skills in Sanskrit.

Exposes students to the splendor of Sanskrit drama and thus nurture the usage of literary language.

Provides insights into the contributions made by ascetics and greats to the field of commerce which would pave way for new frontiers of knowledge.

5.3. Economics

S. N.	PROGRAMME/ COURSE	PAPER	COURSE OUTCOME
1.	B.A. I Economics	Micro Eco.	- An introduction to economics - Preliminary knowledge of micro economic theory
		Indian Economy	- Basic understanding of Indian economy before and after independence.
2.	B.A. II Economics	Macro Eco.	- Basic understanding about the macro eco. - To make the students able to understand and analyse the macro economic policies.
		Money, Banking & Finance	- Building awareness about Money, Inflation, Banking policies and Govt. income and expenditure.
3.	B.A. III Economics	Economics of Growth & Devt.	- Imparting Knowledge about growth and development. - Building awareness about environment.
		Statistical Methods	- An introduction to the data and its analysis. - Knowledge about various statistical methods.

6. M.A. English Literature – 4 Semesters Postgraduate program

Programme Outcomes - Students would be able to think critically on contemporary literary issues of English literature and its national & global implications.

Students would be able to signify the influence of English literature on contemporary societal causes and hence develop into a better citizen.

Students would be able to perceive contemporary literary issues of English literature both objectively and subjectively. PO4. Students would be able to develop better social interaction skills for greater exchange of thoughts and ideas. PO5. The students will be able to think critically and take informed decisions after identifying the accuracy and validity of their assumptions and ideas from intellectual, organizational, and personal perspectives. PO6. The students will be able to communicate effectively through speaking, reading, writing and listening clearly in one India. Programme Outcome

The programme:

- helps the students learn the evolution of language and the politics
- enhances critical thinking of students
- cultivates language skills of students by introducing them to structures of language through a wide variety of literary works.
- hones the writing skills of students and they learn the conventions of academic writing •instills a critical perspective with which students approach the disciplines
- introduces different literary periods and trends of each of these periods.
- introduces works written by different sections of people(gender, racial and ethnic minorities) and makes the students give critical responses from different perspectives.

By the end of the programme, the students:

- critically interact with works from different contexts: social, political, economic, historical and national as subjects conscious of their own socio-historic specificity and thus their level of critical thinking is enhanced.
- become thorough with reading works with theoretical basis
- Students become capable of interpreting and exploring relationships from the points of view of different people.
- become inspired by fiction, open up their minds and stimulate the sympathetic/empathic imagination by allowing them to see the world through other's eyes as well to foster intercultural dialogue
- approach and appreciate Indian literature in English and explore its uniqueness and its place among the literatures in English.
- learn what language is and what knowledge a language consist of. This is provided by basic examination of internal organization of sentences, words, and sound systems. The course assumes no prior training in linguistics.
- get sensitized with the critical tools used in the reading of literature

- form an idea of the complex nature of literary studies and how they are entangled with other aspects of the social body.
- gain perceptive insights into the socio-political dynamics, the structuring points of view, the dominant ideology, hegemony, the prevailing common sense and communal underpinnings that mediate the writing, production, reception and survival of a work.
- learn literary terms and the various streams in literary criticism, to make them aware of the inter-disciplinary nature of contemporary criticism and to develop in students, skills for literary criticism.
- Inculcate a literary, aesthetic and critical awareness of diverse cultures and literary creations and thus to arrive at a broader vision of the world.
- come to know about the evolution of the Feminist movement and to familiarize them with the various issues addressed by Feminism
- become sensitized to issues like marginalization and subjugation of women
- develop sensible response to great classics in translation and fine tune analytical skills with a view to achieving a broad, wholesome vision of life

Core Courses		
S.NO	Course Name	Course Outcome
01	British Literature from the Age of Chaucer to the 18th Century	# To make the students aware of these literary periods and the trends of each # To introduce them to a bunch of English poetry; drama; prose and fiction
02	British Literature: The Nineteenth Century	# To make the student thorough with the main writers and their works of the literary period # To introduce works of different authors and their styles. # To make the students capable of analyzing these works.
03	Twentieth Century Literature up to World War II	# To instill in the students the ability to analyse these works from the political, historical and sociological perspectives.
04	Criticism and Theory	# to instill in the students a theory basis # to make the students analyse and interpret literature based on the # To enhance the critical thinking of students by introducing to them a bunch of literary and political theories. # To make them known the evolution of literary theories.

05	Twentieth Century British Literature: Post 1940	# To know the trend of the writing of this period # To introduce poems, prose and drama of the period and to make them analysed in the light of the trend of the period. # To study how politics of the time influence literary works and vice versa.
06	Indian English Literature	# To provide an overview of the various phases of the evolution of Indian writing in English. # To introduce students to the thematic concerns, genres and trends of Indian writing in English. # To expose students to the pluralistic aspects of Indian culture and identity.
07	Drama	# To introduce students to the best British plays. # To generate a broad vision of life by making the students to come to grips with universal problems discussed in these dramas. # To make the students explore how universal are these dramas and how politically motivated are these writings.
08	American Literature	# To introduce the students the periods of American literature. # To introduce to them a bunch of poems, plays and fiction written by American authors and make the students know the trend of these from time to time.
09	Post-Colonial Poetry	# To introduce the theory of post colonialism # To enable the students interpret literature based on the theory. # Know sensitize the students with how language has borne the politics of the colonizer.

7. M.A. Political Science – 4 Semesters Postgraduate program

Programme Outcomes

Students would be able to think critically on political issues and its national & global implications. Students would be able to shoulder socio-political responsibilities in its true form and hence develop into a better citizen

Students would be able to perceive political issues both objectively and subjectively.

Students would be able to develop better socio-political awareness and interaction skills for greater exchange of political thoughts and socio-political ideas.

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

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

8.M.Com. – 4 Semesters Postgraduate program

Program Outcomes

The Master of Commerce (M.Com.) semester wise programme offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of commerce by providing systematic learning of managerial economics, advance accounting, income tax law & account, statistical analysis, corporate legal framework, business economics, specialized accounting, tax planning & management, advanced statistics, business law, management concept, organizational behavior, advanced cost accounting, management accounting, accounting for managerial decisions, principles of marketing, advertising & sales management, marketing research, international marketing and research project work. The students after the completion of this program become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business establishments, industries, commercial set-ups and other public/private commercial sectors like banking, stock-exchange, insurance, NBFCs as accountants, investment bankers, business analysts, finance officers, business / financial advisors etc.

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

The students after the completion of this program will become well prepared to take up various professional assignments, engagements and jobs in medium to large scale business.

9.M.A. Economics – 4 Semesters Postgraduate program

Program Outcomes

The M.A. Economics semester wise program offered by the College accomplishes the students to cash in on the opportunities and overcome the challenges in the field of economics by providing systematic learning of Economics – Micro, Macro, Quantitative, Indian, Industrial, Research, Indian policy, Labor, Growth, International, Public, Environmental, Demography, Development & Planning, Social sector and Viva-Voce.

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

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

S. N.	PROGRAMME/ COURSE	PAPER	COURSE OUTCOME
	<u>Programme Outcome</u>	M. A. (Eco.)	<ul style="list-style-type: none"> - Students will be eligible for various career options like Indian economic services, Assistant professor, Indian statistical services, Banking and other financial services. - Students can go for further studies like M.Phil., Ph.D. - Students will not only be able to understand various macroeconomic concepts but also be able to explain it. - Students will also be able to take small research projects related to social and economic problems.
4.	<u>Course Outcome</u> M. A. I	Micro Eco.- I	- To help students to understand the behaviour of individuals & firms in making decisions on the allocations of limited resources.
Macro Eco.- I		- It helps students to study the aggregates and to provide overall idea about national economic policies and its implications.	
Quantitative Methods		- The course will help the students understand the issues regarding data collection, presentations, analysis and interpretation of data.	
Indian Economy		- It helps in developing understanding of the students related to different sectors of Indian economy.	
Industrial Eco.		<ul style="list-style-type: none"> - - Students will be exposed to various concepts regarding industrial economics. - The course will provide understanding about Indian industries. 	
5.	<u>Course Outcome</u> M. A. II	Micro Economics- II	- The students will be exposed to some mathematical concepts like game theory, linear programming and also the welfare economics.
Macro Eco.- II		- Students are exposed to various macro economic issues like saving and investment, balance of payment and money supply etc.	
Research Methodology & Computer Application		<ul style="list-style-type: none"> - The students will be able to handle a research project related to economics and social sciences. - The students will be able to collect data, analyse and interpret it. - It will also enable the students to process data with the help of various computer programs. 	
Indian Economic Policy		<ul style="list-style-type: none"> - To learn how to think critically about public policy issue. - It will help in anticipating aggregative economics analyses and establishes the functional relationship among large 	

			aggregates.
		Labour Eco.	- It will help to understand various issues related to labour like low wages, migration etc.
6.	Course Outcome M. A. III	Eco. Of Growth	- <i>Explain the economic development theories and related development strategies.</i>
		International Trade	- To explain the rationale behind international trade. - To explain various barriers & other issues related to international trade.
		Public Finance	- It will help the students to analyse the impact of public policy on the allocation of resources and the distribution of income in the economy.
		Environmental Eco.	- It will enable the students to understand the problem of environmental degradation. - It will develop the understanding of the relation between economy and the environment. - It will also help in understanding the role of tax and subsidy to curb the environmental damages.
		Demography	- To make the students aware of the importance of population studies. - It helps in understanding the population problem and other issues related to population in India.
7.	Course Outcome M. A. IV	Eco. Of Devt. & Planning	- Understanding various growth models. - Imparting knowledge of Indian Plan Strategies.
		International Eco.	- To make the students aware about international trade theories, international institutions like world bank, IMF, International trading blocks like ASEAN, NAFTA, SAARC etc.
		Public Eco.	- It will enable the students to understand the federal finance system in India. - It will also make them understand about Indian tax system. - The students will also be able to know the fiscal position of the Chhattisgarh government.
		Eco. Of Social Sector	- The paper explains the economics behind the education and health. - It also helps them to understand the human devt. Index and other social devt. Indicators.
		Viva- Voce	- Evaluation of the learning of the students. - It provides exposer for the students to direct personal interview.

10.M.Sc. Chemistry-

4 Semesters Postgraduate program

Program Specific Outcomes

The Purpose of this paper is to give description about symmetry and its elements and splitting of orbital. In Concept in Organic Chemistry, students learn about reaction intermediates and stereochemical and conformational analyses. Quantum Chemistry, Thermodynamics and Chemical dynamics. The student learn about rate of reaction and different model system.

Theory and Application of Spectroscopy, student learn about different electromagnetic radiations and their application in day to day life

Students learn about Transition Metal Complex The purpose of this is to give detailed description of electronic spectra of metal complexes and their reaction mechanism. Reaction Mechanism Student learns about the Mechanism of substitution reactions and effect on reactivity. Quantum Chemistry, Thermodynamics and Chemical Dynamics, the purpose of this paper is to give Knowledge about different interface, statistical Thermodynamics and their approximate method. Students learn about Fragmentation techniques of molecules are studied in Theory and Application of Spectroscopy In Theory and Application of Spectroscopy.



Dr. Smt. Alka Meshram

Principal

Indira Gandhi Govt. Arts and Commerce College

Man Nagar, Bhilai

Govt. Indira Gandhi P.G. College
Vishali Nagar Bilai