Programme Outcomes, Programme Specific Outcomes Course Outcomes
Govt. College Dharamshala

B.Sc in Life Sciences (Botany, Zoology and Chemistry) (PO's, PSO's & CO)

POs

- To inculcate scientific temper among the students
- To equip students with knowledge and technical skills pertaining to plants.
- It aims to train the students in all the areas of plant sciences with a unique combination of core and elective papers with significant interdisciplinary components as per CBCS.
- To enable them to apply the knowledge of Botany wherever needed.
- To prepare students for obtaining employment in the government or private sector.
- To equip students with logical and analytical thinking ability so that they are ready to take up a career in research.
- Students acquire relevant knowledge and skills appropriate to professional activities.
- To inculcate social responsibility and effective citizenship.
- Graduates will understand the environmental issues and sustainability development.

❖ PROGRAMME SPECIFIC OUTCOMES (PSOs)

- Nurture problem solving skills, thinking, and creativity through assignments.
- Empowering the students to pursue higher degrees at reputed academic institutions.
- Motivate the students to prepare for competitive examinations.
- The graduate will acquire proficiency in the acquisition of data using a variety of laboratory instruments an analysis and interpretation of such data.

B.SC.LIFE SCIENCES COURSEPOs,PSOsCOs

Course Code	Paper Title	Course outcome
BSCBOT010 1	Phycology, Mycology and Plant Pathology	The knowledge of: ● Classification of algae and fungi and their Economic & ecological importance Morphology and life cycle of algae like Nostoc, Oedogonium, Vaucheria, Diatoms, Ectocarpus and Polysiphonia and fungi like Rhizopus, Saccharomyces, Neurospora, Agaricus and Colletotrichum ● Symbiotic relationships between fungi and algae: Lichens: Classification, Morphology, anatomy, Special vegetative structures associated with lichen thallus; Reproduction; Ecological and Economic importance. ● Definitions, symptoms, classification and etiology of major plant diseases ● Able to perform laboratory techniques (Whole mounts, Maceration, Smearing, Section cutting, Squash, Light microscopy, Digital image projection and Micrometry and also prepare temporary mounts of type specimen of algae and fungi

BSCBOT0102	Bryophyta and Pteridophyta	The knowledge of: ● General characters, classification up to orders of Bryophytes and Pteridophytes ● Morphology, anatomy, reproduction and life history of bryophytes: Marchantia, Porella, Anthoceros, Sphagnum and Funaria. ● Morphology, anatomy, reproduction and life history of Pteridophytes: Psilotum, Selaginella, Equisetum, Adiantum and Marsilea. ● Stelar evolution in the Pteridophytes.
BSCBOT0203	Palaeobotany and Gymnosperms	● Students understand the fossilization process and know the type of fossils and their importance ● They know the Geological Time Table (Up to period level with characteristic plant life) and Evolution of seed habit Students know the: ● General characters, Classification up to order and Economic importance of Gymnosperms. ● Morphology, anatomy, reproduction and life history of Cycas, Pinus, and Ephedra.
BSCBOT0204	Plant Taxonomy and Selected Families of Angiosperms	Students are familiar with: ● Binomial nomenclature, principles and rules; Principle of priority ● Type concept and keys to identification of plants; ● Herbarium – its functions, important herbaria and botanical gardens of world and India ● Botanical gardens and their role ● Taxonomic evidences from palynology, cytology, photochemistry and molecular data. ● To study about various phytogeographical zones They understand the: ● Artificial, Natural and Phylogenetic system of classification; Phylogenetic (Evolutionary) principles; ● Salient features of the systems of classification of Angiosperms proposed by Bentham & Hooker and Engler &Prantl. ● Floral terminology and type of inflorescence. ● Floral diversity, diagnostic features and economic importance of following families: 01.Ranunculaceae(Ranunculus) 2. Brassicaceae / Cruciferae(Brassica) 3. Malvaceae(Hibiscus) 4. Rutaceae(Citrus) 5. Fabaceae / Leguminosae(Caesalpinioideae:Cassia; Faboideae: Pisum; Mimosoideae: Acacia) 6. Cucurbitaceae(Cucurbita) 7. Apiaceae / Umbelliferae (Coriandrum) 8. Asteraceae /
		Compositae(Helianthus) 9. Asclepiadaceae(Calotropis) 10. Solanaceae (Solanum) 7 11. Lamiaceae / Labiatae(Salvia) 12. Euphorbiaceae(Euphorbia) 13. Liliaceae(Allium) 14. Poaceae / Gramineae(Triticum) 15. Orchidaceae(Zeuxine)

BSCBOT0305	Economic Botany and Plant Anatomy	• They understand the concept of the centre of origin of major economic crops. Name of research centres and institute of Rice, Wheat, Maize, Potato. • Students know the Distribution, botanical description and brief idea of cultivation and uses of major Cereals, Vegetables, Fibres, Oils, Medicinal plants, Beverages, Spices and Timber yielding plants of India with emphasis on Himachal Pradesh • Students learn the Meristematic and permanent tissues • They understand the Shoot System Shoot, leaf and root system of plants. • They know the histological organization of the Shoot, leaf and root. • They know the morphology and modifications of these structures
BSCBOT0306	Embryology of Angiosperms	Students learn about: • Microsporangium, Microsporogenesis, pollen grains and detailed account of its structure ; Pollen aperture type and NPC system; Pollination; Pollen-pistil interaction; Self incompatibility; Pollen germination and development of male gametophyte • Megasporangium (Ovule); Megasporogenesis and Examples of female gametophyte, Double fertilization; Endosperm types and its biological importance; Embryogenesis in dicot (Capsella) and monocot (Saggitaria); Polyembryony;Apomixis (Vegetative reproduction and Agamospermy. Structure of dicot and monocot seed; Fruit types; Dispersal mechanism in fruits and seeds.
BSCBOT0407	Cytogenetics	• Students understand the Mendelian Genetics • They are able to understand the Laws of dominance, Segregation, and Independent assortment; • Extensions of Mendelian Genetics): Chromosomal basis of Mendelism; Concept of Linkage and Crossing over; Genetic recombination; Brief idea about chromosome mapping in eukaryotes; Karyotype; Allelic and non-allelic interactions; Multiple alleles; Brief account of Quantitative inheritance • They know Chromosomal alterations and Mutations; • They know the Genetic Material: and Gene Expression. • They have knowledge of Extra Nuclear Inheritance
BSCBOT0409	Cell Biology	• Chemistry of the Cell • Brief account of Basic Techniques used in Cell Biology • Viruses and Bacteria • Eukaryotic Cell Structure • Chromosomes and Cell Division
BSCBOT0510	Biochemistry	At the end of the course students know: • Thermodynamic Principles • Basics of Enzymology • Carbohydrate Metabolism • Lipid Metabolism • Protein Metabolism

BSCBOT0511	Biotechnology	• students are able to understand Biotechnology and its relevance in today's research and scope and importance • They are familiar with Tissue culture techniques and other biotechniques (vectors, transgenic plants, PCR, DNA fingerprinting). • Understand Plant Biotechnology and Industrial and Microbial Biotechnology)
BSCBOT0613	Ecology	• The various biotic and abiotic factors of ecosystem • Various plant communities • Knowledge of food chain, food web, ecological pyramids and biochemicalcycles • Succession & its mechanism. • Flow of energy in various trophic levels. • How various components of ecosystem • How energy flows from one trophic level to other • Biogeochemical Cycles • They are able to understand the complex interaction between abiotic and biotic components and know the importance of environmental conservation.
BSCBOT0614	Plant Physiology	Students were enabled to understand the following topics: • Plant water relations, transpiration, guttation and stomatal movement. • Mineral nutrition and their absorption and transport mechanisms. • Photosynthesis: pigments, photosystems, photophosphorylation, photorespiration . • Animal respiration: glucose breakdown pathways and energy synthesis. • Enzyme: structure, function and properties. • Plant hormones and their role • Photomorphogenesis

B.Sc. with major in Zoology and Minor elective in Zoology(PO's, PSO's & CO)

Course Outcomes

Course Code	Course Name	Course Outcome
Semester 1		
BSCZOO0101	Invertebrates I	• Students should be able to know about the classification of invertebrates starting from Protozoa to Helminths. • They will learn about the locomotory organelles of protozoa, canal system of Taenia solium and Ascaris
BSCZOO0102	Invertebrates II	• Classification of Animals from Annelida toEchinodermata • Metamerism in Annelida • Eyes in arthropoda • Torsion in Gastropoda • Larvae in Echinoderms
Semester 2		
BSCZOO0203	Biology of chordates I	• General characteristics and classification of protochordates, fishes and amphibians was done in detail
BSCZOO0204	Biology of chordates II	• Classification and characteristics of chordates from reptile tomammals • Comparative account of different systems in different classes was done
Semester 3		
BSCZOO0305	Developmental Biology	• Structure and function of reproductive organs was studies • Detailed account of developmental biology of different animals like Branchiostroma, frog, chick and rabbit was studied
BSCZOO0306	Animal Physiology	• All the systems were discussed in detail • Physiology of digestion, respiration, circulatory system, nervous system, excretory system and endocrine system was studies
Semester 4		

BSCZOO0407	Cytogenetics	• Detail study of cell structure • Inheritance of characters • Mendelian Genetics • Extra mendelian genetics • Crossing over and linkage
BSCZOO0409	Cell Biology	• Structure and function of all the cell organelles and there microscopic details were elaborated
Semester 5		
BSCZOO0510	Biochemistry	• Structure of macro and micro molecules • Carbohydrates, fat and protein metabolism • Dietary nutrients etc.
BSCZOO0511	Biotechnology	• Detail structure of DNA, RNA • Tools and techniques of biotechnology
Semester 6		
BSCZOO0613	Ecology	• Different aspects of biosphere • Different types of ecosystems ,biomes • Different types of pollution • Bio-geographic realms
BSCZOO0614	Applied Zoology	• Different types of parasites, pathogens of animals like protozoans, Helminths etc. • Plant pest were also studies along with their control measures

Programme outcomes for Chemistry:

Programme	Programme Outcomes	Programme Specific Outcomes
Chemistry	● To Gain knowledge of Chemistry through theory and practical. ● Students will be able to solve problems by identifying the typical parts of a problem and working with a strategy. They could apply appropriate techniques to achieve a solution, correctness and interpretation of calculated results. ● To Equip the students with the skill to analyse and solve the problems. ● Students will be able to use standard laboratory equipment, modern instrumentation, and classical techniques to carry out experiments, as well as interpretation of data generated in instrumental chemical analyses upon completion of a B. Sc degree in Chemistry.	● Students will know proper regulations and procedures for safe handling, storage and use of chemicals. Hence will become eco-friendly and eco-protective, an ability to determine hazards associated with carrying out chemical experiments in terms of chemical toxicity, chemical stability and chemical reactivity and be able to find information to enable effective risk assessments to be carried out. ● Students will have strong foundations in basic principles and theories of the main areas of organic, inorganic, analytical, physical and biological chemistry and will be able to apply chemical knowledge in many applications. Students will understand the ethical, historic, philosophical, and environmental dimensions of problems.

COURSE OUTCOMES.

Paper Code	Paper Title	Course outcome
CHEM CC 101	Atomic Structure, Bonding, General Organic Chemistry and	● Knows about Atomic structure quantum model. Bohr's Theory and its limitations, Schrodinger Wave Equation and its function, quantum numbers. Slater rules and its applications and limitations. ● Lattice energy and its application, Born-Haber cycle and its application. Shapes of molecules on the basis of valence bond theory and valence shell electron pair repulsion theory. ● Explains ionic and covalent bonding with VBT and VESPER Theory and ● Detailed description of Molecular orbital theory with homonuclear and heteronuclear diatomic molecules. ● Physical effects and electronic displacement in organic molecules.

	Hydrocarbons	• Reactive intermediates. • Conformational, optical and geometrical type of stereoisomerism and assignment of configuration • Preparation reaction and structure of alkenes, alkenes and alkynes. • Students will also know and recall the fundamental principles of organic chemistry that include chemical bonding, nomenclature, structural isomerism, stereochemistry, chemical reactions and mechanism.
CHEM CC 101P CORE COURSE	Atomic Structure, Bonding, General Organic Chemistry and Hydrocarbons Lab	• Experimentally performs volumetric determination by neutralization and redox titrations that provokes analytical skills in students. • In organic qualitative analysis to detect the extra element nitrogen, sulphur and halogens present in the organic compound • To separate the mixture by chromatography prepares students to learn separations using 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 CC 202 CORE COURSE	Chemical Energetics, Equilibria & Functional Group Organic Chemistry	• Basic laws and principles of Thermodynamics make students 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. • Preparation, Chemical reaction, chemical properties and electrophilic substitution of aromatic hydrocarbons. • Preparation and chemical reaction of Alkyl halide, alcohol and phenol, aldehydes and ketones root into the understanding of their physical and chemical properties.
CHEM CC 202 P CORE COURSE	Chemical Energetics, Equilibria & Functional Group Organic Chemistry	• Enthalpy of neutralization of HCl with NaOH, ionization of acetic acid and hydration of copper sulphate. • Heat capacity of calorimeter. • The students develop keen interest in the basic concepts of thermodynamics. • To determine the pH value of different solutions using pH-meter and preparation of the buffer solution, measurement of their pH- values imbibes the deep knowledge of pH and its role in our daily life. • The synthesis and purification of the organic compounds by crystallization and distillation are designed to develop synthetic and purification skills in students.
CHEM CC 303 CORE COURSE	Solutions, Phase Equilibria , Conductance,	• 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. • Study preparations, physical and chemical properties of carboxylic acids, their derivatives, amines and diazonium salt.

	Electrochemistry & Organic Chemistry	• Understand ideal and non ideal solutions as well as the basic concept in phase equilibrium. • Know about different types of conductometric and potentiometric titration.
CHEM CC 303 P CORE COURSE	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.
Skill Enhancement Course I CHEM SEC 301	Basic Analytical Chemistry	• Skill enhancement courses are designed to increase the mental and experimental skills of students in chemistry. • Students know the analysis methods and analytical principles. • This course develops 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
Skill Enhancement Course II CHEM SEC 302	Fuel Chemistry & Chemistry of Cosmetics and Perfumes	• The course includes the chemistry of fuel, cosmetics and perfumes. Students will come to know the 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 CC 404 CORE COURSE	Coordination Chemistry, States of Matter & Chemical Kinetics	• General group trends within transition elements, lanthanides and actinides. • Detail description of Valence Bond, Crystal Field Theory, with special reference with C No. 4 and 6. • Transition elements play a crucial role in industrial catalytic processes that are required to produce substances and new materials at a rate far exceeding that of natural chemical reactions. • Detailed description of Chemical Kinetics. Theories of Reaction Rates and their comparison.

CHEM CC 404 P CORE COURSE	Coordination Chemistry, States Matter & Chemical Kinetics Lab	• Semi-micro qualitative analysis of inorganic mixture. • Gravimetric estimation of metal ions. • Detailed description of colorimetric, complexometric titrations and measurement of surface tension and viscosity. • Experimental study of chemical kinetics. • From this lab course students learn about analysis of unknown inorganic compounds, gravimetric estimation of metal ions, colorimetric, complexometric titration. • They also got knowledge about measurements of surface tension and viscosity and experimental study of kinetics of reaction by different methods.
CHEM DSE-1 COURSE 501 P	Polymer Chemistry Lab	• 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 COURSE 503 P	Quantum Chemistry, Spectroscopy & Photochemistry Lab	• Students become able to apply the spectroscopy techniques. They can prove the validity of beer's law experimentally and also apply the kinetics processes in acidic medium.
CHEM DSE COURS E 604	Chemistry of Main group Elements, Theories of acids and Bases.	• Basic concepts about acids and bases, HSAB concept and its application, Relative strength of acid and bases and effects of solvents and substituent on them. Students become able to distinguish or classify the acidic and basic strength of different acids and bases respectively; they come to know about anomalous behavior of hydrogen and its position and anomaly. • General Trends and characteristics of s and p block elements including detailed description of various properties. • Preparation properties and structure of important compounds of noble gases.
CHEM DSE COURSE 605	Organometallic, Bioinorganic Chemistry, Polynuclear Hydrocarbons and UV, IR Spectroscopy	• Preparation, Classification of organometallic compound, detailed 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 COURSE 605 P	Organometallic, Bioinorganic Chemistry, Polynuclear Hydrocarbons and UV, IR Spectroscopy Lab	• Become able to detect the given function group present in organic compounds by qualitative analysis. Able to separate ions and mixture by the use of chromatographic technique. Able to prepare complexes and measure their conductivity.

Skill Enhancement Course Chemistry CHEM SEC 603	Chemistry Chemical Tech. & Society and Business Skills for Chemistry	Chemical Technology and Society and Business skill for Chemists. ● Introduction to clean technology and scope of different types of equipment needed in chemical industries. ● Exploration of societal, technological issues, chemical and scientific literacy. ● Basics 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.
Skill Enhancement Course CHEM SEC 604	Pesticide Chemistry & Pharmaceutical Chemistry	● Introduction to pesticides, 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 quinones. ● Synthesis of various classes of drugs, design and development.. ● They come to know about synthesis of some vitamins.
CHEM DSE COURSE 605	Organometallic, Bioinorganic Chemistry, Polynuclear Hydrocarbons and UV, IR Spectroscopy	● Preparation, Classification 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.

Programme Name: B.Sc course in Physical Sciences With Computer Science(PO's, PSO's & CO)

Programme Outcomes (POs)

Students graduating with the B.Sc Physical Science degree should be able to acquire:

(a) Logical and Analytical Thinking Ability

The graduating students will acquire scientific temperament to solve any problem by demonstrating logical and analytical thinking ability. He/she will analyze situations, search for the truth and extract information, formulate and solve problems in a systematic and logical way. Become able to identify assumptions and check out the degree to which these assumptions are accurate and valid. The assumptions are framed to learn thinking and actions by demonstrating comprehensive knowledge.
Ongoing learning

The students will gain knowledge and learn new skills throughout their life and understand the impact of science on society. They will acquire proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.
Communication skills
The students will work and communicate effectively in understanding the concepts in an interdisciplinary environment, either independently or in a team, and demonstrate leadership quality. Students will delegate tasks more clearly like speaking, reading, writing and listening.
Employability Skills:

Main outcome of the programme is that after the course graduates become essentially eligible for employment in government as well as private sectors, create capability to acquire any reputed professional career in the country and abroad. The science graduate will be able to perform job in diverse fields such as science, engineering, survey, education, banking, development-planning, business, public service, self-employment etc. where qualities of precision, analytical mind, logical thinking, clarity of thoughts and expression, systematic approach, qualitative and quantitative decision are required. They will attain eligibility to successfully pursue their career objectives in advanced education, scientific career in government or industry, a teaching career in the education systems.
Ethics and Social Responsibility
Students will learn the quality of being honest and having strong moral principles. They recognize the moral values of the society, understand the depth of their decisions, and accept the responsibility for them. Graduates will elicit views of others, mediate disagreement and help reach conclusions in group settings. Demonstrate empathetic social concern and equity centered national development and the ability to act with an informed awareness of issues and participate in civic life through volunteering.

COURSEOUTCOMES:

Paper Code	Paper Title	Course outcome
PHYS101TH CORE COURSE-I	Mechanics Theory	Student should be able to: • Formulate general mechanics parameters and distinguish between central and non-central forces. • To study Laws of Motion. • To study planetary motion.
		• To study Simple harmonic motion. • Concept of Elasticity. • Special theory of Relativity.

PHYS201TH CORE COURSE -4	Electricity & Magnetism (EMT)	Student should be able to: • Explain the basic electric and magnetic interactions due to charged particles and currents • Describe how the electric interactions due to single or collection of charged particles are embodied in the concepts of the electric field and the electric potential • Predict the motion of charged particles in electric and magnetic fields Explain the basic physics of capacitors and resistors • Predict the behavior of simple and complex direct current circuits using the fundamental conservation laws.
PHYS 301TH CORE COURSE-7	Statistical Mechanics and Thermal Physics	Student should be able to: • To study the physical behavior of an assembly of large number of particles using the concept of Physics. • To apply distribution function to quantum and classical systems • To evaluate thermal properties of solids using statistical approaches. • To understand the concept of heat death in the Universe.
		• Derive thermodynamic parameters and apply fundamental laws to solve thermodynamic problems • Application of Maxwell's equations. • To understand low temperature Physics.
Skill Enhancement Course I PHYS302TH OR PHYS303TH	Physics Workshop Skills OR Computational Physics Skills	Physics Workshop Skills,(PHYS302TH) Students should be able to: This Physics workshop skill enhancement course develops the basic skills of the students such as measurement of the lengths, areas and volumes of objects of different sizes ranging from fraction of millimeter to kilometers. This course also develops the skill to understand about the different systems of welding and repairing metal parts as well as the working mechanism of pulleys, gears, lifts and braking systems of vehicles. Another part of the course develops the understanding of fault finding and repairing of electronic circuits. OR Computational Physics Skills,(PHYS303TH) This course is designed to develop the capability of students to make use of computers towards problem solving in physics and mathematics by learning algorithm development, forming flowcharts and making computer programs. This course also develops the capability of using the computers for simulating problems in computers, making graphic presentations of data, word
		processing by using scientific word processors so as to produce papers, thesis,power presentations and pdf files.
PHYS 401TH CORE COURSE-10	Waves and Optics	Student should be able to: • Concept of Viscosity. • To understand the electromagnetic nature of Light. • Analyze the intensity variation of light due to Polarization, interference and diffraction. • Explain working principle of lasers • Explain types of waves and interference of light

PHYS402TH OR PHYS403TH .	Electrical CKTS & Network Skills OR Basic Instrumentation Skills	Electrical CKTS & Network Skills · The aim of this course is to enable the students to design and troubleshoot electrical circuits, networks and appliances through hands-on mode. This course covers: · Basic Electricity Principles. · Understanding Electrical Circuits. · Electrical Drawing and Symbols. · Generators and Transformers. · Electrical Wiring. OR Basic Instrumentation Skills This course is to get exposure with various aspects of instruments and their usage through hands-on mode. Through this course student can learn
		· Use a multimeter to measure AC/ DC Voltage, current and Resistance. · Use of Cathode Ray Oscilloscope. · Use of Signal Generators and Analysis Instruments · Use of Impedance Bridges & Q-Meters. · Use of Digital multimeter.
PHYS501TH	Elements of Modern Physics	Elements of Modern Physics Student should be able to: · Explain fundamentals of quantum mechanics and apply to one dimensional motion of particles · Calculate Q-value of nuclear reactions and describe particle detectors and accelerators
PHYS502TH	Mathematical Physics	Mathematical Physics Student should be able to: · To understand basic tools of mathematical physics. · To strengthen knowledge about various problems of physics by deep mathematical analysis. · To analyze various periodic motions of nature using Fourier series. · To apply specials functions like Dirac delta, Bessel functions, Hermite polynomials etc. to understand physical problems in depth.
		· To understand problems by going from one parameter to another using Fourier and Laplace transforms. · To solve differential equations using inverse Laplace transforms.
PHYS503TH	Solid State Physics	Solid State Physics Student should be able to: · To analyze the structural properties of elemental solids such as inter atomic spacing, Brillouin Zones. · Lattice Vibrations to understand phonon behaviours to explain the propagations of elastic waves and hence Specific Heats of solids. · To study free electron behavior in metals. · To apply distribution function to quantum and classical systems. · BCS theory of superconductivity.

PHYS504TH	Medical Physics	Student should be able to: · Identify medical radiation related instrumentation and apply techniques associated with diagnostic imaging and radiation oncology.
		· Compare theoretical, practical and professional information and communicate knowledge, ideas and procedures to other health care professionals/practitioners, researchers and other keystakeholders. · Identify the biological effects of radiation and its application for radiation safety and for radiation treatment. · Apply knowledge of the basic structure and function of the human body relevant to clinical diagnostic imaging and radiation oncology. · Classify radiation and radioactivity, its properties, units of measure, dosimeter measurement concepts and methods. · Identify radiation safety practices and procedures associated with diagnostic imaging and radiation oncology. · Employ independent learning strategies to self-evaluate and update professional knowledge of innovations in medical radiationphysics. · Apply knowledge of fundamental physical laws to analyze behavior and properties of a variety of physical problems
Skill Enhancement Course -3 PHYS505TH	Radiology & Safety OR Applied Optics	Radiology and Safety(PHYS505) The outcome of this course is to impart the knowledge of how x-rays, radioactive radiations and other radiations can be produced, detected, the harmful effect of radiation on living cells and how much dose of radiations
OR PHYS506TH		are permissible according to International Commission on Radiological Protection (ICRP) when human being is using it. On the other hand this course imparts the students with the knowledge that how these radiations interact with matter and use of different types of radiations in the different fields such as Medical science, Archaeology, Art, Crime detection, Mining and Industries. Applied Optics(PHYS506TH) Student should be able to: · Study about He- Ne LASER and its applications. · Concept of Spatial frequency filtering, Fourier transforming property of a thin lens. · To study the interference pattern from a Michelson interferometer. · Basic principle and theory: coherence, resolution, Types of holograms, white light reflection hologram, application of holography in microscopy, interferometer, and character recognition. · Optical fibres and their properties, Principal of light propagation through a fibre, The numerical aperture, Attenuation in optical fibre and attenuation limit, Single mode and multimode fibres,Fibre optic sensors: FibreBragg Grating.
PHYS601DSE – 1	Nuclear and Particle Physics	Nuclear and Particle Physics (PHYS601DSE – 1) Student should be able to: · Study of general properties of nucleus and its different models

OR PHYS602DSE OR PHYSDSE603	OR Quantum mechanics OR Digital Signal Processing	• Basic understanding of Radio-activity and its use. • Types of nuclear reaction and its applications. • Interaction of radiation with matter. • Particle accelerators. • Basic idea of elementary particles. Quantum mechanics (PHYS602DSE) Student should be able to: • Study time dependent and independent Schrödinger wave equation. • Properties of wave function, uncertainty principle. • General discussion of a bound state in an arbitrary potential. • Quantum theory of Hydrogen like atoms, atoms in electric and magnetic fields. Normal and anomalous Zeeman Effect. • Pauli's exclusion principle, spin orbit couplings. Digital Signal Processing (PHYSDSE603) Student should be able to: • Acquired knowledge about basic digital electronics • Acquired knowledge about solving problems related to number systems and Boolean algebra. • Know the working and applications of one bit memory (flip flop).
OR PHYS604DSE	OR Astronomy and Astrophysics	• Understand the working of various components of a digital system like; registers, counters, converters and op-amp etc. • Understand the role of each component of microprocessor 8085. Astronomy and Astrophysics (PHYS604DSE) Student should be able to: • Formulate general parameters distance, time brightness, temperature. • Study about planets, stars and their orbits. • Study about telescopes such as reflecting telescopes, space telescopes, detectors. • Study about the milky-way, dark matter, and the nature of spiral arms. • Study of Hubble classification of galaxies, gas and dust in galaxies. • Study of Hubble Law and dark matte
Skill Enhancement Course IV PHYS605TH	Weather Forecasting Or	Weather Forecasting Student should be able to develop: The ability to interpret weather information from satellite images enables people to make informed decisions about their day. By learning a few basic

OR PHYS606TH	Renewable Energy and Energy Harvesting	weather rules, anyone can use satellite images to predict the weather for their location for the upcoming afternoon or the next day. Or Renewable Energy and Energy Harvesting Course gives introduction to energy systems and renewable energy resources, with a scientific examination of the energy field and an emphasis on alternative energy sources and their technology and application. Prepare for the challenges of designing, promoting and implementing renewable energy solutions within society's rapidly changing energy-related industry cluster. The student will explore society's present needs and future energy demands, examine conventional energy sources and systems, including fossil fuels and nuclear energy, and then focus on alternate, renewable energy sources such as solar, biomass (conversions), wind power, geothermal and hydro energy.

Department of Physics (PSOs):

1. Students graduating with B.Sc. with Physics should be able to:

(a) Apply the basic laws of physics in the areas of classical mechanics, Newtonian gravitation, special relativity, electromagnetism, geometrical and physical optics, quantum mechanics, thermodynamics and statistical mechanics.

(b) Recognize how observation, experiment and theory work together to continue to expand the frontiers of knowledge of the physical universe.

(c) Apply basic mathematical tools commonly used in physics, including elementary probability theory, differential and integral calculus, vector calculus, ordinary differential equations, partial differential equations, and linear algebra.

(d) Use basic laboratory data analysis techniques, including distinguishing statistical and systematic errors, propagating errors, and representing data graphically.

(e) Access information on a topic from a variety of sources, and be able to learn new things on one's own.

2. Apply more advanced mathematical tools, including Fourier series and transforms, abstract linear algebra, and functions of a complex variable.
3. Use classic experimental techniques and modern measurement technology, including analog electronics, computer data acquisition, laboratory test equipment, optics, lasers, and detectors.

DEPARTMENT OF MATHEMATICS: (PO's, PSO's & CO)

Programme Outcomes

- Apply the knowledge of mathematics for the solution of complex problems.
- Equip the students with skill to analyse and solve the problems.
- Imbibe effective scientific and technical communication in both oral and writing.
- Create awareness to become an enlightened citizen with commitment to deliver one's responsibilities
- Continue to acquire relevant knowledge and skill appropriate to professional activities.
- Provide a base to pursue higher education i.e. Masters Degree and research further.
- It gives an opportunity to students to go for banking, administration and other fields.

Programme Specific Outcomes

- Understanding of the fundamental axioms of mathematics and capability of developing ideas based on them.
- Nurture problem solving skills, thinking, and creativity through assignments.
- Empowering the students to pursue higher degrees at reputed academic institutions.
- Motivate the students to prepare for competitive examinations. Courses Outcomes

Course Code	Title of Course	Courses Outcomes
BA/BSCMATH0101	ALGEBRA AND TRIGONOMETRY	• Students will be able to understand matrices, elementary operations on matrices and use of matrices to find linear dependence and independence of row and column matrices. • Will be able to understand the concept of eigenvectors and characteristics equations. • Caley-Hamilton theorem and its application. • Will be able to understand De' Moivre's Theorem and its applications.
BA/BSCMATH0102	CALCULUS	• Students will be able to understand the concept of limit, continuity, differentiation and successive differentiation. • Learn the proof and geometrical interpretation of general theorems. • Learn about concavity ,convexity and asymptotes of the curves. • Understand the concept of limit and continuity of function of several variables. • Learn the concept of Rolle's theorem, Lagrange's Mean Value theorem ,Maclaurin's theorem. • Understand the Reduction formulae .

	ORDINARY	• Understand the concept of differential equations, classification of differential equations. • Recognize and solve non homogeneous differential equations by using different methods.
BA/BSCMATH0203	DIFFERENTIAL EQUATIONS	• Learn the methods of variation of parameters and reduction of order. • Learn the concepts of total differential equations. • Learn to solve the differential equation of first order but not of first degree. • Will be able to solve simultaneous equations.
BA/BSCMATH0204	• SOLID GEOMETRY	• Students will be able to understand the general equation of second degree. • Students will be able to understand the concept of the sphere,the coaxial system of the sphere. • Learn the concept of the cone, its equation and the enveloping cylinder. Able to understand the general equation of second degree.
BA/BSCMATH0305	SEQUENCES AND SERIES	• Construct mathematical proofs of basic results in real analysis. • Learn sequence and series of real numbers and their convergence and uniform convergence. • Use comparison test, condensation test, D'Alembert ratio test ,Cauchy's root and Leibnitz's test for convergence of series. • Comprehend bounded sets, Archimedes properties and Bolzano-Weierstrasstheorem. • Produce proofs of results of real analysis.
BA/BSCMATH0306	STATICS AND DYNAMICS	• Learn Newton's Law of motion.. • Learn about coplanar forces . • Learn about motion of particle with constant acceleration • Learn about Work, Power and Energy.
BA/BSCMATH0409	ABSTRACT ALGEBRA	• Learn the concept of group, subgroup, and normal subgroup and Quotientgroups. • Use the concept of homomorphism, isomorphism and endomorphism of groups. • Cyclic group, permutation group, polynomial ring, polynomial rings and quotient rings.
BA/BSCMATH0407	VECTOR CALCULUS	• Learn the concept of scalar and vector products. • Study differentiation and partial differentiation of vectors. • Learn the concept of divergence, curl and gradient of vectors. • Theorem of Gauss,Green And Stokes.
BA/BSCMATH0511	LINEAR ALGEBRA	• Learn the concept of linear independence and dependence, linear span, basis and dimensions. • Study vector spaces and subspaces. • Linear transformations • Inner product spaces and Cauchy Schwarz's inequality.

BA/BSCMATH0619	STATISTICS	• Learn the concept of Kurtosis, random variables, cumulative distribution function, probability mass and probability density function. • Concept of mathematics expectation, moments, moment generating function, characteristic function. • Different kinds of distribution i.e. binomial, continuous, Poisson, uniform, exponential and normal distribution. • Learn about the function of two random variables, conditional expectation and independent random variables.
BA/BSCMATH0614	NUMERICAL METHODS	• Study to find the appropriate rules of solving nonlinear equations by different methods such as bisection, Secant and Newton Raphson's method. • Concept of interpolation and extrapolation. • To find the value of a definite integral from the set of tabulated values of the integrand by using trapezoidal and Simpson's rule.
BA/BSCMATH0618	DISCRETE MATHEMATICS	• Learn mathematical LOGICS. • Learn the concept of relation and functions • Able to understand the lattices and Boolean Algebra.

BA (Sociology) PO's, PSO's &CO's:

The new curriculum of B.A. Sociology has been structured in such a way that they introduce the students to the vast canvas of subjects that concern the discipline of Sociology. Beginning with a focus on the foundation of Sociology and Institution process to understand the different aspects of society it moves on to show how these concepts are translated into practice. The courses encourage students to think critically and develop a new understanding and explanation.
The B.A. programme in Sociology will help students in making an informed decision regarding the goals that they wish to pursue in further education and life at large.

Programme Outcomes

- Critical Thinking:-Apply sociological knowledge to new problems and social issues. Analyze information in relation to course material and previous sociological courses. Propose solutions for problems.
- Sociological research methods/techniques:-Demonstrate an understanding quantitative and qualitative and qualitative methods. Appropriately select which method to employ, interpret and analyse data to determine the significance of research findings.
- Social Theory:-Demonstrate an understanding of sociological theories. Demonstrate an understanding of analyzing and evaluating how theories are impacted by social and historical conditions.
- Social Institutions:-List, demonstrate an understanding and analyze major social institutions. Demonstrate understanding of analyzing, evaluating and proposing solutions to reduce problems within institutions using social justice practice. Analyze and evaluate how stratification mitigates experiences of individuals within institutions.
- Race, class, Gender:-Define and demonstrate an understanding of race, class and gender inequality. Define and demonstrate, analyze and evaluate and propose improvements to theories of race, class, gender inequality.
- Society:-Discuss and understand how people are interrelated on the basis of social relations and know how to behave in the society in different situations and help them to be a good citizen of the society.
- Social Problems:-Think critically about the social problems that some critical situations disorganised our society and give suggestions to remove these problems and be aware about the various policies and acts made by the government to abolish these problems from the society.

❖ Program Specific Outcomes of Sociology:-

1. Demonstrate a basic understanding of theoretical paradigms used to study social phenomena and generate research in the field of Sociology.
2. Demonstrate an understanding of the research method process, the various data collections techniques available for conducting research within social science.
3. Demonstrate an ability to apply sociological concepts and theories to the real world and ultimately their everyday activities.
4. Demonstrate an understanding of the formation and functions of the social institutions that exist in our society.
5. Demonstrate an understanding of the social groups that operate in our development and socializations.
6. Upon completions of BA in Sociology students will be able to
    - Think critically about the causes and consequences of social inequality.
    - Design and evaluate empirical sociological research.
    - Explain and apply the major theoretical perspective in sociology.
    - Communicate orally and in writing about sociological concepts. Use their sociological education outside the classroom, particularly in their career or further education.

Sr. No	Course Code	Course Title	Outcomes
1.	SOC 0101	Foundation of sociology	● Understand meaning, significance and emergence of sociology ● Describe the scope of sociology and discuss about its subject matter ● Describe how sociology is differ from and is similar to other social science
			● Show interrelationship and relevance of basic concepts and social processes
2	SOC 0102	Social institutions and processes	● Understand and demonstrate the basic concepts of society and correlate them with their day to day life ● Discuss about the contemporary basis of Indian society ● Understand the meaning, importance and difference of various societies ● Be familiar with the Indian Social institutions
3	SOC 0203	Society in India	● Define basic concepts and give examples ● Discuss about the unity and diversity of India ● Show interrelationship and demonstrate the relevance of the concepts such as caste, class, tribes, family and kinship ● Discuss about the different movement such as Dalit's movements, women movements ● Understand and discuss about the various policies and programmes that are made for the upliftment of women and Dalits
			● Able to understand different theories of social change
4	SOC0204	Social change in India	● To understandProcesses, strategies and factors of social change ● To understand Emerging issues like crime, corruption, domestic violence and gender discrimination.
5	SOC 0305	Sociology of Development	● Students will be familiarize with theories of development ● To understand recent trends in development ● Think critically about the sustainable development

6	SOC 0306	Rural Sociology	• Define and understand the meaning of rural sociology • Understand the social and power structure of Rural society • Discuss about the Panchayati Raj Institutions and describe about Empowerment of Rural women • Discuss about the rural economy before Independence and after Independence • Understand the impact of green revolution to know about the different policies and programmes of Government for the development of rural areas
7	SOC 0407	Indian social thought	• To understand the contribution ofIndian Sociological thinkers in the development of sociology
			• To understand Indian society and modernization of Indian trends etc.
8	SOC 0408	Social Problems in India	• Be familiar with issues regarding casteism, untouchability, Regionalism and communalism • Aware about the social problems and know about the remidies of the social problems • Be aware of various contemporary social problem such as female foeticide, dowry, divorce and unemployment • Think critically about this social problems discuss and give suggestions to remove these problems from the society
9	SOC 0409	Sociology of Marriage, family and kinship	After completion of this course students will be able: • To understand contemporary concerns in the field of marriage, family and kinship • To discuss about meaning, types and significance of family and household • Critically think about the charging patterns of family, marriage and kinship
10	SOC 0510	Classical Sociological thought	• Familiar to the classical sociological thinkers whose work has shaped the discipline of sociology • Understand the role of theory in sociology • Define theory and describe its role in building sociological knowledge • Understand and show how theories reflect the historical and social contexts of times and cultures in which they were develop • Demonstrate an understanding ofsociological theories in small groups and to express theiropinions
11	SOC 0511	Sociology of Environment	• Define environment and understand its meaning • Discuss about importance and need of environment • Be aware about the causes of pollution and other problems related to environment

			• Aware other people regarding environmental problems and depletion of natural resources • They can be co-relate environment with society • They can be discuss about contemporary environmental concerns such as Deforestation, Ecological crisis, climatic change
12	SOC 0512	Social Demography	• Students will be able to understand techniques of population studies and recent trends in demographic processes • To know social and economic consequences about poverty, unemployment housing and slums • To know how population growth affecting environment • To know about various population policies in India
13	SOC 0613	Sociological Theory	• Understand and discuss the role of theory in sociology • Define theory and describe its role in building sociological knowledge • Understand and show how theories reflect the historical and social contexts of times • To discuss sociological theories, concepts and ideas in small groups and to express their opinions
14	SOC 0614	Social research methods	After completion of this course students will be able:- • To understand methods of research
			• To understand research design such as exploratory and descriptive • To understand modes of enquiry

Department of Physical Education(PO's, PSO's & CO)

Programme	Programme Outcomes	Programme Specific Outcomes
Physical Education	Students will be able to 1. Demonstrate their understanding of how individuals learn and develop to provide opportunities that support their physical, cognitive, social and emotional development. 2. Students can identify historical, philosophical and social perspectives of physical education issues and legislation. 3. Analyze and correct critical elements of motor skills and performance concepts. 4. Given their own abilities, demonstrate personal competence in motor skill performance for a variety of physical activities and movement patterns. 5. Achieve and maintain health and enhance level of fitness throughout the programme. 6. Describe and apply: Physiological and biomechanical concepts related to skilful movement, physical activity and fitness. Motor learning and psychological/behavioral theory related to skillful movement, physical activity and fitness.	• All Round Development • Skill Development • Personality Development • Social Adjustment • Leadership
	Motor development theory and principles related to skillful movement, physical active activity and fitness. 7. Design and implement Short and long term plans that are linked to program and instructional goals as well as a variety of studentneeds. 8. Plan and implement progressive and sequential instruction that addresses the diverse needs of all students. 9. Demonstrate knowledge of current technology by planning and implementing learning experiences that require students to appropriately use technology to meet lesson objectives. Demonstrate effective verbal and non-verbal communication skills across a variety of instructional formats. 10. Implement effective demonstrations, explanations, and instructional cues and prompts to link physical activity concepts to appropriate learning experiences. 11. Provide effective instructional feedback for skill acquisition, student learning and motivation. 12. Recognize the clanging dynamics of the environment and adjust instructional tasks based on student's responses. 13. Use managerial rules, routines and transitions to create and maintain a safe and effective learning environment.	

Courses Outcomes

Sr. No.	Course Code	Title of Course	Courses Outcomes
1.	PED 101	Foundation of Physical Education	● Students will develop a number of domains Physical, lifestyle, affective, social and cognitive. ● Students will contribute to the development skills and Physical competences.
2.	PED 102	Health Education	● Students will know about the benefits of good health habits and to educate people about health. ● Students will gain the knowledge of health care and prevention. ● In Professional life they can teach health regarding benefits to others.
3.	PED 103- P	Sports (Volleyball, Cricket)	● Students will know about the fundamental skills, rules & regulations of the Volleyball and Cricket Games.
4.	PED 104- P	Athletics (Sprints, Jump)	● Students will know about the fundamental skills, rules & regulations of the sprint races and jumping events. ● Students will develop a sense of professional volunteerism to promote the field of
			athletic training and to provide athletic training services both on campus and within the larger community through involvement.
5.	PED 201	History of Sports & Physical Education	● Knowledge of basic concepts of Physical Education. ● History of Physical Education and Sports in Ancient, Medieval and Modern India. ● National sports Awards and Eminent Indian Sports Personalities of various Games.
6.	PED 202	Anatomy & Physiology - i	● Students will recognize the anatomical structures and explain the Physiological functions of body systems. ● Use Anatomical knowledge to predict Physiological consequences. ● Approach and examine issues related to anatomy and Physiology.
7.	PED 203- P	Sports (Kabaddi, Football, Weight Lifting)	● Students will know about the fundamental skills, rules & regulations of the Kabaddi, Football and Weight Lifting Games.
8.	PED 204- P	Athletics (Throws & Middle Distance)	● Students will know about the fundamental skills, rules & regulations of the Throwing events and middle distance races. ● Students will develop a sense of professional volunteerism to promote the field of athletic training and to provide athletic training services both on campus and within the larger community through involvement.
9.	PED 301	Organization & Administration of Tournament	● Students will learn how they can organize tournaments. ● Students will know the administration of different programmes and learn to develop leadership qualities.
10	PED 302	Anatomy & Physiology -ii	● Recognize the anatomical structures and explain the Physiological functions of body systems. ● Use Anatomical knowledge to predict Physiological consequences. ● Approach and examine issues related to anatomy and Physiology.

11	PED 303- P	Sports (Table Tennis, Hockey)	• Students will know about the fundamental skills, rules & regulations of the Table Tennis and Hockey Games.
12	PED 304- P	First Aid Bandage, Slings & Transportation of injured Person	• Students will learn about various types of injuries, prevention and their treatment. They will know about first aid for various incidents.
13	PED 401	Concept of Physical Fitness	• Students will become aware about Physical Fitness.
14	PED 402	Psychological Bases of Physical Education & Sports	• Students will be able to demonstrate their understanding of how individuals learn and develop to provide opportunities that support their physical, cognitive and emotional development. • Use appropriate assessments to evaluate students' learning before, during and after instruction.
15	PED 403	Sports Nutrition	• Students will know about the balanced diet, components of diet and sources of various components of diet. • In Professional life they can teach Nutrition regarding benefits to others and doing duties as a Sports Nutritionist.
16	PED 404	Sports Medicine	• Students will know about Physiotherapy, Doping, various types of injuries, precautions and their treatment.
17	PED 405- P	Sports (Kho - Kho, Basketball)	• Students will know about the fundamental skills, rules & regulations of the Kho – Kho and Basketball Games.
18	PED 406- P	Physiology (Measurement of BP, Pulse Rate during Rest & during Exercise, Spirometry)	• Demonstrate Laboratory procedures used to examine and evaluate Physiological functions of the human body.
19	PED 407- P	Yoga (Yogasana, Pranayamas)	• Students will perform Asanas and Pranayamas in a safe and comfortable Environment.
20	PED 501	Sociology of Physical Education & Sports	• Sociology of sports, also referred to as sports sociology, is the study of the relationship between sports and society. It examines how culture and values influence sports, how sports influences culture and values, and the relationship between sports and media, politics, economics, religion, race, gender, youth, etc. It also looks at the relationship between sports and social inequality and social mobility.
21	PED 502	Exercise Physiology	• Demonstrate knowledge in the exercise sciences including Anatomy and Physiology, Exercise Physiology, Kinesiology and Biomechanics, Motor Learning and Nutrition. • Students will demonstrate knowledge and clinical proficiency in the following content areas for both apparently healthy and chronic disease.
			• Students will participate in activities to promote life-long learning and Professional development.
22	PED 503	Training Methods	• Students will be prepared for training. • Students will participate in different training programmes.
23	PED 504	Career in Physical Education & Sports	• Students will know about career opportunities in Physical Education and Sports e.g., as Physical Education Teacher, coach, Gym Instructor etc.
24	PED 505- P	Sports (Badminton, Wrestling)	• Students will know about the fundamental skills, rules & regulations of the Badminton & Wrestling Games.

25	PED 506- P	Athletics (Track & Field Marking in Athletics)	• Students will develop a sense of professional volunteerism to promote the field of athletic training and to provide athletic training services both on campus and within the larger community through involvement. • Students will be prepared to work within a variety of diverse settings through their professional preparation in local high schools, colleges, physical therapy, clinics, physician's offices, and hospitals.
26	PED 507- P	Sports (Handball, Judo, Boxing)	• Students will know about the fundamental skills, rules & regulations of the Handball, Judo & Boxing Games.
27	PED 601	Yoga	• Students will know about Yoga's parts and they will perform asana and pranayama in a safe and comfortable environment.
28	PED 602	Kinesiology & Biomechanics	• The students will demonstrate the knowledge of movements. • Students will understand the knowledge of balance, force, velocity,

			acceleration and lever in the human body.
29	PED 603	Sports Journalism	● Students will learn about different types of media and their importance.
30	PED 604	Methods of Teaching in Physical Education	● Students know a broad range of different methods and techniques and strategies. ● Students participate and load to professional growth and development.
31	PED 605	Recreation	● Students will demonstrate knowledge in the Philosophy and Administration of Recreation. ● Students will recognize the importance of different recreational activities for all age groups.
32	PED 606	Biological Basis of Physical Education	● Students will learn the Growth and Development of Human Being and its implications in Sports.
33	PED 607	Community Health & Environmental Sanitation	● Students will know about the benefits of good health habits and to educate people about health. ● Students will gain the knowledge of health care and prevention. ● In Professional life they can teach health regarding benefits to others.
34	PED 608	Officiating & Coaching	● The syllabus of this course is specially designed for the students to explore their personality, their confidence and knowledge in their field. ● This course includes different games, rules and regulations which makes students able to handle different events easily.

B.A. in Sanskrit (PO's, PSO's & CO)

COURSE OUTCOMES

COURSE CODE	TITLE OF COURSE	COURSES OUTCOMES
SKT-DSC-101	SANSKRIT KAVYA	Basic introduction to Sanskrit rhetoric literature through the epic poem, Raghuvamsam.
SKT-DSC-102	GADYA KAVYA	An Advance level of understanding of polity literature in Sanskrit
SKT-DSC-103	NITI SAHITYA	Knowledge of applications of Nitishastra.
SKT-AEEC-104	UPANISHAD, SHRIMAD BHAGWAT GEETA EVM PANINIYA SHIKSHA	The study of Upanishad, Knowledge of Geeta and practice of panini vyakarana to understand the language.
SKT-DSC-201	SANSKRIT NATAK	Introduction to Sanskrit theatre tradition with respect to a play named Abhigyan Shakuntalam.
SKT-DSC-202	SANSKRIT VYAKARAN	To introduce the concept of grammar and polity literature of Sanskrit.
SKT-DSC-205	AAYURVED KE MOOL SHINDHANT	Ayurveda will help them to know the Indian medical tradition.
SKT-DSC-206	SANSKRIT CHHAND EVM GAYAN	Introduction and application to the theory of meters (chhanda) in Sanskrit. Knowledge of recitation of various metres in Sanskrit.
SKT-DSE-301	VYAKTITVA VIKAS KA BHARTIYA DRISHTIKON	Through Geeta the person manage their cognition, emotive, apparatus, confusion and conflict of mind and also develop their personality.
SKT-DSC-302	SAHITIK SMALOCHNA	Through Sanskrit literature advanced knowledge of ancient religion and history. Sanskrit studies directed toward relating Indian knowledge system both to contemporary Indian reality and western thought.
SKT-G. E-303	PATANJAL YOGSUTRA	The students will be able to learn Yoga, their concept, features etc.
SKT-G. E -304	BHASHA VIGYAN KE MOOL SHINDHANT	Grammar is very important part of this language to make a sentence, to know appropriate meaning of text, oral
		communication and perfection.
SKT-AEEC-305	BHARTIYA RANGSHALA	Natyashastra is the ancient book through which come to know Basic Rule for Natak and Theatre
SKT-AEEC-306	BHARTIYA VASTUSHASTRA	Vastu shastra is a text on the traditional Indian system of architecture. These texts describe principles of design, layout, measurements, ground preparation, space arrangement and spatial geometry.

Departmeny of Political Science (PO's, PSO's & CO)

Programme Outcomes (PO's): Program Learning outcomes are statements that describe what learners will know and be able to do when they graduate from a program. Since the subject is mostly concerned with understanding human behavior, it is directly related with the issues of human concerns. After successful completion of BA programme, the student would have the following attributes:

- The graduate will understand the impact of Arts on Society.
- The graduate will be able to perform jobs in different fields such as education, banking, LIC, business, public service, politics, policy making, self-employed etc. where qualities of precision, analytical mind, logical thinking, clarity of thought, qualitative and quantitative decision are required.
- The graduate will become a successful professional by demonstrating logical and analytical ability.
- The graduate will work and communicate efficiently in an interdisciplinary environment.
- The graduate will become successful to solve the current problems prevalent in the state, national and world level.
- A graduate will become a successful social-worker, politician, writer and speaker.
- A graduate will become productive citizens dedicated to serving their communities, their nations and the world.
- Graduates of the BA programme in political science will become lifelong learners as they become cognizant of the institutions and processes of governance and the policies and historical and current events which shape their lives.

Programme Specific Outcomes
Political Science
(PSO's):

Department of Political Science of GC Dharamshalatrains the students to understand basic concepts of political science such as Democracy, State, Govt., Liberty, Equality, Justice, liberalism, Marxism, Socialism, Right etc. In this department, education means enrichment of principles of political science along with overall personality development. The outcome is that the students of political science are at par with the best of institutes of the state. As part of the preparation process, the department of political science has adopted the specific outcomes to be achieved are as follows:-

- An ability to apply knowledge of political science with other social sciences.
- An ability to communicate effectively.
- An ability to identify formulates and solves political problems at State, National and International Level.
- The broad education necessary to understand the impact of politics in a global, economic, environmental and social context.
- An ability to use the techniques, skills and ideas necessary for effective leaders.

Course Outcomes (CO's)

All graduate having political science as one of the subject will have to clear 33 paper's in which 14 major core course paper of 4 credits each, 10 minor elective course paper of 4 credits each, 6 compulsory course paper of 3 credits each and 3 GI and H course paper of 1 credits each while core/Elective additional course paper would be depend upon his choice which credits will be 4.

Semester	Course Code	Title of Course	Course Outcomes
	BAPOL – 0101	Understanding Political Science	Upon successful completion of the course, the student would be able to understand the meaning of Political Science and its significance. Identify the various relations with political science. Distinguish between State & Society, State and Govt., State & Association.

1st			To understand the social contract theory. Knowledge of welfare theory and Marixian theory of the function of state.
	BAPOL – 0102	Colonialism in India and Constitutional Democracy.	In this course, the student should be able to clearly understand the impact of British Colonial Rule in India and different movements started in India from time to time. To study the partition of India. To explain the salient features of the Indian constitution.
2nd	BAPOL – 0203	Introduction to Comparative Govt. & Politics	After the completion of this course, the student should be able to understand the Nature, Scope and importance of Comparative methods. To study system approach and structural functional approach. Define and distinguish between parliamentary Govt. and Presidential Govt., Federal and Unitary form of Government, Authoritarian and Totalitarian Govt. In this course, the student should be able to describe the working of parliament in Indian Democracy To study the President of India
	BAPOL – 0204	Government in India and its Functioning	To explain the Supreme Court and High Court. To know the working of Judicial activism To define the planning Commission, National Development Council and Finance Commission.
3rd	BAPOL – 0305	Introduction to Inter-nation Politics	After the completion of this course, the student should be able to understand the knowledge of international politics and its conflict with other states. To study different approaches in International politics. To study the merits and demerits of colonialism and neocolonialism. To write down procedure of Pacific Settlement To analyze Disarmament and Nuclear-disarmament. To study Balance of Power.
	BAPOL – 0306	Political Theory: Basic Concepts	In this course, the student should be able to study Rights and Property. To understand the concept of Liberty, Equality, Justice and Law. To clearly understand the power, Authority and Legitimacy.
4th	BAPOL – 0407	Political Ideologies	Upon success of this course, the student should be able to understand what Liberalism is and its classification. To evaluate Democracy, Elitist democracy and Pluralist democracy. To write down a note on fabianism and syndicalism. To study the life history and works of Karl Marx. To study about Socialism and its merits and demerits. To know about the rise of fascism.
	BAPOL – 0408	Government and Politics of UK and Switzerland	In this course, the student should be able to study about the sources of British constitution To study salient features of the British Constitution. Identify the reasons for the retention of Monarchy in England (Britain). To know the working of the British Parliament. To Understand the role of the British Prime-Minister. To clearly understand the political parties and pressure groups of the UK and Switzerland. To study direct democracy in Switzerland. To study about the federal Assembly (Parliament). To study the federal Tribunal, its power & position.
	BAPOL - 0409	Society, Economy and politics of Himachal Pradesh	In this course, the student should be able to describe how the state came into existence. To study the main rivers & lakes of Himachal Pradesh. To study about main crops, vegetables, horticulture and fruits found in Himachal Pradesh To explain Tourism policy of Himachal Pradesh

			To write political parties and pressure groups of Himachal Pradesh. To know about the role of caste in the politics of Himachal Pradesh. To study the PRI's in Himachal Pradesh.
5th	BAPOL – 0510	Modern Indian Political Thought	After completion of this course, the student should be able to know about the life sketches of various modern Indian thinkers such as RRMR, Swami Vivekanand, Mahatma Gandhi, Jawahar Lal Nehru, B.R. Ambedkar and Ram Manohar Lohia. To study about the various thoughts and principles given by them.
	BAPOL – 0511	Constitution, Government and Politics of USA & China	In this course, the student should be able to understand the constitution of both the countries. To understand the theory of Separation of power and checks and balances. To study about the Congress of the USA. To study president elections in USA Identify the political parties and pressure groups of the USA & China. To explain the features of the USA and Chinese constitution. To understand Socio-Economic system of China & USA To write the F.R. and Duties of Chinese people's To define composition, power and position of NPC, standing committee of NPC and state council of China.
	BAPOL - 0512	Western Political Thought - I	In this course, the student should be able to clearly understand the life sketch of Plato, Aristotle, Machiavelli and Bodin's. To study Plato's theory of justice and philosopher king To study about the revolution theory of Aristotle.To understand Machivelli's view on End and Means. To define Bodin's view on Sovereignty.
6th	BAPOL – 0613	Western Political Thought – II	On the completion of this course, the student should be able to understand the life sketch of various thinkers and their views. To study social contract theory. To study the basic idea of J.S. Mill on Liberty. To know the principles of Marxism and his theory of Surplus value.
	BAPOL - 0614	Indian Foreign Policy	In this course, the student should be able to explain the meaning, nature and role of domestic factors in Indian Foreign Policy To understand the concept of NAM To study Indo-USA, India- China and Indo-USSR relations. To evaluate India's look East policy.

The outcome of all the courses is to impart / provide wide knowledge of political science to the students. Because Political Science is a vast and interesting subject which is taught in all schools, colleges, universities, institutions and worlds. This subject develops the capability of students to use their knowledge in different fields.

- Percentage of students qualifying BA Political Science and other competitive exams isincreasing.
- Rise in the number of students going for PG programmes in required institutions in the state.
- Increase in the number of students for different placement after the completion of the degree programme.
- Percentage of failures in different courses is decreasing after degree.

Department of History (PO's, PSO's & CO)

Course Outcome, & Programme Specific Course Code	Course Title	Courses Outcomes	Programme Specific Outcomes
DSC HIST (A) 101	History of India From the Earliest Time up to 300 C.	Students will be able to examine the institutional basis of Ancient India. Students will be able to indicate multiple cultures (Greek, Shaka, Hun etc) of Ancient India. Students will be able to explain our heritage through cultural aspects of Ancient India. Students will be able to illustrate the development of empire	• Understand the basic themes, concepts, chronology and the Scope of Indian History. • Acquaint with range of issues related to Indian History that span distinct eras. • Understand the history of countries other than India with a comparative approach. • Think and argue historically and critically in writing and discussion. • Prepare for various types of Competitive Examinations • Critically recognize the Social, Political, Economic and Cultural aspects of History
DSC HIST (A) 102	History of India From C.300 to 1206 AD		
DSC HIST (A)203	History of India From 1206 to 1707		
DSC HIST (A)204	History of India From 1707 to 1950	Students will be able to formulate the basis of modern India through different concepts like modernity, rule of Law etc. Students will be able to analyze the process of rise of modern India and its foundation made by thoughts about Modern India History. Students will be able to analyze the social background of Indian Nationalism. Students will be able to illustrate the rise and growth of Economic Nationalism in India.	
SEC HIST (A)213	Historical Tourism	The student identifies the various historical places. The students will know the importance of historical tourism. It helps build image, it helps preserve the cultural and historical heritage, with culture as an instrument it facilitates harmony and understanding among people. The students will know the primary purpose of exploring the history and heritage of the place. By visiting historical places students get to know the art and architecture that are practiced at early times i.e. the time where the people haven't been touched with any technology. So, the students know the value of the art & architecture of early times.	
SEC HIST (A)215	An Introduction to Archaeology	Students were able to understand how history is studied and written by analyzing inter-related political, social, economic and cultural processes. Students applied techniques and methods like analytical operation for identifying the primary and secondary sources.	
		Students got exposure to research methodology and presentation. Students were able to analyze and evaluate historical information from multiple sources. Students developed critical thinking through evolution of the record of the past and understood how historians and others have interpreted it.	
DSE HIST (A)305	Modern and Contemporary World History – I 1871-1919	Students understand world history and its impact on India. Students gained knowledge about the political history of the modern world. Students traced and analyzed the main development of the contemporary world and explored the important developments of the 20th century world. Students	

		were able to explain the various political movements and growth of nationalism in different parts of the world Students acquired the knowledge of the principals, forces, processes and problems of the recent times.	
DSE HIST (A)307	Modern and Contemporary World History –I I 1919-1972	Students are able to understand the value of composite culture and pluralism.	
SEC HIST (A)319	Introduction to Indian Art	The course will enable the student to appreciate the ancient aesthetics and knowledge of construction, and also stimulate interest to know the subject in detail. The student is prepared to identify the Characters and Features of Indian Art from different regions of the given period. The course also helps them to understand art as source for historical studies	
GE HIST (A)310	Social-Religious Reform Movements in India (19th or 20th Centuries)	Students value and appreciate the sacrifices made by the Indian people in driving Britishers out of Indian soil These courses enhance the understanding of how colonialism worked and what impact it had on the Indian economy and society. Learn about Socio, Religious movement in India. With special reference to Brahma Samaj, Arya Samaj, Ramakrishna Mission. Can acquire the knowledge of different stages of the Reform Movement.	
GE HIST (A)312	History of Himachal Pradesh	Students will be able to analyze the administrative system of Ancient Himachal. Students will be able to identify strength and weakness of Princely States of Himachal Pradesh Students will be able to explain nature of British Polity Students will be able to review the socio-political power structure of Princely States period .	

Department of English (PO's, PSO's & CO)

The department has been engaged in improving teaching methods and materials in consonance with the requirements of the fast changing scenario of English Studies. The parent university i.e. Himachal Pradesh University, Shimla has brought a revolutionary change in the teaching-learning environment of the state colleges by introducing CBCS with CCA under RUSA from the session 2o13-14. English studies has also undergone a tremendous change. The new syllabi sets entirely new objectives in front of the teachers as well as the learners.

PROGRAMME OUTCOMES:

- Should have an ability to read, listen, comprehend, summarize and draw inferences.
- Should be able to write formal and informal letters, applications and reports etc.
- Should develop and improve their communication skills such as they should be able to communicate their ideas, suggestions, views and opinions clearly and logically.
- Should develop an ability to recognize text's elements such as style, form, images, figure of speeches, connotations and references.
- Should be able to build vocabulary and knowledge of literary terminology.
- Should be able to apply different critical, theoretical and philosophical approaches to a variety of stories, poems and essays.

PROGRAMME SPECIFIC OUTCOMES:

- Should develop an ability to write logically, clearly and effectively for a variety of professional and social settings.
- Students must develop an ability to understand and accept a composite view of multiculturalism.
- Students must understand the outlook of different canons of writings, viz, the Dalit writing, women writing etc.
- Students should improve the necessary Communication Skills (verbal and non-verbal) to meet the global and local needs and enhance their employability.

SEMESTE R	PAPER CODE	COURSE NAME	COURSE OUTCOMES
I II III IV	ENG0101 ENG0202 ENG0303 ENG0404	English-1 Core English (Compulsory) for B.A. and B.Com.	AT THE END OF EACH SEMESTER STUDENTS SHOULD HAVE THE FOLLOWING CAPABILITIES: • Should have an ability to read, listen, comprehend, summarise and draw inferences. • Should be able to understand the correct pattern of the language. • Students must understand the importance of the articles, prepositions and verb forms that influence language, speech and writing. • Should develop a habit to learn new words.
I	ENG 0111	Classical Age-I Homer: Odyssey Sophocles: Antigone Plautus: The Pot of Gold	• Should Demonstrate an ability to read and understand a variety of classical literary texts in the target language i.e. English • Demonstrate an understanding of the classics in a historical context and an understanding of cultural information about the Greeks and Romans. • Should learn to enjoy the variety of literature • Should develop an analytical skill
II	ENG0112	Reading Essays Reading Drama	• Should have an ability to read, listen, comprehend, summarise and draw inferences.

		Grammar	• Should develop an ability to comprehend and write effectively and critically on literary topics like characterization, themes, plot etc.
II	BAENG0212Classical Age-II	Plato Aristotle and Bharat Muni	• Should develop an ability to understand the classical literature • Should be able to apply different critical, theoretical and philosophical approaches to literature • identify and understand the main approaches to ethics in ancient philosophy • Should become familiar with Indian Poetics and Aesthetics
II	ENG0213	Reading Essays: Reflections from the East and the West (Ed. Pankaj K. Singh and Girija Sharma) Essays included in the course: **1.** "The Power of Prayer" by A.P.J. Abdul Kalam **2.** "Vivekananda: The Great Journey to the West" Romain Rolland **3.** "Prospects of Democracy in India" by B.R. Ambedkar **4.** " More Than 100 Million Women are Missing" by Amartya Sen **5.** "On Falling in Love" (Excerpts) by R.L. Stevenson **6.** "Simply Living" 6. "Simply Living" (Excerpts) by Ruskin Bond Reading Drama: The Curtain Raised (Ed. Roshan Lal Sharma and	• Should have an ability to read, listen, comprehend, summarise and draw inferences. • Should develop an ability to write logically, clearly and effectively • Should develop a habit to learn new Words/phrases and literary terms. • Should develop an analytical ability Should have an ability to read, listen, comprehend, summarise and draw inferences • Should learn the basic grammatical concepts • Should be able to build vocabulary and knowledge of literary terminology. • Should develop an ability to peep into the psyche of the characters for the better understanding of human beings in general.
		Ajay Khurana) Grammar: Voice and Narration Composition: Paragraph writing	

III	BAENG0312 Studying the Canon: Drama I	Christopher Marlowe: Dr.Faustus William Shakespeare: As youLike it Bernard Shaw: Arms and the Man	● Should be able to apply different critical,theoretical and philosophical approaches ● Should develop an ability to recognize text's elements such as style, form, images, figure of speeches, connotations and references. ● Students must develop an ability to understand human psychology through the study of different characters which facilitates social adaptability and understanding. ● Should be able to build vocabulary and knowledge of literary terminology. ● Should understand the literary concepts and elements of comedy and especially the "Romantic Comedy". ● Should develop an ability to peep into the psyche of the characters for the better understanding of human beings in general.
III	BAENG0313 19th & 20th Century Poetry Grammar and Composition	All poems from Ripples on the Sands of Time (Ed. Pankaj K. Singh and Girija Sharma) AND the following poems: 1. Tennyson: "Lady of Shallot" 2. Browning: "The Last Ride Together" 3. Thomas Hardy: "Nature's Questioning" 4. Adrienne Rich: "Snapshots for a Daughter in Law" 5. Toru Dutt: Sita" 6. Eunice de Souza : "Advice to Women" Grammar Précis Writing Translation (from Hindi to English	● Should understand the process of creativity. ● Should have an ability to read, listen, comprehend, summarise and draw inferences. ● an understanding of English Poetry of the 19th and 20th Centuries, and acquisition of rudiments of Rhetoric and Prosody. ● Should learn to write precisely and in a concise manner ● Should learn the conversion of Hindi sentences into English by comprehending the basic difference between the sentence structures in these two languages

IV	BAENG0417 Studying the Canon: Drama II	Mother Courage by Bertolt Brecht All My Sons by Arthur Miller Waiting for Godot by Samuel Beckett	• Should develop an ability to recognize text's elements such as style, form, images, figure of speeches, connotations and references. • Should be able to build vocabulary and knowledge of literary terminology. • Should be able to understand the writing styles of different writers and how sociocultural factors affect their writings • Students must develop an ability to understand and accept a composite view of multiculturalism. • Should develop an ability to identify common structural and thematic features of any drama • Should have an ability to analyse the variety of literary forms in term of styles, language, conventions, themes and social cultural diversities
IV	BAENG0414 Novel	R. K. Narayan: The Dark Room Kamla Markandaya: Nectar in a Sieve Grammar	• Should enable students to understand Indian literature especially the genre of Indian fiction • Should help analyze the various socio-cultural aspects of the Indian scenario. • Should help the students in developing a close affinity with the problems prevailing in Indian society and help them develop a vision on how to remove these problems arising out of poverty, patriarchal system etc. • Should be sensitive to gender issues • Should be able to build vocabulary and knowledge of literary terminology.
V	BAENG0518 Studying the Canon Fiction I	Henry Fielding: Joseph Andrews Jane Austen: Pride and Prejudice Charles Dickens: A Tale of Two Cities	• Show familiarity with major literary works by British writers in the field of Novel writing • Evaluate the growth of the prose writing in English through times • Evaluate the writing techniques and styles of writers of fiction • Try and understand the concept of plot, theme,characterization, motif, etc. the key ingredients of a novel
V	BAENG0510 Indian English Literature	Anita Desai: The Village by the Sea Indo-English Poetry- 1. Nissim Ezekiel: "Night of the Scorpion", "Enterprise" 2. Sri Aurobindo Ghosh: "Who" 3.Eunice de Souza (1940-)	• Interpret the works of great Indian writers in English. • Demonstrate, through discussion and writing, an understanding of significant cultural and societal issues presented in Indian English literature. • Identify the various forms and types of poetry. • Specify the figurative language used in poems. • Analyze the use of myth in Indian writing in English.
		"For Rita's Daughter, Just Born"	

VI	BAENG0611 Indian Literature in Translation	Fiction: Bhishm Sahni: Tamas Drama: Vijay Tendulkar: Vultures Poetry: 1. Pash: "Flock of Sparrows", "I am Like Grass", "Commitment" (From Reckoning with Dark Times: 75 Poems of Pash. Trans. T.S. Gill, Sahitya Academy, New Delhi, 1999) 2. Faiz Ahmed Faiz: "My Fellowmen, My Friend", Dawn of Freedom", "To Those Students" from Poems by Faiz, Trans. U.G. Kunnan, Pushkin House, Museum Street, London, 1971. Short Story: 1. : "Toba Tek Singh"	• Examine the issues discussed in the text in the socio-historic and cultural context. • Should be able to compare Indian issues of partition, migration, identity, dalit movements, Diaspora and gender with other nations • Recognize poetry from a variety of cultures, languages and historic periods.
VI	BAENG0612 English Phonology and Morphology	Sounds of English: Consonants, Vowels, Stress and Intonation Word Structure: Roots, Affixes, Compounds	• Comprehend the articulation of English speech sounds. • Inculcate the ability to read and write phonetic transcription. • Identify the manner of articulation and classification of vowels and consonants. • Adopt the functions of stress and intonation. • Differentiate accents of British English and American English. • Illustrate the differences in phonetics, phonology, morphology, syntax, semantics and pragmatics.
VI	BAENG0613 Literature from the Margins	DALIT LITERATURE: Om Prakash Valmiki: Joothan Urmila Pawar: "A ChildhoodTale" Bama: Karukku	• Should be able to apply different critical, theoretical and philosophical approaches in the Indian context. • Should develop an ability to recognize text's elements such as style, form, images, figure of speeches, connotations and references. • Student must develop an ability to understand human psychology especially the psychology of a dalit through the study of different characters which facilitates social adaptability and understanding. • Should be able to empathize with the pain and suffering experienced by dalits and downtrodden for ages • Should be able to see through the issues, themes and the politics in Indian context.
I	Functional English	Grammar and Translation Reading and Writing Skills	• Should be able to write coherently and clearly. • Should be able to write formal and informal reports and presentations.

	FE1104		• Should develop and improve their analytical abilities • Should have strong vocabulary
			• Should be able to use exact, correct, and proper words or terms along with error free writing skills. • Should be able in data Interpretation and email writing
I	Communicat ion Skills in English ENG-GI 1101		• Should develop and improve their communication skills • Students would have learnt the importance of skills of writing, reading, speaking and listening. • The students would have strengthened their knowledge in differentiating miscommunication from effective communication. • The students would have learnt the factors influencing the communication and the barriers of • communication.
II	Professional Writing ENG-GI 1102	Writing for print and Electronic media,	• Should be able to use proper format for different kinds of written business communications • Should be able to write coherent, clear, logical and correct letters • Should be able to write formal and informal reports and presentations. • Should develop and improve their communication skills
III	Creative Writing ENG-GI 1103		• Students will be able to select correct interpretations and solutions to conceptual problems. • understand the importance of reading as part of a creative writer's development • engage analytically and critically with a range of literary and media texts recognize how critical reading supplies writers with inspiration and ideas.
M.A.	ENGLISH		• M.A course offered by the Dept has been yielding appreciable results .In addition to the increase in knowledge; our students have been consistently achieving great academic heights in various areas. Many of our students have been qualifying UGC and other significant exams. Many of our students are placed in various prestigious universities and government institutions. Some of the students are pursuing Ph. D from reputed universities.

Bachelor of Computer Applications :BCA(PO ,PSO and CO)

To keep up with these rapidly changing requirements for new skills the Managing Committee of the Institute decided to start the BCA course from the Academic Year 2001-2002. The BCA Course aims at inculcating essential skills as demanded by the global software industry through interactive learning process. This also includes team-building skills, audio- visual presentations and personality development programmes. The programme enhances analytical and communication skills besides inculcating the virtues of self-study. The Curriculum has been designed to cater to the ever changing demands of information technology along with necessary inputs from the industry. The objective of the course is to develop skilled manpower in the various areas of information technology.

Programme Outcomes: Programme Specific Outcomes:

Upon completion of the BCA programme, students will be able to:

- Use and apply current technical concepts and practices in the core computer applications.
- Identify computer application related problems, analyze them and design the system or provide the solution for the problem considering legal, ethical and societal issues.
- Recognize the need for and an ability to engage in continuing professional development.
- Work and communicate effectively in an interdisciplinary environment, either independently or in team, and demonstrate scientific leadership in academia and industry.
- Communicate effectively by oral, written, computing and graphical means.

Keep the knowledge of theoretical computer science Database Management System
Keep the knowledge of "Data communication and Computer Networks"

Course Outcomes

course code	Title of Course	Course Outcomes
		The syllabus of this course is specially designed for the beginners in computer science with the first exposure to mathematical topics essential to their study of computer science or digital logic. After the completion of the course the student would be able to understand the concept of set
BCA0101	Mathematics-I	theory, trigonometry, differential calculus, integral calculus, limit, matrices etc.
BCA0102	Applied English	● Should develop and improve their communication skills. ● Should be able to write formal and informal invitations andletters. ● Should be able to use words/phrases in their own sentences. ● Should improve their compression anddrafting skills.
BCA0103	Computer Fundamentals	● Define and distinguish Hardware and Software components of computer system. Identify and discuss the functional units of a computer system. ● Identify the various inputs and output units and explaintheir purposes.
BCA0104	C-Language	● To clearly understand the logic of the problem. ● To analyze the given problem and write the algorithm, flowchart. ● To write structured C programs, this is the foundation of any programming language.

BCA0105	Office Automation Tools	This course trains students how to use MS Office applications to carry out office work such as creating professional- quality documents; store, organize and analyze information, arithmetic operations and functions; and create dynamic slide presentations with animation,
BCA0301	Mathematics - III	After the completion of the course the student would be able to understand the standard technique of solving linear differential equations, complex number, primes, Chinese Remainder Theorem, finite field , group field etc.
BCA0302	Business Practices and Management	After going through the syllabus a students will have a proper idea of business, management and functions undertaken by a manager.
BCA0303	Computer Organizat ion	● Ability to understand the basic structure of computers. ● Ability to perform computer arithmetic operations. ● Ability to understand control unit operations.
BCA0304	Object Oriented Programming with C++	● An understanding of the principles behind the object oriented development process. ● Competence in the use of object oriented programming language in the development of small to medium sized application programs.
BCA0305	Desktop Publishing and Designing	● Create, edit, and print long documents including supporting pages. ● Effective design and layout rules used in publication industry. ● Scanning and importing graphics. ● Format page layout utilizing master pages tool, Competencies, Skills.
BCA0401	Personnel Managem ent	● Develop a thorough grounding in (and sensitivity to) the human resource impact on organizations. ● Assist students in relating the management of human resources to organizational effectiveness. ● Understand the link between personnel management and larger macro issues of current concern.
BCA0402	Accounting	● Familiarize yourself with the concept of accounting. ● After completion of this course, candidate would be ● able to record and post transactions in the basic accounting equation and maintain subsidiary ledgers.
BCA0403	System Analysis and Design	● Gather data to analyse and specify the requirements of a system. ● Design system components and environments. ● Build general and detailed models that assist programmers in implementing a system. ● Design a database for storing data and a user interface for data input and output, as well as controls to protect the system and its data.

BCA0404	Internet Technology & Web Page Design	• Students will be able to write a well formed / valid XML document. • Students will be able to write a server side java application called Servlet to catch update and delete operations on DBMS table. • Students will be able to write a server side java application called JSP to catch forms.
BCA0405	Programming in Visual Basic	• Design, create, build and debug Visual Basic application. • Explore VB's (Integrated Development Environment) IDE. • Apply arithmetic operation for displaying numeric output. • Applying control structures for determining different operations. • Applying procedures, sub procedures and functions to create manageable codes. Creating windows applications using forms, controls and events.
BCA0501	Operating System	• Identify the deadlock situation and provide appropriate solutions so that protection and security of the operating system is also maintained. • Analyze memory management techniques, concepts of virtual memory and disk scheduling. • Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
BCA0502	eCommerce	• Discuss legal issues and privacy in E-Commerce. • Assess electronic payment systems. • Recognize and discuss global E-commerce issues. • Describe the infrastructure for E-commerce.
BCA0503	Management Information System	• Use analytical and reflective skills in decision making. • Communicate effectively both orally and in writing. • Recognize legal and ethical issues confronting them. • Contribute to the performance of a group within a business setting.
BCA0504	ASP.net Technologi es	• Create a web form with server control. • Separate page code from content by using code-behind pages, page controls and components. • Display dynamic data from a data source by using data binding. • Debug ASP.NET pages by using Trace.
BCA0505	Computer Oriented Statistical Methods	• To use frequency distribution to make decisions. • To understand and to calculate various types of averages and variation. • To use the concept of probability in business.
BCA0601	Computer Networks	• Identify the different components in a Communication System and their respective roles.

		• Describe the technical issues related to the local Area Networks. • Identify the common technologies available in establishing LAN infrastructure.
BCA0602	Numerical Methods	• Be aware of the use of numerical methods in modern scientific computing. • Be familiar with finite precision computation. • Be familiar with numerical solutions of nonlinear equations in a single variable. • Be familiar with numerical interpolation and approximation of functions. • Be familiar with numerical integration and differentiation. • Be familiar with numerical solutions of ordinary differential equations. • Be familiar with calculation and interpretation of errors in numerical methods.
BCA0603	Multimedia Technology	• Plan experiments to test user perception of multimedia tools. • State the properties of different media streams; compare and contrast different multicast protocols. • Describe different realisations of multimedia tools and the way in which they are used.
BCA0604	Computer Graphics	After completion of the course • students understand basics of computer graphics, Input/output primitive and basic transformations, which can be applied on objects of graphics, Practical applications of graphics, Program development and basic animations without using graphical software's.
BCA0605	Software Engineering	• Understand the importance of the stages in the software life cycle. • Understand the various process models. • Understand the UML notation. • Be able to design software by applying the software engineering principles.
		• To help the students to develop ability, to applytheoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research
BCA0606	Major Project	laboratories. A student is expected to do planning, analyzing, designing, coding, and implementing the project. • The initiation of the project should be with the project proposal.

PGDCA (Post Graduate Diploma in Computer Application)

PROGRAM OUTCOMES

- It will equip the students with skills required for designing, developing applications in Information Technology.
- Students will able to learn the latest trends in various subjects of computers & information technology.
- The PG Diploma is aimed at graduates with a computing background and provides a detailed coverage of the key concepts and challenges in data and resource protection and computer software security.
- To give hands on to students while developing real life IT application as part of the Project Work.
- To train graduate students in basic computer technology concepts and information technology applications.
- Design and develop applications to analyze and solve all computer science related problems.
- To expose the students to open Source technologies so that they become familiar with it and can seek appropriate opportunity in trade and industry.
- Able to provide socially acceptable technical solutions to real world problems with the application of modern and appropriate programming techniques.
- Design applications for any desired needs with appropriate considerations for any specific need on societal and industrial aspects.

SEMESTER –I

Course Code	Paper	Course Outcome
DCS-101	Fundamentals of Programming Using C	• To clearly understand the logic of the problem. • To analyze the given problem and write the algorithm, flowchart. • To write structured C programs, this is the foundation of any programming language.
DCS-102	PC Software	• This course trains students how to use MS Office applications to carry out office work such as creating professional- quality documents; store, organize and analyze information, arithmetic operations and functions; and create dynamic slide presentations with animation
DCS-103	Operating system	• Understand the fundamental concepts with algorithms of Memory Management, CPU Management, Disk Management • Identify the deadlock situation and provide appropriate solutions so that protection and security of the operating system is also maintained. • Analyze memory management techniques, concepts of virtual memory and disk scheduling. • Understand the implementation of file systems and directories along with the interfacing of IO devices with the operating system.
DCS-104	Computer Organization and Architecture	• Ability to understand the basic structure of computers. • Ability to perform computer arithmetic operations. • Ability to understand control unit operations.

SEMESTER –I I

Course Code	Paper	Course Outcome
DCS-201	Data and File Structure	• Understand and implementing the fundamental concepts of Memory Management like Link List, Stack Queue, Tree etc • Apply concepts of sorting and Searching
DCS-202	System Analysis and Design	• Gather data to analyze and specify the requirements of a system. • Design system components and environments. • Build general and detailed models that assist programmers in implementing a system.

		• Design a database for storing data and a user interface for data input and output, as well as controls to protect the system and its data.
DCS-203	Object Oriented Programming & C ++	• An understanding of the principles behind the object oriented development process. • Competence in the use of object oriented programming language in the development of small to medium sized application programs
DCS-204	Data base Management system	• Describe the fundamental elements of relational database management systems • Explain the basic concepts of relational data model, entity-relationship model, relational database design, relational algebra and SQL. • Design ER-models to represent simple database application scenarios • Convert the ER-model to relational tables, populate relational database and formulate SQL queries on data. • Improve the database design by normalization. • Familiar with basic database storage structures and access techniques: file and page organizations, indexing methods including B tree, and hashing. •
DCS-207	Project Work	• Apart from the syllabus extra focus on Software Development enable students to make the software in near future using HTML, JavaScript, CSS, PHP, and MySQL.

BACHELOR OF BUSINESSADMINISTRATION,B.B.A (PO's, PSO's & CO)

PROGRAM OUTCOMES

- Impart a wide knowledge of all disciplines of the course and training in Management of both Animate and Inanimate entities and develop leadership skills.
- Equips students to demonstrate the capabilities required to apply cross-functional business knowledge and technologies in solving real-world business problems.
- Encourages analytical and critical thinking abilities for business decision making.
- Promotes ethical and value-based leadership ability.
- Makes students capable of recognizing and resolving ethical issues.
- Helps to prepare students for managerial roles.
- To develop appropriate skills in the students so as to make them competent and provide themselves self-employment.

PROGRAM SPECIFIC OUTCOMES

PSO1: Visualization of the Corporate world.

PSO2: Analyse the theoretical knowledge with the practical aspects of Organizational setting and techniques or Management.

PSO3: Summarize conceptual and analytical abilities requiredfor effective decision making.

PSO4: Understand the dynamic and complex working Business Environment.

PSO5: Awareness of the problems faced by the Business sector in the Current scenario.

PSO 6: Understand the rapid changes of financial services including Banking and Insurance, Health & Safety sectors.

PSO7: Determine the various PEST (Political, Economic, and Social Technological) factors influence on changes of business environment.

PSO8: Understand the Micro and Macro Marketing Environment.

PSO9: Analyze the various financial and accounting concepts including Balance sheet, trial balance, etc.

PSO10: Severalize the various aspects of Business Research in the area of Marketing, Human Resource and Finance.

PSO11: Determine the functional areas of Management such as Production, Purchasing, Marketing & Sales, Advertising, Finance and Human Resource Management.

PSO12: Understand the Forms of Business Organization.

PSO13: Acknowledge the factors influence the Consumer Buying Behavior.

PSO14: Understand the types of Business Communication and Business letters.

PSO15: Determine the organizational behavior and its conflicts.

PSO16: Validate the sampling techniques of collecting Primary and Secondary data.

PSO17: Understand the methods of collecting primary and secondary data.

PSO18: Analyses the tools and techniques of data.

PSO19: To understand the construction of scaling techniques.

PSO20: Determine the steps involved in the design of the questionnaire.

PSO21: Evaluate and prepare a project report for the Functional areas of research.

PSO22: To understand the concept of various Laws like Company's Law, Income Tax Law, Business Law.

S.NO.	SEMESTER	COURSE CODE	COURSE NAME	PROGRAM SPECIFIC OUTCOMES
1.	BA 1st SEM	I	Business Organization & Management	Students will get familiar with the basic concepts applied in contemporary Management practice and many of the concepts learnt will form the foundation for subsequent courses in strategy, operations and HRM in subsequent Semesters.
2	BBA 1st SEM	II	Financial Accounting	The objective of accounting is to provide insight into the results of management decisions. The aim of accounting education is to help students learn to learn to become professional accountants
3	BA 1st SEM	III	Business Mathematics	The aims of teaching and learning mathematics are to encourage and enable students to develop mathematical curiosity and use inductive and deductive reasoning when solving problems. become confident in using mathematics to analyze and solve problems both in school and in real-life situations
4	BA 1st SEM	IV	Business Economics	Economic objectives of business refer to the objective of earning profit and also other objectives that are necessary to be pursued to achieve the profit objective, which include, creation of customers, regular innovations and best possible use of available resources
5	BA 1st SEM	V	Business comm.& Personality Development	The objective of this course is to help participants to develop communication skills, discover what business communication is all about and learn how to adapt their communication experiences in life and college to the business world.
6	BA 2nd SEM	VI	Business Statistics	Business Statistics will help students to develop an ability to deal with numerical and quantifiable issues in business and to support the use of statistical, graphical and algebraic techniques wherever appropriate. This course familiarizes business statistics and fundamental aspects of decision-making.
7	BA 2nd SEM	VII	Business Environment	Student will understand the different environment in the business climate .It helps to know the minor and major factors affecting the business in various streams, get knowledge about the different environment like, political, technological and economic environment in

				the business.
8	BA 2nd SEM	VIII	IT in Management	Understand the complex computing problem and to apply principles of computing and other relevant disciplines to identify the solutions. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline. Communicate effectively in a variety of professional contexts
9	BA 2nd SEM	IX	Principles of Marketing	It will help students to develop strong conceptual knowledge in the functional area of marketing management. Students will demonstrate effective understanding of relevant functional areas of marketing management and its application. Analytical skills in identification and resolution of problems pertaining to marketing management will be enhanced.
10	BA 2nd SEM	X	Business Law	Describe the Law's Rule and Regulation. Identify the contract and its classification, essential for a valid Contract. Describe the capacity and Incapacity of parties to the contract. Identify the agent and its type, duties and right Classify the difference between condition and warranty. Get familiar with the Negotiable Instrument act, Partnership Act.
11	BA 3rd SEM	XI	Corporate Accounting	It will help student to develop knowledge of accountancy, a more in-depth and broader study of its contents and study the accounting problems associated with the incorporation of public limited or joint-stock companies, modifications of company capital, external financing through debt securities and the application of income.
12	BA 3rd SEM	XII	Business Statistics	Business Statistics will help students to develop an ability to deal with numerical and quantifiable issues in business and to support the use of statistical, graphical and algebraic techniques wherever appropriate. This course familiarizes business statistics and fundamental aspects of decision-making.
13	BA 3rd SEM	XIII	Operation Management	This course introduces major concepts and tools used in the design and use of operations systems in organizations. It introduces the discipline and the role the function plays in a value-creating organization. Emphasis is given both to familiarization of various production processes and service systems, and to quantitative analysis of problems/ issues arising in the management.
14	BA 3rd SEM	XIV	Business Economics	Economic objectives of business refer to the objective of earning profit and also other objectives that are necessary to be pursued to achieve the profit objective, which include, creation of customers, regular innovations and best possible use of available resources
15	BA 3rd SEM	XV	Human Resource management	To demonstrate proficiency in analyzing and interpreting a wide range of business information related to the various functional areas of management. Develop and demonstrate key personal and interpersonal skills required for effective management and implementation of solutions to business problems at all levels within and outside the organization. Update Students the knowledge base relate to business domains and appreciate their significance.
16	BA 4th SEM	XVI	Company Law	It addresses all of the legal issues that are faced by a company. Complete procedure of how the company came into existence. Important Document of company i.e. Memorandum of Association, Article Of Association, Different types of Prospectus .Issue of Shares, Important persons of company such as Director their right and duties. Winding up process of Company

17	BA 4th SEM	XVII	inistrative Practices	To understand the nature and scope of Public Administration. Acquainted with the theories, approaches, concepts and principles of Public Administration. Understand the administrative theories and concepts to make sense of administrative practices.
18	BA 4th SEM	XVIII	Cost Accounting	To develop and understand the basic concepts and processes used to determine product costs & Service costs through various cost accounting methods and techniques which can lead to developing skill in order to interpret cost accounting statements and accounts. The course will also help to analyze and evaluate information for cost ascertainment, planning, control and decision making, and lead to solve simple real life cases
19	BA 4th SEM	XIX	Marketing Research	This course is designed to provide information about the function of Marketing Management, get students familiar with various approaches .Data collection and information from various fields such as psychology , sociology, economics etc. Market research aims at enabling the firms to produce that kind of goods and services which is acceptable to the customers.
20	BA 4TH SEM	XX	Auditing	This course is designed to provide an introduction to auditing. The objectives include principles and practices used by public auditors and internal auditors in examining financial statements and supporting data. Special emphasis is given to assets and liabilities. This course is a study of techniques available for gathering, summarizing, analyzing and interpreting the data presented in financial statements and procedures used in verifying the fairness of the information. Also emphasizes ethical and legal aspects and consideration
21	BA 5TH SEM	XXI	Management Control Techniques	The main objective of this course is to equip the students with the skills for effective implementation of strategies and resolving the attendant problems.it envisages strategic planning, budgeting, resource allocation, performance measurement, evaluation, and Reward and responsibility.
22	BA 5TH SEM	XXII	Financial Management	Describe the concept of financial management and its function. Identify the Principles of capital structure, the source of finance. Describe the working capital management and its techniques of forecasting in working capital. Describe the concept of cost of capital and its classifications. Determination of cost of capital, Budgetary control system, Identity the preparation of Production, Sales & Cash Budget, Flexible budget. Describe the different factors affecting a capital investment proposal, Classify the capital budgeting.
23	BA 5TH SEM	XXIII	Indian Business Economy	It will result in a comprehensive understanding of the Indian economy. Students will be able to understand the government. Policies and Programs. It helps in developing understanding of the students related to different sectors of the Indian economy. Students will be able to understand how planning and infrastructure support can develop an economy.
24	BA 5TH SEM	XXIV	Entrepreneurship & Small Business	This course provides the students with an in-depth understanding of key concepts in entrepreneurship and business development. It will cover the different types of entrepreneur here – social, serial and lifestyle. The course addresses the theories and techniques applied to business development - new business formation (measuring start-up activity, new entrepreneurs and social networks), business growth and sustainability. Students learn about finance and small business and development strategies designed to develop business and business. Understand theories of entrepreneurship and business development.
25	BA 6TH SEM	XXV	Management Information	Apply modern tools, techniques and technology in a functional and productive manner in

			System	their professional activities. Analyze, design, construct, implement and maintain, usable, reliable and cost –effective information System (IS) that support operational, managerial and strategic activities of organizations.
26	BA 6TH SEM	XXVI	Management of Foreign Trade	Explain the concepts in trade documentation in international business with respect to foreign trade. Apply the current business phenomenon and to evaluate the global business environment in terms of economic, social and legal aspects. Analyze the principle of international business and strategies adopted by firms to expand globally. Integrate concept in international business concepts with functioning of global trade.
27	BA 6TH SEM	XXVII	Business Data Processing	The aim of this course to provide knowledge about all processes of business data analytics that includes data collection, data storage, data processing and reporting. Introduction to data formats. Getting familiar with data formats used for data sharing on digital platforms. Data Storage models and databases.
28	BA 6TH SEM	XXVIII	Income Tax	This course is designed to provide students with an understanding of the Indian Income tax system. Provide knowledge of the fundamental concept of Taxation law. Students will be able to identify the technical terms used in Direct taxation. Students will be able to compute income from salary, House Property, Business / Profession, capital Gains and Income from other sources.
29	BBA 6TH SEM	XXIX	Basics of Computer	Bridge the fundamental concepts of computers with the present level of knowledge of the students. Familiarize basics of computer ,operating systems, Networking, Multimedia and internet
30	BA 6TH SEM	XXX	Project Report & Viva – Voce Examination	On completion of project work the student will be able to employ the fundamental knowledge to develop statistical models and to infer useful management skills. Analyze situations and identify possible ideas for practical implementation. Understand professional and ethical responsibilities.

Master of Business Administration (MBA)

Master of Business Administration Programme is introduced by Himachal Pradesh Technical University, Hamirpur in the School of Business Management studies, Govt Post Graduate College Dharamshala. The basic objective of this course is to impart training and developing management skill to meet the increasing demand of middle and top level management positions in growing business world. SMB introduced MBA course (With specialization) from the session 2011-12.

Department of MBA provides opportunities in the field of management studies at post-graduate level. India during the preceding 20 years has seen rapid development and growth and even during the world financial crisis of 2008-09, has maintained economic development and is poised for further economic transformation. Sectors like service finance, IT, telecom, infra structure and real estate are again well poised for growth. At Department, we attempt to nurture thoughts which bring out the hidden potential in each and every individual. The management programme at Department of MBA is to impart management education in a cohesive environment so as to enable the student to be optimally equipped to respond to the changing requirements of the industry in the Indian ethos The objectives of the Department of MBA are:

- To provide quality management education.
- To prepare a new generation of management professional with depth of knowledge& excellence in technology.
- To provide ample opportunity for overall personality development.
- To attract motivated faculty with an aptitude for teaching learning process.
- To provide innovative methods of delivery.
- To prepare qualified management graduates imbibing human values.

Specialization offered at the post graduate level are as follows:

- Finance Management
- Marketing Management
- Human Resource Management

B.TECH (CSE) PROGRAMME OUTCOMES

ABOUT THE DEPARTMENT

The School of Computer Science and Engineering at Govt. College Dharamshala offers B. Tech.(Computer Science and Engineering) and Master in Computer Applications(MCA) programme to create motivated, innovative, creative thinking graduates to fill ICT positions across sectors who can conceptualize, design, analyse, and develop ICT applications to meet the modern day requirements. B.Tech (CSE) is a four-year degree course spread over eight semester's course and MCA is a two year degree course spread over six semesters affiliated to Himachal Pradesh Technical University Hamirpur. These courses are approved by All India Council for Technical Education (AICTE), New Delhi. The School of ComputerScience & Engineering has requisite number of theatre seminar halls and well equipped AC computer laboratories having more than 60 latest computers with internet facility. Thedepartment provides industrial visits and training, seminars, workshops on latest software technologies and study tours to the students. The college has a career guidance and placement cell which is working very efficiently for the placement of students in MNCs. Thedepartment has a well-qualified and trained faculty as per AICTE norms.

B.TECH (CSE) PROGRAMME OUTCOMES

B.Tech (CSE) I Year.

1. Engineering knowledge: The graduates are expected to develop an ability to apply knowledge of mathematics, science and engineering appropriate to the discipline.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, andenvironmental considerations.

B.Tech (CSE) II Year.

1. Key principles and practices of computing: The graduates will have a thorough grounding in the key principles and practices of computing, and will have applied their computer engineering skills and knowledge of foundational principles to the design and implementation of practical systems by actively getting engaged into learning, understanding, and applying new ideas and technologies as the field evolves.
2. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
3. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

B.Tech (CSE) III Year.

1. IT & Other Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
2. Communication: Communicate effectively on complex engineering activities with theengineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
3. Individual and team work: Function effectively as an individual, and as a member orleader in diverse teams, and in multidisciplinary settings.

B.Tech (CSE) IV Year.

1. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
2. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

B. Tech (CSE) - PROGRAM SPECIFIC OUTCOMES

A graduate of the Computer Science and Engineering Program will demonstrate:

1. Professional Skills: The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.
2. Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
3. Successful Career and Entrepreneurship: The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an

entrepreneur,and a zest for higher studies.

MCA - PROGRAM OUTCOMES

Upon completion of MCA, the students will be able to:

MCA I Year:

1. Computational Knowledge. Demonstrate competencies in fundamentals of computing, computing specialization, mathematics and domain knowledge suitable for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.

2. Communication Efficacy. Ability to effectively communicate with the technical community and with the society at large about complex computing activities by being able to understand andwrite effective reports, design documentation, make effective presentations with the capability ofgiving and taking clear instructions.

3. Problem Analysis . Identify, formulate and analyze complex real-life problems in order to arrive at computationally viable conclusions using fundamentals of mathematics, computer sciences, management and relevant domain disciplines.

4. Modern Tool Usage. Create, select, adapt and apply appropriate technologies and tools to a wide range of computational activities while understanding their limitations.

MCA II Year

1. Professional Ethics. Ability to perform professional practices in an ethical way, keeping in the mind cyber regulations & laws, responsibilities and norms of professional computing practices.

2. Conduct Investigations of Complex Computing Problems. Ability to research, analyze and investigate complex computing problems through design of experiments, analysis and interpretation of data and synthesis of the information to arrive at valid conclusions.

3. Project Management and Finance. Ability to apply knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.

4. Individual and Team Work. Ability to work in multi-disciplinary team collaboration both as a member and leader, as per need.

MCA PROGRAM SPECIFIC OUTCOMES

1. Ability to understand and apply knowledge on analysis, design and development of softwareapplications.
2. Utilize skills and knowledge for computing practice with commitment on social, ethical andlegal values.
3. Ability to work with latest computing technologies and pursue careers in IT industry/consultancy/ research and development, teaching and allied areas.

Assist Guests in Check-in and Check-out Process. Greeting guest as per SOP- Warm smile- eye contact and professional communicationGrooming standards- Documents neededRegistration procedure- Recording mandatory information Handling late night registrations- Room allotment as per guest preference- Rate negotiation and discounts- Handle room allotment as per type of guest. 10 Unit-02 Attend to Guest Queries. Understanding guest requirement- Interdepartmental communication- responding to guest Queries-Guest satisfactionProtocol to contact guest in the room- Front office consumables. 08 Unit-03 Perform Cashiering Activities. Master folio- Preparing bills as per standing instructions- Matching and updating invoices with the master bill (POS)-Prepare bills as per different categories of guestsVarious modes of bill settlement- Foreign currency procedure- Settlement of final bill. Assist Guests in Check-in and Check-out Process. Greeting guest as per SOP- Warm smile- eye contact and professional communicationGrooming standards- Documents neededRegistration procedure- Recording mandatory information Handling late night registrations- Room allotment as per guest preference- Rate negotiation and discounts- Handle room allotment as per type of guest. 10 Unit-02 Attend to Guest Queries. Understanding guest requirement- Interdepartmental communication- responding to guest Queries-Guest satisfactionProtocol to contact guest in the room- Front office consumables. 08 Unit-03 Perform Cashiering Activities. Master folio- Preparing bills as per standing instructions- Matching and updating invoices with the master bill (POS)-Prepare bills as per different categories of guestsVarious modes of bill settlement- Foreign currency procedure- Settlement of final bill.

Course outcome: B.Sc. (Hons.)BiotechnologyDepartment of Biotechnology

Sr. No	Subject Code	Subject Name	Subject category	Course Outcome
1st Year				
1.	BIOTECH1C01	Biochemistry &Metabolism	Core course	To introduce the students to the basicsof biochemistry and learn about various biochemical andmetabolic pathways
2.	BIOTECH1C03	Genetics	Core course	To introduce the students to the basicsof heredity, cytogenetics, geneticdisorders
3.	MICRO1GE01	Cell Biology	GE	By understanding how cells work students get a detailed knowledgeof the various mechanisms on which living beingswork.
4.	BIOTECH1C02	General Microbiology	Core course	To introduce thestudents to the basics of microbiologicaltechniques
5.	BIOTECH1C04	Molecular Biology	Core course	The subject providesthe students to with an understanding biology at molecularlevel
6.	CHEMGE103	Chemistry-1	GE	The subject providesthe students with an understanding of basic chemical structures andreactions.
2nd Year				
7	BIOTECH2SEC02	Bioinformatics	SEC	To introduce the students to the basic tools of Bioinformatics andtheir use in modern
8	BIOTECH2SEC01	Enzymology	SEC	To introduce the students about enzymes and theirapplications
9	BIOTECH2C07	Recombinant DNA Technology	Core course	The subject providesthe students to withan understanding of the manipulation of genes in order toproduce modified organisms withbetter properties.
10	BIOTECH2C06	Bioprocess Technology	Core course	The study of this subject helps the students to learn howmicrobes can beused to produce various products at industrial scales.
11	BIOTECH2C05	Immunology	Core course	The subject providesa detailed knowledge of our immune system and how it works to fightagainst variousdiseases.
12	MICRO2GE02	Bioanalytical tools	GE-3	It gives the students, detailed information about the working and instrumentation of various instruments used in biotechnology and microbiology.
13	BIOTECH2C08	Environment Biotechnology	Core course	To make studentsfamiliarwith the importance ofenvironment and to make them aware about different cleanup strategies likebioremediation and waste treatment methods
14.	BIOTECH2C09	Bacteriology and Virology	Core course	To give students information about the structural and physiological details of bacterial cell and viruses.
15.	BIOTECH2C10	Microbial Physiology	Core Course	This subject givesstudents an insight into physiology of microbial world
16..	CHEMGE205	Chemistry-II	GE	This subject gives students an insight inthe thermodynamics and chemicalreactions.

3rd YEAR				
17.	BIOTECH3C14	Food Biotechnology	Core course	To introduce the studentsto applications of Biotechnology inFood industry and make aware about various fermentation products
18.	BIOTECH3DSE01	Biochemical Engineering	DSE	The study of this subject helps the students to learnhow microbes can beused to produce various products at industrial scales.
19.	BIOTECH3C12	Plant biotech	Core course	Plant biotechnologyhelps students to learn about plant tissue culture and its applications.
20.	BIOTECH3C11	AnimalBiotech	Core course	Animal biotechnology helpsstudents to learnabout animal tissue culture and itsapplications.
21.	BIOTECH3C13	Medical Microbiology	Core course	The subject gives an insight into themicrobial pathogens of humans and their treatment options.
22.	BIOTECH3DSE03	Ecology and Environment management	DSE	This course gives an understanding aboutour ecology,environment and its preservation.
23.	BIOTECH3DSE02	Advances in Microbiology	DSE	The course gives an insight into theadvanced techniques of microbiology and biotechnology.

Department of Commerce

M. Com.

- The post graduate program provides the students advanced knowledge in the field of business and management and also enables the students to acquire the basic skills required for carrying out business activities, research, stock market operations, accounting practices, etc. The program also provides them with adequate knowledge and skill to provide consultancy services in finance and marketing. Similarly after completion of the program students can confidently prepare for NET, SET, and other competitive examinations of their choice.

M.Com I Semester

S.No.	Subject Code	Subjects	Subject Category (DSC,DSE,GEC,SEC,AECC)	Course Outcome
1)	MC 1.1	Management & Organizational Behaviour	Core	The course aims to provide basic knowledge to the students about the organization behaviour and management of a business enterprise.
2)	MC 1.2	Business Environment	Core	The course aims to provide basic knowledge to the students about the internal and external environment ofa business enterprise.
3)	MC 1.3	Managerial Economics	Core	This course seeks to enable the student to grasp the major economic problems in the organisation. It also seeks to provide an understanding of modern tools of micro & macro-economic analysis.
4)	MC 1.4	Statistical Analysis for Decision Making	Core	The objective of this paper is to provide statistical skills and knowledge for commerce students and to enhance the student understanding of usefulness of statistical tools for business decisionmaking
5)	MC 1.5	Taxation Practices and Administration	Core	To provide basic knowledge and equip students with application of principles and provisions of Income- tax Act, 1961 and the relevant Rules.

M.Com II Semester

S.No.	Subject Code	Subjects	Subject Category (DSC,DSE, GEC,SEC,AECC)	Course Outcome
1)	MC 2.1	Corporate Financial Accounting	Core	The objective of this paper is to enable the students to acquire the basic knowledge of the corporate accounting and to learn the techniques of preparingthe financial statements
2)	MC 2.2	Financial Management	Core	The course aims to familiarize thestudents with the principles and practices of financial management.
3)	MC 2.3	Human Resource Management	Core	The course aims to acquaint studentswith the techniques and principles tomanage human resource of an organisation.
4)	MC 2.4	Marketing Management	Core	The course aims to acquaint studentswith the techniques and principles ofmarketing in an organisation.
5)	MC 2.5	Financial Institution and Markets	Core	The course aims to familiarize the students with the principles and practices of financial institutions and financial markets.

	Subject Code	Subjects	Subject Category (DSC,DSE, GEC,SEC, AECC)	Course Outcome
1)	MC 3.1	Computer Application in Business	Core	The course aims to acquaint students with the tools of Computer application and informationtechnology.
2)	MC 3.2	Advanced Cost Accounting	Core	The objective of this paper is to enable the students to acquire the basic knowledge of the cost accounting and to learn the techniques of preparing the cost sheets.
3)	MC 3.3	Corporate Legal Framework	Core	The objective of the course is to impart basic knowledge of theimportant corporate laws along with relevant case law.
4)	MC 3.4	Strategic Management	Core	This course intends to expose the student to the policies and strategies business opts for various business decisions.
5)	MC 3.5	Research Methodology	Core	The objective of the course is to impart basic knowledge of themethods of research.

S.No.	Subject Code	Subjects	Subject Category (DSC,DSE, GEC,SEC, AECC)	**Course Outcome**
1)	MC 4.1	Advanced Financial Management	Core	**The course aims to familiarize the students with the detailed principles and practices of financial management.**
2)	MC 4.2	Security Analysis and Portfolio Management	Core	**The purpose of this course is to familiarize the students with different securities and management of porfolio, introduce them to the framework of their analysis and valuation and highlight the role of investor protection.**
3)	MC 4.3	Project Planningand Control	Core	**The course aims to impart the students, knowledge that how the** analysis and project appraisal iscarried out.
4)	MC 4.4	Accounting for Managerial Decision	Core	The course aims to impart the students, knowledge about the use of financial, cost and other data for the purpose of managerial planning, control and decision making.
5)	MC 4.5	E-Commerce	Core	The course aims to impart the students, knowledge about the use of electronic commerece for business enterprises
6)	MC 4.6	Project Report	Core	The objective is to give the studentspractical hand on experience.

		and Viva-voce		

ABOUT THE DEPARTMENT

The School of Computer Science and Engineering at Govt. College Dharamshala offers B. Tech.(Computer Science and Engineering) and Master in Computer Applications(MCA) programme to create motivated, innovative, creative thinking graduates to fill ICT positions across sectors who can conceptualize, design, analyse, and develop ICT applications to meet the modern day requirements. B.Tech (CSE) is a four-year degree course spread over eight semester's course and MCA is a two year degree course spread over six semesters affiliated to Himachal Pradesh Technical University Hamirpur. These courses are approved by All India Council for Technical Education (AICTE), New Delhi. The School of ComputerScience & Engineering has requisite number of theatre seminar halls and well equipped AC computer laboratories having more than 60 latest computers with internet facility. Thedepartment provides industrial visits and training, seminars, workshops on latest software technologies and study tours to the students. The college has a career guidance and placement cell which is working very efficiently for the placement of students in MNCs. Thedepartment has a well-qualified and trained faculty as per AICTE norms.

B.TECH (CSE) PROGRAMME OUTCOMES

A B. Tech.(CSE) program graduate will demonstrate:

B.Tech (CSE) I Year.

1. Engineering knowledge: The graduates are expected to develop an ability to apply knowledge of mathematics, science and engineering appropriate to the discipline.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, andenvironmental considerations.

B.Tech (CSE) II Year.

1. Key principles and practices of computing: The graduates will have a thorough grounding in the key principles and practices of computing, and will have applied their computer engineering skills and knowledge of foundational principles to the design and implementation of practical systems by actively getting engaged into learning, understanding, and applying new ideas and technologies as the field evolves.
2. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
3. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

B.Tech (CSE) III Year.

1. IT & Other Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
2. Communication: Communicate effectively on complex engineering activities with theengineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
3. Individual and team work: Function effectively as an individual, and as a member orleader in diverse teams, and in multidisciplinary settings.

B.Tech (CSE) IV Year.

1. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
2. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

B. Tech (CSE) - PROGRAM SPECIFIC OUTCOMES

1. Professional Skills: The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexity.
2. Problem-Solving Skills: The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

3. Entrepreneurial skills : The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

MCA - PROGRAM OUTCOMES

Upon completion of MCA, the students will be able to:

MCA I Year:

1. Computational Knowledge. Demonstrate competencies in fundamentals of computing, computing specialization, mathematics and domain knowledge suitable for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.

2. Communication Efficacy. Ability to effectively communicate with the technical community and with the society at large about complex computing activities by being able to understand andwrite effective reports, design documentation, make effective presentations with the capability ofgiving and taking clear instructions.

3. Problem analysis . Identify, formulate and analyze complex real-life problems in order to arrive at computationally viable conclusions using fundamentals of mathematics, computer sciences, management and relevant domain disciplines.

4. Modern Tool Usage. Create, select, adapt and apply appropriate technologies and tools to a wide range of computational activities while understanding their limitations.

MCA II Year

1. Professional Ethics. Ability to perform professional practices in an ethical way, keeping in the mind cyber regulations & laws, responsibilities and norms of professional computing practices.

2. Conduct Investigations of Complex Computing Problems. Ability to research, analyze and investigate complex computing problems through design of experiments, analysis andinterpretation of data and synthesis of the information to arrive at valid conclusions.

3. Project Management and Finance. Ability to apply knowledge and understanding of the computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects in multidisciplinary environments.

4. Individual and Team Work. Ability to work in multi-disciplinary team collaboration both as a member and leader, as per need.

MCA PROGRAM SPECIFIC OUTCOMES

1. Ability to understand and apply knowledge on analysis, design and development of softwareapplications.
2. Utilize skills and knowledge for computing practice with commitment on social, ethical andlegal values.
3. Ability to work with latest computing technologies and pursue careers in IT industry/consultancy/ research and development, teaching and allied areas.

Bachelor of Vocation Degree (B.Voc)

Introduction of B Voc Degree Program: -

The University Grants Commission (UGC) has launched a scheme on skill development based job oriented higher education program as a part of College/ University education leading to Bachelor of Vocation Degree (B.Voc.). This degree Program is unique with the provision of multiple entry and exist at different levels of NSQF from level 5 to 7 viz. Diploma, Advance Diploma and Degree in compliance to the National Skill Qualification Framework (NSQF). Multiple entry and exit will allow students the flexibility to earn and study as per their convenience. All the candidates enrolled for diploma courses or further will be treated at par from the second semester onwards. Students may exit after six months with the certificate (NSQF Level 4) or they may continue for diploma or advance diploma level courses leading to B. Voc. Degree. After the completion of Semester I the candidate will get a certificate and he/ she may go for a job or continue studying. The candidate may rejoin Semester II. After the completion of Semester II the candidate will get a Diploma and he/she may go for a job or continue studying. The candidate may rejoin Semester III. After the completion of Semesters III and IV the candidate will get an Advanced Diploma and he/she may go for a job or continue studying. The candidate may rejoin Semester V. After the completion of Semesters V and VI the candidate will be awarded a B.Voc. Degree.

Course outcome: -

Course outcome: -

1. To provide multiple entry and exit options at various levels through program design in conformation to the skill eco system.
2. To create requisite job role specific skilled manpower for industry at various NSQF levels as per NOSs (National Occupational Standards).
3. To empower the youth leading to employment and income generating opportunities.
4. To provide judicious mix of skills relating to a profession and appropriate content of general education.
5. To provide flexibility to the students by means of pre-defined entry and multiple exit levels.
6. To integrate skill based NSQF vocational studies with the undergraduate level of higher education in order to enhance employability of the graduates and meet the industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be competent to become part of the global workforce.

Hospitalty & Tourism SEMESTER – I-II				
Semester	**Code No.**	**Subject**	**Subject Outcome**	**PSO**
Front Office Associate	EN111	Learning a Foreign or Local Language Including English.	Learning a Foreign or Local Language Including English.	To further enhance students' abilities such as accurately understanding and appropriately conveying information, ideas, etc. and enable them to use such abilities in their social lives, while fostering a positive attitude toward communication through the English language. To enable students to have analytical, critical, and communicative minds
			Writing as a Skill.	To learn and Writing as a skill – its importance - mechanism of writing – words and sentences - paragraph as a unit of structuring a whole text - combining different sources – functional use of writing – personalacademic and business writing – creative use of writing
			Writing Process.	To Learn and Planning a text - finding materials – drafting – revising – editing - finalizing the draft - computer as an aid - key board skills

			Writing Models.	To learn about Essay - précis - expansion of ideas –- letter writing - personal letters - formal letters - CV – surveys – questionnaire - e-mail – fax - job application - report writing.
			Presentation as a skill	Elements of presentation strategies – audience – objectives – medium, key ideas - structuring the material & content- audiovisual aids - hand-outs - seminar paper
Front Office Executive & Associate	TH111	Introduction to Tourism Aviation, Hospitality Industry.	Tourism	To learn about tourism industry – Travel agency – History – Operation/Functions – Types. Tour Operators – Functions – Types. Accommodation Industry-Types – Classification – Supplementary – Souvenir Industry & Shopping.
			Aviation	To learn about an AIR TRANSPORTATION INDUSTRY International Organizations - ICAO- IATAEvolution of Hub & Spokes- Carrier Codesfacilities to the passengers- procedure at airport: - policies- practices and rules
			Hospitality	Classification & Categorization of Hotels - Hotel Ownership. A brief account of Commercial Hotels-Residential HotelsResort Hotels- Airport hotels- Bed & Breakfast Hotels- Convention hotels- Casino Hotels- Motels. Emerging trends in Accommodation - Time-shareCondominium-Home Stays- Tree HutsHouseboats- Capsule hotel. Major Hotel chains in India. – FHRAI
Skill PAPER -1 & 11				
Semester	**Code No.**	**Subject**	**Subject Outcome**	**PSO**
Front Office Executive	THC/Q0102	Front Office Associate	THC/N0108 Record guest details for registration	**Checking for guest room preference /reservation details** (interact with guest and identify the room preference based on type of room, room rate, days of stay, number of guests, gender of the guest, room view make note of any special request from guest, e.g., related to disability, non-Smoking cross check the reservation details with the guest suggest related-product sale that may revenue to the company negotiate with guest when on discount requests offer discounts within the limit advised by management, to retain the guest decide on discount offers after considering the seasonal occupancy or as per instructions of Reservation Revenue Manager confirm the type of room, tariff and other agreed details to the guest before allotting the room)

				Checking for guest room preference /reservation details (interact with guest and identify the room preference based on type of room, room rate, days of stay, number of guests, gender of the guest, room view make note of any special request from guest, e.g., related to disability, non-Smoking cross check the reservation details with the guest suggest related-product sale that may revenue to the company negotiate with guest when on discount requests offer discounts within the limit advised by management, to retain the guest decide on discount offers after considering the seasonal occupancy or as per instructions of Reservation Revenue Manager confirm the type of room, tariff and other agreed details to the guest before allotting the room)
			THC/N0110 Perform cashiering activities	**Receive payment method details from guest** {seek details of mode of payment (cash, cheque, credit card, etc.)seek details of the organization if the payment would be made directly by a corporate entity inform Front Office Manager about guest from registered or affiliated organizations and seek confirmation inform guests about any offers (bank card tie ups ensuring discount for guests) seek details of payment for a group check-in check if room payment has already been made via online reservation}
				Follow behavioural, personal and telephone etiquettes(greet the customers with a handshake or appropriate gesture based on the welcome the customers with a smile, ensure to maintain eye contact, address the customers in a respectable manner,do not eat or chew while talking, use their names as many times as possible during the conversation, ensure not to be too loud while talking, maintain fair and high standards of practice, ensure to offer transparent price, maintain proper books of accounts for payment due and received,answer the telephone quickly and respond back to mails faster, ensure not to argue with the customer,listen attentively and answer back politely, maintain personal integrity and ethical behaviour, dress professionally,deliver positive attitude to work, maintain well groomed personality, achieve punctuality and body language, maintain the social and telephonic etiquette, provide small gifts as token of appreciation and thanks giving to the customer, use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism, demonstrate responsible and disciplined behaviours at the workplace,escalate grievances and problems to appropriate authority as per procedure to resolve them and avoid conflict.)

			THC/N0119 Assist guest in check-in and checkout process	Welcoming and greeting the guests (PC1. greet the customer as per organization guideline on arrival of hotel PC2. make guest comfortable and feel good by offering a smile PC3. maintain eye contact while interacting with the guest PC4. look presentable and follow grooming standards) Understanding reservation status and arranging for booking(PC5. ensure that mails are checked regularly PC6. ensure that customer enquiries are responded as soon as they are received PC7. ensure that proper mail etiquette is followed while responding to customer mails PC8. make note of occupancy rates, vacant rooms, date / time of check, etc while booking the room PC9. block rooms based on guest confirmation PC10. inform guest about different type of rooms and confirm on guest preference PC11. suggest room type based on guest preference)
			THC/N0107 Attend to Guest Queries	Assisting guest during checkout (PC22. identify the check-out time of the guest PC23. ensure that the bell boy arranges for luggage transfer PC24. ensure their stay is recorded in the membership program and points / rewards are credited to their member account PC25. arrange for transfer with travel desk department based on requirement PC26. interact and receive feedback from the guest on their experience with the hotel PC27. get information on their next visit to the hotel PC28. give a fond farewell to the guest during checkout)
			THC/N0110 Perform cashiering activities	· Receive payment method details from guest(PC1. get details of mode of payment (cash, cheque, credit card, etc.) PC2. get details of the organization if the payment would be made directly by the company PC3. inform and get confirmation from front office manager on guest from registered of affiliated organizations PC4. inform guests about any offers (bank card tie ups ensuring discount for guests) PC5. get details of payment for a group check in PC6. check for details if room payment is already made through online during reservation)
			THC/N0120 Handle guest complaints and guide front office staff	Handling guest complaints (PC1. ensure that they are always available at the front office as customers generally reach front office in case of any issue PC2. listen patiently to the complaint / concerns of the guests PC3. inform the guest that the problem will be resolved at the earliest PC4. ensure that careful attention is paid to the complaints of the customer PC5. identify the appropriate person/department to handle the given customer complaint PC6. inform the person/department to handle the customer complaint PC7. escalate and inform the guest relation manager / duty manager about the complaint of the customer PC8. ensure that the customer is updated regarding the actions that are being taken PC9. ensure that the customer feels good and satisfied about the service offered)

			THC/ N9901 Communicate with customer and colleagues	Interacting with superior (PC1. receive job order and instructions from reporting superior PC2. understand the work output requirements, targets, performance indicators and incentives PC3. deliver quality work on time and report any anticipated reasons for delays PC4. escalate unresolved problems or complaints to the relevant senior PC5. communicate maintenance and repair schedule proactively to the superior PC6. receive feedback on work standards PC7. document the completed work schedule and handover to the superior)
			THC/N9902 Maintain customer-centric service orientation	Engaging with customers for assessing service quality requirements (PC1. keep in mind the profiles of expected customers PC2. understand the target customers and their needs as defined by the company PC3. organize regular customer events and feedback session frequently PC4. build a good rapport with the customers including the ones who complain PC5. have frequent discussions with regular customers on general likes and dislikes in the market, latest trends, customer expectations, etc. PC6. receive regular feedbacks from the clients on current service, complaints, and improvements to be made, etc. PC7. compulsively seek customer rating of service to help develop a set of regularly improved procedures PC8. ingrain customer oriented behaviour in service at all level PC9. aim to gain their long lasting loyalty and satisfaction PC10. engage with customers on without intruding on privacy)
			THC/N9903 Maintain standard of etiquette and hospitable conduct	Following behavioural, personal and telephone etiquettes (PC1. greet the customers with a handshake or appropriate gesture based on the type of customer on their arrival PC2. welcome the customers with a smile PC3. ensure to maintain eye contact PC4. address the customers in a respectable manner PC5. do not eat or chew while talking PC6. use their names as many times as possible during the conversation PC7. ensure not to be too loud while talking PC8. maintain fair and high standards of practice PC9. ensure to offer transparent prices PC10. maintain proper books of accounts for payment due and received PC11. answer the telephone quickly and respond back to mails faster PC12. ensure not to argue with the customer PC13. listen attentively and answer back politely PC14. maintain personal integrity and ethical behaviour PC15. dress professionally PC16. deliver positive attitude to work PC17. maintain well groomed personality PC18. achieve punctuality and body language PC19. maintain the social and telephonic etiquette PC20. provide small gifts as token of appreciation and thanks giving to the customer PC21. use appropriate tone, pitch and language to convey politeness, assertiveness, care and professionalism
(Hospitality & Tourism) Semester – 3rd and 4th				
Semester	**Code No.**	**Subject**	**Subject Outcome**	**PSO**
Guest	TH311	Basic of Tourism	Introduction to Research	Introduction to Tourism Research – Significance, types and process.

Relation Manager		Research	Tourism Research	Research in tourism and hospitality industry– Challenges and Status.
			Planning of Research	Planning of research – Planning process, Formulation of problem in tourism context.
			Research Methodology	Hypothesis, Sampling, Methods/Techniques and Errors.
			Research in Tourism	Significance of Research in Tourism sector, major thrust areas.
	TH312	Basic of TourismManagement	Introduction	Concept of Tourism Management, Scope, Functions and Principles of Management. Evolution of Management Thought.
			Planning	Process of Planning, Objectives, Policy & Procedures, Forecasting & Decision Making.
			Organizing	Meaning, Importance, Patterns of Organization, Line & Staff relationship, Centralization & decentralization;
			Staffing & direction	Nature & scope of Staffing, Manpower planning, Selection & Training, Performance Appraisal; Directing: Nature & scope of directing, Motivation & Leadership, Communication.
			Controlling	Concept of Managerial Control, Control aids, Responsibilities of Managers.
	TH313	Travel Agency Management and Operations	Introduction to travel agency business	Meaning and history of Travel Agency. Case study of SITA, Make My Trip and Oyo Rooms.
			Travel business Formalities	Registration formalities to start a travel agency in the state. Registration of Travel Agency with Ministry of Tourism, Government of India. Affiliation of travel agency with IMF, ATOAI and IATO.
			Functioning of Travel Agency	Functioning of Travel Agency, Various departments in a Travel Agency.
			Online Marketing	Online and offline sales, internet marketing, search engine optimization
			Online Travel	Future of online travel business in Global context.
Skill Paper -1-2-3	**THSC -/Q0108**	**Guest Relation Manager**	Introduction	Front Office Organization and Hierarchy Duties And Responsibilities Of Principal Staff And Their Job Description Introduction To Bell Desk Operations. Attributes- Qualities- Telephone Manners- Standard Phrases Required For Office Staff. Different Sections & Layouts Of Front Office And Their Importance
			Facilitate a smooth stay for the guests at the hotel	Welcoming And Greeting The Guests as per Organisational Standard Understanding Reservation Status Booking; Arranging For Guest Requirement; Following Guest Check-In Process, Procedure for group check-in. Registration Card – Importance Of Registration Card; Checking In A Guest With Confirmed Booking

			Types of Rooms	Types of rooms- Room allotment as per guest Preference-Rate negotiation and Discounts-Handle room allotment as per type of guest Unit Procedure & handling of walk-in guest; VIP SPATT- scanty baggage guest. Check Out Process
			Customer Centric Service	What is customer service- Handling customer requests Understanding Guest Requirement- Inter-Departmental Communication-Responding to guest Queries Protocol to contact guest in the Room Answer To Guest Queries Regarding Any Offerings Within The Hotel, Nearby Tourist Or Office Locations
			Handling Guest Query	Revert To Guest On Any Request On Time (Turn-Around Time As Per Organization Guideline) Unit Handling Guest Complaints
			Communicate with Customer and Colleagues	Methods for Effective Communication With Different Departments In The Organization Communicating Effectively With Customers Build Rapport
			Maintain customer-centric service orientation	Significance Of Treating The Customers With Respect And In A Friendly And Professional Way Ways to improve Customer Satisfaction Rating
			Maintain standard of etiquette and hospitable conduct	Significance And Need Of Professional And Polite Etiquette And Behaviour Standard Operating Procedure and Measure Of Customer Satisfaction
			Maintain IPR of organization and customers	Patents And IPR Laws Unit Industrial And Political Espionages
			Follow Gender And Age Sensitive Service Practices	Gender And Age Sensitive Service Practices
			Customer Query and Complaint Management	Types of standard queries Unit Cashiering Activities and Night Auditing Procedure
			Maintain Health and Hygiene	What is cleanliness, Hygiene Food Safety And Hygiene Standards As Stipulated By FSSAI, HACCP And ISO 22000
			Maintain Safety At Workplace	What are hazards & Identifying work hazard Purpose and Usage Of Protective Gears While Working
(Hospitality & Tourism) Semester – V-VI				
Semester	**Code No.**	**Subject**	**Subject Outcome**	**PSO**
Hospitalty and Tourism (Duty Manager)	TH-511	Travel Geography	Introduction to Indian Geography	To learn about about Indian Himalaya, Desert region, Costal region and major destination therein.
			UNWTO Regions	To know and learn about Major Continents, UNWTO Regions, Oceans, Seas and Parallels of Latitude and Longitudes.
			City Codes India	To Know about City codes of important tourism destinations of India.
			City Codes world	To Know about City codes of important tourism destinations of the world

			Map Work	To learn about Map work- location of important world destinations.
		Itinerary Preparations	Meaning of Itinerary	Definition and meaning of Itinerary, Importance of Itinerary. Art and Technique used in planning a suitable Itinerary.
	TH-512		Itineraries of India	Popular Itineraries of India. Golden Triangle, Backwater and Spice trail of South India. Sikkim to Bhutan overland tour. Pilgrimage of Himachal Pradesh.
			Adventure tourism and Institutions	Peak Booking formalities and IMF. Facilities provided by ABVIMAS, NIM, HMI. Designing a trekking itinerary in Himalaya.
			Tour Designing	Designing a tour package, costing and online marketing
	TH-513	Entrepreneurship in Tourism and Hospitality Industry	Service Providers	Knowledge of facilities available in a tourist's destinations, service providers and cost.
			Introduction to Entrepreneurship	Entrepreneurship options in Tourism industry in India and Himachal Pradesh. Role of entrepreneurship in development of tourism.
			Business plan and feasibility	Business strategy and understanding customer needs, Analysis of competition, writing a business plan and feasibility.
			Forms of organization	Forms of organization (legal entity), legal considerations; Financial planning – budgeting, loans, role of govt. agencies.
			Government,Incentives	Fiscal and non-fiscal Incentives for setting up new ventures in tourism and Hospitality industry in India by state and central government.
			Tourism enterprise	Setting up a Tourism enterprise (travel agency, hotel, resort, camp site and home-stay) – steps, procedures, licenses, registration, etc.

Bachelor of Vocation Degree (B.Voc)

Introduction of B Voc Degree Program: -

The University Grants Commission (UGC) has launched a scheme on skill development based job oriented higher education program as a part of College/ University education leading to Bachelor of Vocation Degree (B.Voc.). This degree Program is unique with the provision of multiple entry and exist at different levels of NSQF from level 5 to 7 viz. Diploma, Advance Diploma and Degree in compliance to the National Skill Qualification Framework (NSQF). Multiple entry and exit will allow students the flexibility to earn and study as per their convenience. All the candidates enrolled for diploma courses or further will be treated at par from the second semester onwards. Students may exit after six months with the certificate (NSQF Level 4) or they may continue for diploma or advance diploma level courses leading to B. Voc. Degree. After the completion of Semester I the candidate will get a certificate and he/ she may go for a job or continue studying. The candidate may rejoin Semester II. After the completion of Semester II the candidate will get a Diploma and he/she may go for a job or continue studying. The candidate may rejoin Semester III. After the completion of Semesters III and IV the candidate will get an Advanced Diploma and he/she may go for a job or continue studying. The candidate may rejoin Semester V. After the completion of Semesters V and VI the candidate will be awarded a B.Voc. Degree.

Course outcome: -

To provide multiple entry and exit options at various levels through program design in conformation to the skill eco system.

1. To create requisite job role specific skilled manpower for industry at various NSQF levels as per NOSs (National Occupational Standards).
2. To empower the youth leading to employment and income generating opportunities.
3. To provide judicious mix of skills relating to a profession and appropriate content of general education.
4. To provide flexibility to the students by means of pre-defined entry and multiple exit levels.
5. To integrate skill based NSQF vocational studies with the undergraduate level of higher education in order to enhance employability of the graduates and meet the industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be competent to become part of the global workforce.

Retail Management SEMESTER – I-II

Semester	Code No.	Subject	Subject Outcome	PSO
Retail Sales Associate	RA111/ RA114	Business Communication and Personality Development-I and II	Introduction To Business Communication	To Learn Nature and Scope of Communication, Process of Communication, Attributes of Sender, Factors affecting Communication
			To Personality Development	To Learn the Concept of Personality Consciousness, Personality Patterns, Personality Syndrome, Symbol of Self, Clothing Names and Nick Names, Speech, Age, Success, Reputation, Molding and Personality Pattern. Persistence and Change.
			Grooming	Learning objective, Personal grooming and business etiquettes, corporate etiquette, social etiquette and telephone etiquette, role play and body language, impression management. Social grace, Etiquette and body language, making a great first Impression, body language, Etiquette for dressing, the do's and don'ts in conversation, appearance, voice, perceptions, dress and grooming, courtesy, conversations and small talk at official gathering. Job Interview – Purpose, Types, Interview Skills – Before, During and After the Interview, Interview Dressing, mock interviews – Following up an Application, accepting an Interview Invitation, following up an Interview, Accepting Employment, Resigning from a Job.
	RA112/RA113:	Fundamentals in Accounting and Technology	Basics of Accounting	To learn the Meaning of book keeping and accounting, difference between book keeping and accounting, objectives, advantages and limitations of accounting cycle, Basis of Accounting, GAPPs--Concepts and Conventions of accounting Branches of accounting,; basic terms – Capital, Income, Expenditure, Expenses, Assets, Liabilities .
			Journal, Ledger and Trail Balance	Double Entry System- meaning, advantages and disadvantages; Types of accounts; Journal and rules of journalizing; accounting equation; subsidiaries book; Petty cash book; Cash book- single, double and triple column; ledger accounts and trial balance- methods of preparation of trial balance; Errors and their types.
			Fundamentals In Technology Computer Skills	Computer Fundamentals: What is a computer? Components of a computer system. Classification of computers. Types of computers. Brief history of evolution of computers and generation of computers. Computer hardware and software. Input/output
			Introduction To MS Office	Introduction to MS-Office and its integrated nature. MS-Word: Starting Word, new documents, entering text, changing text, aligning, underlining, and justifying text. Use of tabs. Tables – creation, adding rows and columns, splitting, and combining cells,
Retail Team	Skill Paper I and II	Retail Sales Associate and	Introduction to Retail and Retail Store Operations	Define Retailing, Understand the Evolution of Retail, Understanding the overview of Retail Industry in India, Explain Organized and Unorganized Retail Sector. Define Types of Retail Formats. Explain Pre-Store Opening, Store Opening and

Leader		Retail Team Leader (Level4 and 5)		Closing, Understand Loss Prevention & Shrinkage, Understand Store Merchandise Handling, Explain Basics of Visual Merchandising. 07 Unit-02 Process Credit Applications for Purchases. (Overview and Need of credit facility, Characteristics and conditions of credit facility, Legal and Company Criteria for providing credit facilities, Legal and company processes for credit checks and authorization, Prompt solutions to problems in processing credit application forms).
			Consumer buying behaviour	Product description and retail selling techniques, describe product and services, explain retail selling techniques. Role of demonstration in promoting and selling products, describe the meaning of product demonstration, understand the importance of product demonstration, list of various aspects involved in demonstration and where product demonstration can be performed.
			Customer service	To Learn the ways of dealing with customers. Understand the importance of greeting customers. List various points to be kept in mind while greeting customers. Describe the importance of listening to customers.
Retail Management SEMESTER – III and IV				
Semester	Code No.	Subject	Subject Outcome	PSO
Retail Department Manager	RA-311	Communicative English	Under Stand Communication	To learn Communication process-Forms of Communication, Oral and written, Verbal and Non Verbal. Barrier of communication
			Active Listening and Effective Reading	
			Professional Speaking	
	RA 312	Store Operations and Supply Chain Management	Store Planning	To learn store planning, design and layout. Importance store management, To learn Recruitment process and Importance of supply chain management in Retail.
			Store Management	
			Recruitment and Selection	
			Challenges in supply chain Management	
	RA412	Human Resource Management	Introduction to HRM	To Learn concept and fundamentals, Role, status and competences of HR Manager, HR Policies.
			HRM Planning	
			Training and Development	
	Skill Paper I and II	Retail Department Manager	Role and Responsibilities of Department Manager in Retail store	To learn about Role and Responsibilities of Department Manager in Retail store
Retail Management SEMESTER – V and VI				
Semester	Code No.	Subject	Subject Outcome	PSO

Retail Store Manager	RA-511	Marketing Management	Nature and scope of marketing	To Learn nature and scope of Marketing, Market information system and Market research.
			Market segmentation	To Learn about market segmentation, Targeting and positioning.
			Promotional MIX	To Learn about promotional mix, advertising, sales promotion
	RA-512	Business Statistics	Measures of Variation	To Learn Absolute and Relative, Range, Quartile deviation and mean deviation variance
			Meaning and uses of Index number	To Learn Construction of Index number
			Component of time series	Additive and multiplicative models, Trend analysis
	RA-611	Ethics and corporate social responsibility	Business Ethics , Concept need to Improve corporate governance	To Learn Meaning of ethics, Why ethics problems occur, Ethical principal, Business environment aspects of CSR, Models drivers of CSR
			Meaning Evolution of corporate social responsibility , CSR	
	RA 612	Retail Environment	Retail meaning	To Learn reason foe studying Retailing, Retailer equation, Situation analysis, Evolution and size of Retail in India, Drivers of Retail Changes in India
			Retail model	
			Strategic planning in Retailing	
			Retail in India	
	Skill Paper I and II	Retail Store Manager	Job and Responsibility of Store manager	To learn Job and Responsibility of Store manager , Customer service, Role store manager in sales promotion, marketing and etc.