GOVERNMENT COLLEGE BHORANJ (TARKWARI)
(A NAAC 'B' Grade Institute)
Affiliated to Himachal Pradesh University Shimla

PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES AND COURSE OUTCOMES

Program Outcomes

Name of Program	Outcome
Bachelor of Arts	Student seeking admissions for B.A. programme are expected to imbue with following quality which helps them in their future life to achieve the expected goals. • Realization of human values & ethics. • Sense of social service. • Responsible and dutiful citizen. • Ability to Creative & independent and lifelong learning. • Understand critical thinking. • Learn effective communication skill. • Demonstrate social interaction & effective citizenship. • Understand environment and sustainability.
Bachelor of Science	The under-graduate programme is aimed at making student capable of comprehending the post-graduate syllabus and be able to analyse simple as well as complex situations involving application of scientific concepts in real life situations. B.Sc. graduates would apply their expansive knowledge of science over a scope of fields, with inside and out learning in at least one field of discipline of their studies. A science graduate is expected to articulate the methods of science and explain why current scientific knowledge is both contestable and testable by further inquiry. Apply appropriate methods of research, investigation and design, to solve problems in science. A science graduate would be competent and independent enough for further higher studies within the field. A science graduate can work in an autonomous and sorted out way, set objectives for specified work, devise a work routine and tail it.
Bachelor of Commerce	A commerce graduate has immense opportunities in solo entrepreneurs, marketing, auditing, finance, income tax and other direct and indirect tax counselors, filling of various returns, etc. A commerce graduate can open their own business venture He can start their own venture for doing internal audit They can do further studies up till research They can start their own shops, They can pursue administrative services like IAS and HAS They can work as interns to chartered accountants and auditors.
Bachelor of Computer Application	Focuses on preparing students for roles pertaining to computer Applications and IT Industry. Developing programming skills, networking skills, packages, programming languages and modern techniques of IT. Professional skills: Attain the ability to design and develop computer applications, evaluate and recognize potential risks and provide innovative solutions. Successful Career and Entrepreneurship: Explore technical knowledge in diverse area of Computer Applications and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies. Evolve as globally competent computer professionals possessing leadership skills for develoing innovative solutions in multidisciplinary domain. few of them being like Software Programmer, System and network Administrator, Web Designer, faculty of Computer Science and Applications. Students can develop static and dynamic websites using web technologies such as HTML, CSS, ASP.Net, PHP and JAVA Script and providing connectivity with backend using Databases such as MS Access, SQL.

Program Specific Outcomes

Bachelor of Arts (BA)	
BA with English	1. The students acquire communication skills, critical and analytical thinking, interpersonal skills, time management and awareness towards day to day developments and develop scientific and secular approach. 2. The avenues available to the students are in the field of administrative services, teaching, journalism and writers, creative and technical writing. 3. They can be employed as ESL teachers, interpreters and soft skill experts.
BA with History	1. Students will be able to understand the basic themes, concepts, and chronology of Indian history. (As well as world history) 2. It will also develop a sense of thinking and arguing historically and critically in writing and discussion. 3. Student will prepare themselves for various types of competitive exams. 4. Career employability such as tourist guide, heritage manager, interpreters, teachers, archivist, archaeologist, librarian, museum curators, researcher, historical fiction writer, journalist and historian. 5. It will develop practical skills which are helpful in the study and understanding of historical events of India and in others countries. 6. This will also helpful in understanding the background of human evolution, its religion, various customs, different institutions and ancient administration. 7. It will also develop a sense of preservation for our ancient history and its various aspects i.e Inscriptions, Coins, Sculptures, manuscripts, monuments, paintings and customs etc. 8. It will develop the habit of visiting archaeological sites, museum, and various archives related to Indian history. **9.** Awareness among the students for their local customs, beliefs, art and painting, Social and religious history.
BA with Economics	1. To familiarize the students with the recent development in the Indian economy. 2. To provide the students with the background of Indian economy with the focus on contemporary issues like economic environment 3. To help the students to prepare for varied competitive examinations. 4. Ability to develop awareness on the various new developments in different sectors of an economy – Agriculture, industry, services, banking, etc. 5. Ability to compare and contrast Indian economy with other world economics. 6. Developing research knowledge in economics. 7. Developing the knowledge about theories of economic growth & Development and issues of economic planning.
BA with Political Science	1. Knowledge about political process of the nation 2. Study of national and international political relation. 3. Study from competitive examination point of view. 4. Understanding the government and its functions and duties. 5. Creating appropriate and efficient political leader and party. 6. Getting knowledge of Constitution of India.
BA with Public Administration	Students will be having broad understanding of public affairs, policy development, policy analysis, economic analysis, management skills, and organization theory and their applications to public service Understand the form and substance of Local Self Governments in Indian scenario Understand and analyze social policies, their structures in India like health, education Gain knowledge about contribution of major thinkers in the areas of management, motivation, leadership, development To develop to communicate effectively, both in writing and oral, using the important terminology, facts, concepts, and theories used in the subject Public Administration

BA with Hindi	**1.** छात्रों में साहित्य वाचन, लेखन और हिन्दी भाषा के शुद्ध प्रयोग पर बल देना **2.** हिन्दी भाषा में रोजगार के अवसर उपलब्ध कराने योग्य कौशल्य छात्रों में निर्माण करना **3.** साहित्यिक लेखन के प्रति आलोचनात्मक दृष्टिकोण बढ़ाना **4.** साहित्य में रुचि पैदा करना **5.** साहित्य और समाज के प्रति शोध दृष्टिकोण छात्रों में विकसित करना **6.** छात्रों को हिन्दी भाषा के विभिन्न रूपों का ज्ञान करवाना **7.** छात्रों को आदिकाल**,** भक्तिकाल**,** रीतिकाल और आधुनिक काल की विभिन्न शाखाओं**,** उपशाखाओं तथा साहित्यिक परंपरा और तत्कालीन परिवेश से अवगत करवाना
BA with Sanskrit	1. Students of Sanskrit will be able to read, understand, write and speak Sanskrit. 2. They would acquire the knowledge of Sanskrit grammar, literature, history of literature, Indian philosophy, Veda, Vedang, Vedic literature, dharmasatra, arthasastra, nitisatra and inscriptions. 3. They will also acquire the initial knowledge of indian civilisation and culture through sanskrit texts. 4. They will be capable of studying Vedic and classical Sanskrit literature. They will be able to understand the ultimate goal of life. 5. They would prepare for UPSC WBES and translation jobs. After passing their PG they can apply for teaching jobs in schools, colleges and universities.
BA with Physical Education	1. The students studying physical education learn basics of various games like basketball, kabaddi, badminton, weight lifting, athletics, cross country race, table tennis, etc. 2. They learn about system of human body, nutrition, rehabilitation, etc. 3. They learn about their physical, mental, social, emotional and psychological development. 4. They can be employed as PTI in various institutions, teaching, coach, trainees, gym instructors, physiotherapist, psychologists, dieticians, sports administrators, sports managers, rehabilitators, adventurous- sports, water sports etc.
BA with Music (Instrumental)	1. The students learn basic knowledge of Sitar in this graduation course of Music (Instrumental). 2. They learn basics of classical music like Raag, Taal and other theoretical knowledge about music. 3. They can pursue after graduation in teaching in schools /colleges/universites, Radio artist, Television artist, solo performers in various in Govt. as well as private sector .
BA with Geography	After this course students shall be able to 1. Study the land forms and processes. 2. Understand the structure, composition of different spheres of the earth and its Atmosphere. 3. Understand importance of oceans, rivers and water and find ways of their conservation 4. understand the Function and types of Biogeography 5. Understand the science of Remote Sensing 6. Make use GIS & GPS software
BA with Sociology	1. Understand structure of society, social groups, social process, culture and socialization 2. Understand the concepts of social structure, marriage system, family and religion 3. Understand social problems and disorganization in Indian society 4. Learn about renowned social thinkers 5. Learn about research methodology in sociology 6. Understand basic concepts in rural-, urban- and industrial sociology
Bachelor of Commerce (B.Com.)	
B.Com.	Faculty of Commerce prepares student to have a basic knowledge of : 1. Finance, accounting and online filling up financial transactions through Tally 2. Auditing 3. Income tax and filling up of Income Tax return online 4. Marketing, e-commerce and personal selling 5. Statistics and mathematics 6. Various Corporate Laws 7. Various Industrial Laws 8. Economics and Indian economy 9. Entrepreneurship 10. They can pursue various careers in the above said fields.

	11. They have immense avenues in teaching, interns as auditors, marketers, banking sector employees and enterpreneures, etc. Along with the above said areas.
Bachelor of Sciences (B.Sc.)	
B.Sc. with Botany	1. Know the characteristics, systematics, morphology, structure and life cycle pattern of Viruses, Mycoplasma, Bacteria, Cyanobacteria, Algae, Fungi, Lichens, Bryophytes and Pteridophytes, gymnosperms and Angiosperms 2. Understand the nature and basic concepts of cell biology, genetics, anatomy, morphology, Biochemistry, Physiology, Taxonomy and ecology. 3. Analyze the interrelationships among prokaryotic and eukaryotic organisms 4. Study of organization and function of the gene, genome, cell, tissue, organ and organ-system including development, reproduction, ecological and physiological adaptations and behavior of different forms of life. 5. Understand the importance of plants, their diversity and its conservation. 6. Achieve pure and applied botanical knowledge. 7. Perform procedures as per laboratory standards in the areas of Biochemistry, Physiology, Biotechnology, Taxonomy, Economic Botany and Ecology 8. Demonstrate hands on skill in the experimental techniques and methods of analysis in various field of Botany. 9. Students able to start nursery, mushroom cultivation, biofertilizer production, fruit preservation and horticultural practices.
B.Sc. with Zoology	A broad understanding of animal diversity, including scientific classification and evolutionary relationships of major phyla/groups of animals is the prime objective. The structural and functional relationships at different levels of biological organization (e.g., molecular-, cellular-, tissue-, organ-, organismal-, population-, and species-level organizations) with respect to major phyla/groups of animals is conceptualized in order to understand the life and its prevalence. To study the interactions of biological, chemical, and physical features of environment or the habitat (e.g., terrestrial, freshwater, marine, host) among living organisms is also emphasized upon. To get aware of the animal growth n development, metabolism and propagation of pre-existing life forms is predominantly included. A latest elementary understanding of genetics and inheritance; molecular concepts; micro-techniques; biotechnical procedures; immunological interactions; bio-statistics and bio-informatics related to the living forms and their progression is not left out. Further, the students are made aware of the application of zoology in different facets of mankind environment under the banner of economic zoology such as seri-culture, api-culture medical diagnostics.
B.Sc. with Chemistry	1. Chemistry being material science will enrich the graduates with better understanding of the physical world around, i.e., the composition of materials, their uses, properties, synthesis and reactions etc. 2. The study of various applied fields like analytical chemistry, spectroscopy, polymers, cosmetics, pesticides, perfumes and Skill enhancement courses will equip students with the knowledge and skills which will help them to make a successful career in the respective industries. 3. Chemistry graduates will learn the proper regulations and procedures for the safe handling, storage and use of chemicals. Hence will become eco-friendly, eco-protective, an ability to determine hazards associated with the chemicals use and able to eliminate the harmful impacts on the living beings and environment. 4. Graduates will be able to use standard laboratory equipment, modern instrumentation and classical techniques to carry out the experiments as well as interpretation of data generated in instrumental chemical analysis. 5. The broad knowledge necessary to understand the impact of Chemistry in the global,economic, environmental and social context. 6. An ability to use the techniques, skills and modern tools for research activities. 7. After pursuing higher education, graduates in Chemistry will become eligible to make successful career like scientists, academician, analysts etc., in different fields like research institute, higher education institutes, industries etc., of national and international repute. **8.** Chemistry graduates will be the crusaders of the use of clean and green technology for sustainable growth and development
B.Sc. with	Students will be having a rigorous understanding of the core theories & principles of physics,

Physics	which include mechanics, electromagnetism, thermodynamics, & quantum mechanics. They will learn the Concept of Quantum Mechanics, Relativity, introduced at degree level in order to understand nature at atomic levels. They will gain knowledge about material properties and its application for developing technology to ease the problems related to society. They will understand the set of physical laws, describing the motion of bodies, under influence of system of forces. The will understand the relationship between particles & atom, as well as their creation & decay. They will be able to relate the structure of atoms & subatomic particles They will understand physical properties of molecule the chemical bonds between atom as well as molecular dynamics. They will be able to analyze the application of mathematics to problem in physics & development of mathematical method suitable for such application & for formulation of physical theories. They will learn the structure of solid materials & their different physical properties along with metallurgy, cryogenics, electronics, & material science. They will understand fundamental theory of nature at small scale & energy levels of atom & subatomic particles.
B.Sc. with Mathematics	Mathematics UG students will be able to apply critical thinking skills to solve problems that can be modeled mathematically, to critically interpret numerical and graphical data, to read and construct mathematical arguments and proofs, to use computer technology appropriately to solve problems and to promote understanding, to apply mathematical knowledge to a career related to mathematical sciences or in post - UG studies. The students will develop the mathematical logic which is very useful for solving mathematical reasoning problems.
B.Sc. with Computer Science	1. Explain about the basic concepts of program development statements and its syntax. 2. Explain the various types of arrays and its structure. 3. Explain the top-down and bottom-up programming approach and apply bottom up approach to solve real world problems. 4. Explain about basic Java language syntax and semantics to write Java programs 5. Discuss the fundamentals of object-oriented programming in Java, including defining classes, objects, invoking methods 6. Describe the basic components of an operating system and their role in implementations for general purpose, real-time and embedded applications. 7. Explain what multi-tasking is and outline standard scheduling algorithms for Multi- tasking. 8. Describe the fundamentals of File processing and database processing system. 9. Explain the various normal forms and its role in DBMS.

Course Specific Outcomes

BA with English

BA 1st Year	Core English, English Lierature(Essay, Stories and Poems), linguistic plurality and Bhakti Tradition, Language Politics: Hindi and Urdu, Tribal verse, Dalit Literature, Aspects of civilisation	Becomes fluent in English reading, writing and conversation. Develops etiquettes. Develops speaking skills, listening skills, speech making, resume writing and manners to be adopted while facing interviews.
BA 2nd Year	Core English-2, Essays, Poetry, Applied Grammar, British literature, Literary cross current, Modern Indian literature, media reviews, Translation in India.	Learn Grammar required in the competitive exams, study poems, short stories, various literary terms, various forms of dramas, translation and principals of translations, translation from source language to target language, book and media reviews, creative and imaginative writing.
BA 3rd Year	Language Skills, technical writing, Project report, introducing business and corporate communication, Kinesics, Proxemics, emotional intelligence, Features and conventions of Academic writing, Literature from Himachal, Contemporary India: Women and empowerment.	Learn preparation of Manual, memorandum, minutes of Meeting, power point presentation, Basic research Methodology, Project report, qualitative and quantitative interpretation, reading and interpreting Datas ,Business communication skills, Corporate communication skills, writing skills and modern communication, Non Verbal Aspect of communication, Team work, Adaptability, Problem solving, Sex and gender, socialisation, discrimination, Feminism.

BA with Music (Instrumental)

BA 1st Year	Students learn in BA with Music in 1st year basic principles of Indian music and biographies of musicians as a theory as well as practicals.
BA 2nd Year	BA with Music in 2nd year theory of Indian music ancient granthas and contribution of musicologist as a theory as well as practical
BA 3rd Year	Hindustani Music

BA with History

Class	Course	Course type	Course Code	Outcomes
B.A 1st Year	History of India from the earliest times up to 300CE.	DSC 1	DSC-1A HIST (A) 101	• Students will understand the chronology of Ancient India • It will provide knowledge of development and the various achievement of man in Stone Age. • It will through a deep light on the different aspects of Harappan civilization. • It will motivate them to study the religious, spiritual texts of ancient India. • Students will know about the different aspects of Indian history under various dynasties. • It will help them to know about the emergence and philosophy of Jainism and Buddhism. • It will also provide the idea about art and architecture of ancient India.
	History of India C. 300 to 1206	DSC II	DSC-1B HIST (A) 102	• This course helps them to construct the idea about the Guptas, there rulers and administration. • Students will be able to know about the various historical writing of ancient India • It will help them to examine the political structure of ancient India and the emergence of various regional powers. • It will help them to understand the growth of Buddhism. • Knowledge about the various changes in society, economy, and culture in ancient India • Different opinion about the origin of Rajputas and the Arab invaders. • It will also help them to know about various types coins during the Gupta age.
B.A 2nd Year	History of India 1206 to 1707	DSC III	DSC-1C HIST (A)203	• Students will be able to know about the establishment of Delhi sultanate. • Philosophy of Bhakti and Sufi movements. • Foundation and expansion and consolidation of Mughal empire and decline of Mughal empire • It will help them to know about the art and architecture of medieval India • They will be able to identify the various causes of rising of Maratha and Sikh Power.
	History of India 1707 to 1950	DSC-1IV	HIST-1D HIST (A) 204	• It will help them to analyse the 18th century debate. • They will evaluate the different reasons responsible for rise of British power in India • Will help them to critically evaluate the different land revenue settlement in India and its impact on Indian Economy. • This will enhance their knowledge about the various reasons responsible for socio- religious reform movements in India and its legacy to modern Indian society. • It will help them to critically analyse the reasons and mistakes made by Indians during the uprising of 1857. • Comparison of nationalist movement's pre

				Gandhian and Gandhian Era. • It will help students to critically evaluate the Growth of communal politics and the various factors liable for the partition of India.
	Historical Tourism	SEC 1	SEC-1 HIST (A)213	• It will help the student to know about the art and architecture of India. • It will increase their knowledge about the main style of temple architecture i.e. Nagara Vesara and Dravida. • It will provide them detail knowledge about cultural heritage and it will inculcate the sense of preservation towards the glorious heritages of India. • they will differentiate the various temple architecture style of Himachal Pradesh and its importance in modern times • It will help them to map the attractive tourist places in Himachal Pradesh. • Most important is that it will enhance the skill of students to make their career in the field of tourism.
	An Introduction to Archaeology	SEC-II	SEC-2 HIST (A) 215	• Students will be able to know about the archaeology its origin and its development and scope. • With the help of this they will be able to make their perception about the people and their style of living in ancient time. • Field work in Archaeology develops practical, academic, employability, management, team building, communication and problem solving skills. • It will increase their knowledge about various techniques of survey and excavation in archaeology • Student will enable to map the different archaeological sites in India
B.A 3rd Year	Modern and Contemporary World History 1: 1871-1919	DSE 1	DSE-1A HIST (A) 305	• Students will be able to know about the changes occur in modern and contemporary world. • Student will critically think about the various reasons responsible for freedom movements of world. • They will examine the various aspects of Russian revolution. • They will be able to find out the reason of 1st word war and its impacts on world.
	Modern and Contemporary World History II: 1919-1992	DSE III	DSE-1B HIST (A) 307	• This will help the students to examine the different causes of peace settlement and its main consequence. • Students will be able to analyse the different policies which were liable for the origin of 2nd world war and its horrid results. • They will understand the concept of human rights and its relevancy in modern times.
	Indian History and Culture	SEC V	SEC-3 HIST (A) 317	• Students will have deep knowledge of Indian culture, tradition and its main practices. • They will examine various factors leading to urbanization. • They will be able to evaluate the social inequality

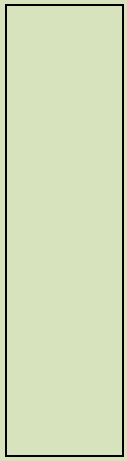
				and the concept of gender. • It will make them to understand the Indian fairs and festivals.
	Introduction to Indian Art	SEC VIII	SEC-4 HIST (A) 319	• They will know about the different arts, crafts, sculptures, reliefs, painting miniature, mural and folk arts of India and its importance in Indian history. • Student can differentiate between the Hindu, Buddhist and Jain art and architecture. • They can analyse the art and architecture style during Hindu and Muslim period.
	Women in Indian History	GE 1	GE-1 HIST (A) 309	• Students will be able to understand the concept of gender and patriarchy. • They can examine the position of women's in ancient Brahmanical and non- Brahmanical texts. • They will identify the renowned women's and their contribution to Indian history. • They will be able to evaluate the various social reforms movement led by the women in Indian history and its contribution to modern India.
	History of Himachal Pradesh, 1815-1972	GE IV	GE-2 HIST (A) 312	• Student will be able to map the geographical position of Himachal Pradesh. • They will critically examine the invasion of Gorkhas and its impact on the history of Himachal. • Will be able to understand the main reasons of British paramountcy on Himalayan region. • They will have detailed knowledge of different movements and its consequences on Himachal. • It will provide them a deep knowledge about the birth of modern Himachal.

BA with Geography

Course Specific Outcomes
1. Courses like Physical Geography, Human Geography, Geography of India etc. aggrandize professional knowledge and are very important for competitive examinations. 2. Remote Sensing & Geographic Information System courses provide basic knowledge about one of the fastest growing and significant fields i.e. Geoinfomatics. Along with Cartography, these courses enhances professional skills and brighten chances of employability. 3. Field Work course provides insight about research and its various aspects. It helps in developing research skills among students. 4. Disaster management enables students to be useful citizen and helps in developing lifesaving skills.
Career Oportunities
1. BA -> MA/MSc ->CSIR/UGC NET, SET ->MPhil -> PhD -> Researcher/Academician/Scientist (Teacher in college/ university) 2. BA -> MA/MSc. + B.Ed. -> Teachers in schools 3. BA -> MA/MSc. + Diploma/Degree in Remote Sensing & GIS/ Geoinfomatics -> Geospatial Analyst in various organisations/computer mapping specialist. 4. BA -> MA/MSc. + Degree in Urban & Regional planning etc. -> Urban/Land use/Town Planner. 5. BA -> MA/MSc. -> Cartographer/Demographer 6. Climatologist, Meteorologist, Climate Change Analyst 7. Disaster management -> Various NGOs 8. Environmental Analyst 9. BA -> MA/MSc. -> Geographer in various ministries and departments. 10. Tourism developer/ travel consultant. 11. Surveyor 12. CDS, HAS/IAS, SSC, CPF, HP Allied services etc. (Geography – plays crucial role)

BA with Physical Education

Class	Course	Course type	Course Code	Outcomes
B.A 1st Year	Introduction to physical Education	DSC 1	PED 101 TH	Students learn about aim and objectives of physical Education. Historical development of physical Education in India, education and sports and as well as practical students opt their career in Teaching, coaching, instructor dietitian etc.
	Olympic movement and organization of Tournaments	DSC II	PED 102 TH	Students learn about Olympic games, Asian Games, commonwealth Games performance of India in above said championships, Role of IOA, SAI, NSNIS and khelo Bhart abhiyan to develop Physical Education and sports in India, intramurals and extramural tournament and they also know about how to organize a tournament. And they know about Athletics Basketball and Table-Tennis
B.A 2nd Year	Human Anatomy and Physiology	DSC III	PED 201 TH	Students learn about various systems of human body, Physiology, exercise physiology, Energy Sources, fatigue and factor responsible for fatigue they also know about Athletics, Handball and Boxing.
	Sports Psychology	DSC-1IV	PED 202 TH	Students learn about Psychology, Sports Psychology, factor affecting sports performance, growth and development motivation, Individual differences, Heredity and Environment they also learn about discus throw, Triple Jump Hockey ad Judo.
	Sports medicine Physiotherapy and Rehabilitation	SEC 1	PED 203 TH	Students learn about sports medicine, Physiotherapy and Rehabilitation they also learn about doping, Hydrotherapy and thermotherapy.
	Sports Training	SEC-II	PED 204 TH	Students learn about sports training, warming up and cooling down, training components, training process, training load Technical Training, Tactical Training and also about Training session
B.A. 3rd Year	Recreation	DSE 1	PED 504 TH	They learn about recreation, importance of recreation in modern age, camps, educative value of camps, recreation providing agencies, picnic and educative value of picnic.
	Methods of Teaching in Physical Education	DSE III	PED 602 TH	Students learn about methods of teaching in physical Education, lession plan, class activities, Teaching aids, presentation teaching skill, classformation, and importance of evaluation
	Specialization in Volleyball Football, Kabaddi	SEC V	PED 501 PR, 502 PR, 503 PR	Students learn about Volleyball, Football and Kabaddi
	Specialization in Athletics	SEC VIII	601 PR	Students learn about specialization in athletics. They will learn about track and field events.



B.Sc. with Botany

B.SC. 1st Year	Discipline Specific Core Course-I Biodiversity- Microbes, Fungi and Archegoniates	1. To study in depth about Viruses, Prokaryotes & Algae and to gain knowledge about microbial diversity. 2. To Know the General characteristics, systematics, morphology, Ultramicroscopic cell structure and life cycle pattern of Viruses, Mycoplasma, Bacteria, Cyanobacteria and Algae. 3. To understand the useful and harmful activities of Viruses, Mycoplasma, Bacteria, Cyanobacteria and Algae. 4. To give information about Fungi, Lichen, Plant Pathology & Bryophyta and their life cycle. 5. Know the General characteristics, Classification of Fungi, algae and archegoniates (bryophytes, pteridophytes and gymnosperms) 6. To make them Understand the Life history of *Phytophthora, Puccinia, Yeast, Venturia* and *Agaricus* 7. To make them Understand the Life history of *Marchantia, Funaria*. 8. To understand the types, Reproduction in Lichens. 9. Know about the Economic importance of Fungi, Lichen and Bryophyta 10. To make them know the life history of *Rhynia, Selaginella, Equisetum, Cycasand Pinus.*
	Discipline Specific Core Course-II Plant Ecology and Taxonomy	1. To study of basics of ecology and environmental factors 2. To provide knowledge about natural resources and their importance in sustainable development. 3. Know the importance of ecosystem-components, Food chain, Food web, Ecological pyramids. 4. Understand plant communities, Climatic & Phytogeographic regions of India. 5. Understand the Plant succession, Morphological, Anatomical & Physiological adaptations. 6. Learn about Environmental Pollution, management, natural and resources. 7. To study Origin and Phylogeny of Angiosperm & Fossil Angiosperms 8. Comprehend the concepts of plant taxonomy and classification of Angiosperms. 9. To give knowledge about Phytochemistry cytology and evolutionary relationship among taxonomic groups. 10. To understand the comparative account of selected angiosperms families and its economic value.
B.Sc. 2nd Year	Discipline Specific Core Course-III Plant Anatomy and Embryology	1. To describe Angiosperm Anatomical & Embryological characters related to study of plants. 2. To study tissues and their functions. 3. Understand the various components of root & stem and its primary and secondary growth. 4. Types of vascular bundles- dicots and monocots in dicot and monocot plants; Secondary growth and anomalous secondary growth in angiosperms. 5. Anatomy of leaf: Dicot and monocot 6. Learn about double fertilization and their significance. Be enlightened about the mechanism of pollination and basic structure and development of the embryo.
	Discipline Specific Core Course-IV Plant Physiology and Metabolism	1. To give knowledge about Biochemistry & Plant Physiology 2. Study of Carbohydrates, Lipids and Amino acids and basics of Enzymology. 3. To study Plant-water relations and mineral nutrition. 4. Study the process of respiration and photosynthesis in higher plants 5. Know the nitrogen metabolism and its importance. 6. To understand Growth Concept, Phytochromes, biological clock, plant growth regulators and plant movements.

		7. Understand the concept of Photoperiodism and vernalization, 8. To learn Seed dormancy and plant defence mechanism.
	Skill Enhancement Course-I Biofertilizers	1. To gain knowledge about the harmful effects of chemical fertilizers on soil fertility and environment. 2. To get insight into the process of manufacturing and commercializing biofertilizers. 3. To get a detailed knowledge about friendly microbes and their hidden benefits to mankind. 4. To know how a specific biofertilizer works and how it can be practically used.
	Skill Enhancement Course-II Gardening and Floriculture	1. To get an idea about landscaping and gardening 2. To know about history of gardening in India 3. To know about various kinds of gardening methods like Mughal gardens, British gardens, French gardens and Japanese gardens. 4. To know about some famous gardens of India and the world
B.Sc. 3rd Year	Discipline Specific Elective Course-IA Economic Botany and Biotechnology	1. To understand about economically important plants 2. To get knowledge about medicinal, food yielding and fibre yielding plants 3. To get an idea how various crops are cultivated 4. To get an insight into plants yielding rubber, tannins and dyes 5. To know about plants important in beverage industry 6. To know about hallucinogenic plants 7. Understand the basics of genetic engineering and tissue culture techniques and its application 8. To understand about biotechnology incubators and their uses
	Discipline Specific Elective Course-IB Cell and Molecular Biology	1. To know about techniques of microscopy and X-ray differaction 2. To understand the structure and functions of various types of cells and the organelles. 3. To understand the biochemical nature of nucleic acids, their role in living systems. 4. To understand central dogma of life which includes DNA replication, Transcription and translation 5. 3To understand the process of gene expression synthesis, genetic code and operon concept.
	Skill Enhancement Course-III Ethnobotany	1. To know about history of utilization of plants for the benefit of mankind 2. To know about various ethnic and tribal groups of world with special reference to India 3. To know about use of plants by various tribal communities 4. To know about different systems of plant based herbal medicines like Ayurveda, unani and siddha system of medicine 5. To understand the folk medicine system 6. To understand how mankind has evolved along with evolution of plants 7. To understand how plants can be used by man for satisfying his needs and also sustainable use of plant wealth.
	Skill Enhancement Course-IV Plant Diversity and Human Welfare	1. To know about the concept and scope of biodiversity 2. To get a knowledge about the history of study of biodiversity 3. To know about methods of studying and measuring biodiversity 4. To get an insight into various levels of biodiversity 5. To know about values of biodiversity 6. To know about various factors which cause loss to biodiversity 7. To know about biodiversity conservation and various organizations working for biodiversity conservation.

B.Sc. with Physics

Class	Course	Course specific outcome
BSc 1st Year	DSC-I (Mechanics)	Academic purpose The study of mechanics allows students to analyze many familiar phenomenons around us like mechanics of Planets, stars and galaxies. The laws of motion help students to understand the motion of macroscopic objects around us.
	DSC-II (Electricity, Magnetism &EMT theory)	Academic purpose After studying this course the students will apply knowledge of electricity and magnetism to solve the problems in electromagnetism with mathematical methods.
BSc 2nd Year	DSC-III (Statistical and Thermal Physics)	Academic purpose This course will provide the basic knowledge of thermodynamics, and different types of statistics to the students. The students use this knowledge to explore various applications related to topics in material science and the physics of condensed matter.
	DSC-IV (Waves and Optics Theory)	Academic purpose The students will understand various phenomenons like interference, diffraction, scatterings and cause or origin of them. The students will get the knowledge of various optical devices like telescopes, polarizer, interferometer etc.
	SEC-I (Physics workshops skills)	This course will develop the basic skills such as measurement of area, length, volume etc.
	SEC-II (Electrical Circuits and Network Skills Theory)	This course enables students to design and troubleshoot the electric circuits, networks and appliances through hands-on mode.
BSc 3rd year	DSE-I (Elements of Modern Physics)	Students will understand fundamental of quantum mechanics and apply to one dimensional motion of elementary particles.
	DSE-II (Nuclear and Particle Physics)	This course intends to explore the interior of Nucleus ad interaction between nucleons. Students will get theoretical knowledge of energy production by nuclear fission and nuclear fusion by studying this course.
	SEC-III (Radiation Safety)	In this course, students will learn safety measures that are to be adopted from the dangerous effects of radiations.
	SEC-IV (Renewable Energy and Energy Harvesting)	In this course students will explore society's present needs and future energy demands, examine conventional energy sources and system.

B.Sc. with Mathematics

Class	Course	Course specific outcome
BSc 1st Year	DSC-I (Calculus)	Academic purpose The study of calculus allows students to understand the concepts of limit and continuity and to understand the relationship between continuation and differentiation. It enables them to trace curves in polar and rectangular coordinates.
	DSC-II (Differential Equation)	Academic purpose It will enhance the mathematical modeling capacity of students and it will further enable them to deal with the problems in generated in various physical phenomenon and further generation of solution.
BSc 2nd Year	DSC-III (Real Analysis)	Academic purpose This course enables the students to learn about properties of real numbers and further sequences and series. This course enables the students to know about the power series solution of differential equation.
	DSC-IV (Algebra)	Academic purpose It allow the students to learn the basic concepts of groups, rings and fields.
	SEC-I (Integral Calculus)	It allows the students to learn, integration and its further applications in calculating the area and volume of the various regions.
	SEC-II (Vector Calculus)	It allows the students to find gradient, divergence and curl of vectors and enables them to understand the various laws of Physics.
BSc 3rd year	DSE-I (Numerical Analysis)	It will enhance the problems solving skills of students as many equations originate in science and engineering which cannot be solved by the analytical methods.
	DSE-II (Transportation and Game Theory)	By this course, students may excel in the field of artificial intelligence,

B.Sc. with Zoology

Class	Course	Course specific outcome
BSc 1st Year	DSC-I (Animal Diversity)	To make students familiar with the non-chordate (without cord) animals that surrounds us. To reach out to their life cycles of key animals and evolutionary aspects including the connecting animals between two phyla/groups To technically/scientifically make the students able to identify the non chordate/invertebrates and classify them up to the class level with the basis of systematic and to comment upon them
	DSC-II (Comparative Anatomy and development biology of vertebrates)	To make students familiar with the chordate (with cord) animals that surrounds us. To study the anatomy across various groups/phyla of chordates and study of growth development and reproduction of type genera.
BSc 2nd Year	DSC-III (Physiology and Biochemistry)	To make them explore the general human physiology such as digestion, respiration, circulation and the enzyme and hormones involved in these processes
	DSC-IV (Genetics and Evolutionary Biology)	To impart the basic knowledge of genetics and Mendelian-, cellular- and extracellular- inheritance, linkage and crossing over concepts of genetic code and chromosomal- studies, -aberrations, -abnormalities and including applied aspects of genetics such as DNA fingerprinting, karyotyping used for identifying genetic disorders/syndromes and counseling for public awareness is also made aware to students
	SEC-I (Medical Daignostic)	Basic knowledge of medical techniques and test available
	SEC-II (Apiculture)	Basic knowledge regarding apiary Entrepreneurship in bee keeping
BSc 3rd year	DSE-I (applied zoology)	Academic purpose Basic knowledge of epidemiology of diseases Knowledge of poultry, Animal husbandry rearing
	DSE-II (Reproductive biology)	To understand the process of development of animals; gametogenesis; fertilization; embryogenesis specially in frog including balstula, gastrulation and so on. To understand the process of development of animals; embryonic membrane development; embryogenesis especially in hen/fowl, mammalian placental structure n functions and additionally stem cell concept
	SEC-III (Sericulture)	Academic purpose Entrepreneurship in silk worm rearing
	SEC-IV (Aquarium fish keeping)	Entrepreneurship in aquarium formation and maintenance Regarding ornamental fish rearing

B.Sc. with Chemistry

Paper Code	Paper Title	Course outcome
CHEM DSE 101 TH	Atomic Structure, Bonding, General Organic Chemistry and Hydrocarbons	• Students will be able to know about the structure of atoms and behavior of matter at elementary level. They will come to know about the dual nature of microscopic particles and their behavior. • They will come to know about the hybridization, shapes of molecules and bonding in molecules take place. • Will come to know the different pathways reactions follow and the intermediates formed during the process. • Will learn about the constituents, synthesis, structure behavior and further applicationsof organic compounds in different fields.
CHEM 101PR	Atomic Structure, Bonding, General Organic Chemistry and Hydrocarbons Lab	• Experimentally performs volumetric determination by neutralization and redox titrations which provoke analytical skills in students. • In organic qualitative analysis students will learn to determine the structure of organic compounds. • Will come to know different methods to separate the mixtures like solvent separation, chromatography etc., and use this technique in industrial as well as medical areas. • Students will employ critical thinking to carry out, record and analyze the results of chemical experiments. They will demonstrate proficiency in the use of appropriate instrumentation to collect and record data from chemical experiments.
CHEM DSE 102 TH	States of matter, Chemical kinetics Functional Group Organic Chemistry	• Able to know the different states matter is composed of and their behavior and properties • Methods for the study of reaction rates and factors affecting them. • Preparation, Chemical reaction, chemical properties and electrophilic substitution of aromatic hydrocarbon. • Preparation and chemical reaction of Alkyl halide, alcohol and phenol, aldehydes and ketones root into the understanding of their physical/chemical properties and their applications.
CHEM CC 102 PR	States of matter, Chemical kinetics Functional Group Organic Chemistry Lab	• The synthesis and purification of the organic compounds by crystallization and distillation are designed to develop synthetic and purification skills in students. • Determination of speed and order of reactions.
CHEM DSE 201 TH	Solutions, Phase Equilibria , Conductance, Electrochemistry & Organic Chemistry	• Students will come to know different methods for the preparation of solutions of different concentrations, • Using concepts of distribution law & phase equilibrium able to describe one or multi component system, salt hydrolysis, distribution indicator and also extraction of metal from its ores. • Study basic concepts and applications of electrochemistry. • Understand ideal and non ideal solutions as well as the basic concept in phase equilibrium. • Know about different type of conductometric and potentiometric titration.

CHEM DSE 201PR	Solutions, Phase Equilibria , Conductance, Electrochemistry & Organic Chemistry Lab.	• Study of distribution law and its applications. • To determine cell constant and equivalent conductance of weak acids • To perform conductometric and potentiometric titrations • To estimate the given functional group present in an organic compound qualitatively. • With the help of these experiments students come to know about the advantage of conductometric and potentiometric titrations over visually performed titrations. • They can analyze the given organic functional group present in an organic compound qualitatively.
CHEM DSE202TH	Chemistry of Main group Elements,Chemical Energetics & Equilibria	• General properties and behavior of elements in the periodic table. • Preparation properties and structure of important compound of noble gases. • Basic laws and principles of Thermodynamics make students to understand working of engines, machines, radiators and also different types of power plants. • Detailed description of chemical equilibrium, Concepts of weak and strong electrolyte and Buffer solution impart insight to understand solution chemical properties.
CHEM SEC 203 TH	Basic Analytical Chemistry	• Skill enhancement course are designed to increase the mental and experimental skills of students in chemistry. • Students know the analysis methods and analytical principles. • This course develops the analytical thinking and awareness, includes basic analytical terms and its applications to soil, food and environment. • A part of this course develops industrial skills and awareness regarding adulterations, contaminants and pollutants etc.
CHEM SEC 204 TH	Fuel Chemistry & Chemistry of Cosmetics and Perfumes	• The course includes the chemistry of fuel, cosmetics and perfumes. Students will come to know the synthesis, different chemical aspects of these commercial products. • Study about synthesis and refining of petrochemical fuel and lubricants. • Graduates will create knowledge of cosmetics and perfume synthesis and their uses.

CHEM DSE-1 COURSE 501	Polymer Chemistry	• Classification, nomenclature, chemical bonding and formation and application of polymers. • Will learn about nature, structure, rheology, of polymers and their properties. • Determination, distribution and significance of molecular weight of polymers. • Detail description of glass transition temperature • Detail description of polymer solution. • Physical, mechanical properties, application of various types of polymers. • Will learn about polymers are used in broad range of industries such as textiles; packaging, stationary, plastics, air craft, ropes, toys and construction to date the importance of polymer have been much more highlighted because of their application in different dominions of sciences technologies and industries for basic uses to biopolymers and therapeutics polymers.
CHEM DSE COURSE 502	Industrial Chemical and Environment Chemistry	• This course develops skill to handle, use and storage of chemicals. Also create alertness about the chemical toxicity and hazards. • Graduates learn the processes and principles involved in industrial metallurgy, pollution control. • The key notion of the environmental issues in chemical way is filled in this course. • There is also a brief introduction to biocatalysts and green chemistry and their role in industry.
CHEM DSE 503	Quantum Chemistry, Spectroscopy & Photochemistry	• Students will understand the basic concepts of quantum chemistry • Will learn about different types of Introduction to spectroscopy. • Students will come to know different instrumental techniques for the structure determination of compounds. • Characteristics of electromagnetic radiation • Will come to know about different types of photochemical reactions. They got about the concept of quantum yield, vibrations and energy transfer processes is excited states of molecules.
CHEM DSE COURSE 501 PR	Polymer Chemistry Lab	• Graduates will learn about different methods of polymer synthesis & Characterization. • Determination of molecular weight by different methods. • Polymer synthesis provides a root to the formation of plastics, biosynthesis of proteins and highly polymeric carbohydrates. • Polymer Characterization is important for the synthesis of new materials their evaluation and improvement in performance.

CHEM DSE 502 PR	Industrial Chemical and Environment Lab	• With the help of these experiments students become able to understand how to estimate the DO, COD, BOD. They can estimate the alkalinity of water using double titration methods.
CHEM DSE 503 PR	Quantum Chemistry, Spectroscopy & Photochemistry Lab.	• Students become able to apply the spectroscopy techniques for structure determination of compounds. They can prove the validation of Lambert-beers law experimentally and for medical diagnosis like blood, urine test etc.
CHEM SEC503	Chemical Tech. & Society and Bus. Skills for Chemistry	• Introduction to clean technology and scope of different types of equipment needed in chemical industries. • Exploration of societal, technological issues, chemical and scientific literacy. • Basic of business like business plans, market need and project management. • Role of chemistry in India and Global economies • Current challenges and opportunities for chemistry • Financial aspects of business with case studies • Concept of intellectual property and patents • Apply the knowledge in current challenges and opportunities for chemistry.
CHEM DSE COURSE 605	Organometallic, Bioinorganic Chemistry, Polynuclear Hydrocarbons and UV, IR Spectroscopy	• Student will learn about preparation, classification and applications of organometallic compound, detail description of metal carbonyls. • Introduction to bioinorganic chemistry, role of metal ions in biological system and stabilization of protein structure. • Understand heteronuclear chemistry involving aromatic compound, their properties • Application of UV, IR spectroscopy in organic molecules to characterize organic molecules.
CHEM DSE 606	Molecules of Life	• Detail description of Carbohydrates, amino acids and Lipids. • Mechanism and factors affecting enzyme action and their specificity. Coenzymes and cofactors and their role in biological reactions. Enzyme inhibitors and their importance. Detail description of drug action. • Components of nucleic acids structure of polynucleotides. Biological roles of DNA and RNA. Detail description of concept of energy in biosystems.

CHEM DSE 604 PR	Chemistry of Main group Elements, Theories of acids and Bases Lab	• Students come to know about the quantitative analysis including both volumetrically and gravimetrically. They come to know how to synthesize inorganic compounds and also demonstrate their spectra.
CHEM DSE 605 PR	Organometallic, Bioinorganic Chemistry, Polynuclear, Hydrocarbons and UV, IR spectroscopy Lab	• Become able to detect the given function group present in organic compound by qualitative analysis. Able to separate ion and mixture by the use of chromatographic technique. Able to prepare complexes and measure their conductivity.
CHEM DSE 606 PR	Molecules of Life Lab	• From this lab course, students learn about separation studies of biomolecules, determination of quality of oil/fat. • With the help of differentiation and extraction methods, students learn about different chemical reaction and enzymatic action of carbohydrates.
CHEM SEC604	Pesticide Chemistry & Pharmaceutical Chemistry	• Graduates will learn about benefits and adverse effects of pesticides, structure activity relationship in pesticides; can easily be recognized by knowing about them. • Synthesis uses of pesticides in organochlorines, organophosphates, carbamates, anillides and quinines. • Synthesis of various classes of drugs, design and development. • They will come to know about synthesis of some vitamins.Synthesis uses of pesticides in organochlorines, organophosphates, carbamates, anillides and quinines. • Will know different methods for the synthesis of various classes of drugs, designing of new drugs, and their modes of action. • They will learn about synthesis of various vitamins and their biological importance. This will make them aware of the nutritions requirement for good health.

B.Sc. with Computer Science

Programme Name	Programme Outcome
BSc with Computer Science	This course helps to learn • the basic analytical skills , • ICT skills and • Computational skills. Computer Science itself aids the every other subject in one form or another. Various learning outcomes are: • Analyze, design, implement and evaluate computer based system, process, component or program to meet desired needs. • Identify problems and formulate solutions for systems and organization while reconciling conflicting objectives and finding compromises. • Design solutions using approaches that integrate ethical, social, legal and economic responsibilities. • Evaluate and use appropriate methods and professional standards in computing practice. • Apply computing theory and programming principles to practical software design and development.

Course specific outcomes of faculty of commerce.		
S.no	**Class**	**Courses**
1.	B.com I year	1) Environmental studies is taught as an ability enhancement course. 2) The basic knowledge of financial accounting and online filling of accounting transactions through tally. 3) Basic principles of management are taught. 4) Various business laws 5) Business statistics and mathematics.
2.	B.com II year	1) Basic company and industrial laws are imparted. 2) Income tax law and practices theory and online uploading of income tax are taught. 3) Computer applications in business. 4) Corporate accounting. 5) Cost accounting. 6) E-commerce.
3.	B.com III year	Following courses are imparted in final year: i. Human resource management. ii. Principles of marketing. iii. Auditing and corporate governance. iv. Fundamentals of financial management. v. Indirect tax laws. vi. Entrepreneurship. vii. Principles of microeconomics. viii. Corporate tax planning. ix. Banking and insurance. x. Management accounting. xi. International business. xii. Office management and secretarial practice. xiii. Fundamentals of investments. xiv. Consumer protection. xv. Personal selling and salesmanship. xvi. Indian economy.