

KVA DAV COLLEGE FOR WOMEN,KARNAL



Programme Specific Outcomes and Course Outcomes

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Chemistry

PROGRAMME SPECIFIC OUTCOMES

Students:

- Will understand about the fundamental concepts of chemistry.
- Will work effectively in diverse teams in both classroom and laboratory.
- Will able to use knowledge efficiently in areas related to current updates in the subject and specializations.
- Will able to communicate clearly and effectively.
- Will able to apply subject knowledge for research and technology.
- Will able to develop communication skills, critical thinking, analytical reasoning, problem solving skills and research skills requiring for the application of chemical principles.
- Will able to identify chemistry related problems, analyze and apply data using appropriate methodologies.
- Will able to apply subject related skill for acquiring jobs.
- Have the ability to do individual and team work.
- Will become familiar with the properties of all elements discovered.
- Will develop Moral and Ethical awareness.
- Will able to solve societal problems related to the application of chemistry in day to day life.

COURSE OUTCOMES

B. Sc. (Semester-I)

Paper-I (CH-101) Inorganic Chemistry (Theory)

- States the postulates of quantum mechanics and Schrodinger equation to explain the structure of hydrogen atom.
- Know about radial and angular wave functions, shapes of s, p, d, f orbitals, Electronic configuration of elements, effective nuclear charge, slater's rule.
- To study about various trends in periodic table with reference to atomic and ionic radii, ionisation energy, electron affinity and about electronegativity and its different methods of determination.
- To apply valance bond theory, VSEPR theory and molecular orbital theory in explaining shapes of some inorganic molecules and ions.
- Have knowledge about energy consideration in ionic bonding to explain Lattice energy and solvation energy and about Born-Haber cycle, concept of polarizing power and polarizability.

Paper-II (CH-102) Physical Chemistry (Theory)

- To learn about Role of temperature and pressure to establish the state of gases and describe the Concept of critical temperature, pressure and volume of real gases.
- To understand the Maxwell distribution law and various parameters associated with collisions ideal gas molecules.

- Have knowledge about structure of liquids, Properties of liquids – surface tension, refractive index, viscosity, vapour pressure and optical rotation.
- To understand the morphology of crystalline solids and have knowledge about various types of symmetries present in different solids. To be able to describe X-rays diffraction and Bragg's law Miller indices seven crystal systems and fourteen Bravais lattices

Paper-III (CH-103) Organic Chemistry (Theory)

- To study about localized and delocalized chemical bond, Vander Waal's interactions, resonance conditions, resonance effect and its applications, hyperconjugation, inductive effect, Electromeric effect.
- Get information about the types of structural and stereoisomers, optical isomerism and different nomenclature like D/L, R/S, cis/trans, E/Z etc. of various organic compounds.
- To learn abouthomolytic and heterolytic bond breaking, electrophiles and nucleophiles, types of organic reactions and to have complete study of formation, structure and stability of carbocations, carbanions, free radicals, carbenes.
- Learn nomenclature of various types of alkanes and cycloalkanes, preparation and their chemical reactions. Baeyer's strain theory and theory of strainless rings.

B. Sc. (Semester-II)

Paper-IV (CH-104) Inorganic Chemistry (Theory)

- To know the concept and able to explain types and effect of hydrogen bonding and vander waals forces on properties of substances.
- To know about the various theories of metallic bonding with reference to conductors, insulators and semiconductors and their applications.
- To know about the diagonal relationship among s-block elements and about hydrides, oxides, hydroxides and halides of s-block elements.
- Learn about chemistry of noble gases with special reference to xenon.
- To know about the physical and chemical properties of p-block elements and have a sound knowledge about the boron, carbon, nitrogen and oxygen family which helps in studying the structure, preparation and properties of respective compounds like diborane, borazine, carbides, fluorocarbons and oxides of sulphur and about concept of catenation.

Paper-V (CH-105) Physical Chemistry (Theory)

- To have the knowledge about the concepts of rates of chemical reactions and its applications in derivation of reactions of various orders and half-life and about Collision theory and Activated Complex theory of bimolecular reactions.
- To study the conductance and its applications to deduce various parameters related to electrolytic solutions, to know about pH and conductometric titrations and about concept of Buffers with knowledge of henderson -hazel equation.

Paper-VI (CH-106) Organic Chemistry (Theory)

- Have a sound knowledge of alkenes, alkynes, dienes and their chemical reactions.

- To learn about Huckel's rule of aromaticity and various methods of preparation of aromatic Hydrocarbons.
- To gain knowledge about the mechanism of S_N1 and S_N2 reactions and other various chemical reactions of aryl and aryl halides.

B. Sc. (Semester-III)

Paper-VIII (CH-201) Inorganic Chemistry (Theory)

- Have knowledge about d-block elements particularly of transition elements, the comparison between 3d elements with 4d and 5d elements with reference to ionic radii, oxidation state, magnetic properties and spectral properties some compounds of transition elements.
- To study the basic concepts of coordination chemistry like EAN, Werner theory of coordination and isomerism in coordination complexes.
- To learn about properties, types and general characteristics of solvents, reactions in non-aqueous solvents with reference to liquid NH₃ and liquid SO₂.

Paper-IX (CH-202) Physical Chemistry (Theory)

- To study the laws and concepts of chemical thermodynamics and their applications in thermochemical calculations.
- To have information about the basic terms related to chemical equilibrium and derive the law thermodynamically.
- Have good knowledge about Nernst distribution law, its thermodynamic derivation and its applications in determining various parameters.

Paper-X (CH-203) Organic Chemistry (Theory)

- To learn about nomenclature, methods of formation and reactions of alcohols, phenols, epoxides, carboxylic acids and its derivatives. Get information about structure and bonding and comparison of acidic character of carboxylic acids.
- To be able to derive mechanism of esterification and hydrolysis.
- Have knowledge of various absorption laws (Beer-Lambert law), molar absorptivity, analysis UV spectra and application of UV spectroscopy in structure elucidation.

B. Sc. (Semester-IV)

Paper-XI (CH-204) Inorganic Chemistry (Theory)

- To know about position of f-block elements in periodic table and their general characteristics, the occurrence and separation of lanthanides and lanthanide compounds and have good knowledge of actinides their existence and general properties.
- To compare the properties of Lanthanides and actinides with transition elements.
- Able to analyze the various groups of basic and acidic radicals

Paper XII (CH-205) Physical Chemistry (Theory)

- To learn about second law and third law of thermodynamics and its related concepts, Carnot's cycles and its efficiency helps in deducing Carnot's theorem

- To have good information about electrolytic concentration cells with and without transference and their EMF calculation, applications of the concept to determine liquid junction potential, pH determination using potentiometric titrations.

Paper-XIII (CH-206) Organic Chemistry (Theory)

- To be able to explain the IR absorptions of various functional groups and applications of IR spectroscopy.
- To know the reactions and synthesize the amines.
- To apply the diazonium salt in synthesis of various compounds.
- To know about the preparation, properties and chemical reactions of aliphatic, aromatic aldehydes and ketones and various important name reactions of aldehydes and ketones and to know the use of various important reagents.

B. Sc. (Semester-V)

Paper-XV (CH-301) Inorganic Chemistry (Theory)

- Have knowledge about splitting of d-orbital in octahedral, tetrahedral and square planar complexes and factors affecting the crystal field parameters.
- To know about the factors responsible for the stability of coordination complexes and various substitution reactions of square planar complexes with reference to trans-effect.
- To understand the magnetic properties of transition metal complexes and various types of magnetic materials, the magnetic susceptibility and the methods of its determination.
- To apply the magnetic moment data for 3d metal complexes and study the selection rules for the d-d transitions and have a brief knowledge about orbital level diagrams for d^1 and d^9 electronic states and the electronic spectrum of $[Ti(H_2O)_6]^{+3}$ complex ion.

Paper-XVI (CH-302) Physical Chemistry (Theory)

- To recapitulate the postulates of quantum mechanics and have a good knowledge of various operators in determining wave function and energy in 1-D box.
- To be able to explain about the physical and magnetic properties associated with various molecular substances.
- To understand the basic features of spectroscopy, statement of Born-Oppenheimer approximation and Degrees of freedom.
- To be able to explain selection rules and some concepts with reference to rotational, vibrational and Raman spectroscopy and able to solve various numerical problems related to these spectra.

Paper-XVII (CH-303) Organic Chemistry (Theory)

NMR Spectroscopy

- To know about the principle of nuclear magnetic resonance and the PMR spectra of the various molecules.
- Get basic information about classification, structures and important reactions of carbohydrates and amino acids.
- Have brief knowledge of organometallic compounds.

B. Sc. (Semester-VI)

Paper-XVIII (CH-304) Inorganic Chemistry (Theory)

- Introduce the concept of acids and bases to the students and also able to explain the various theories associated with them.
- To know about nomenclature, classification, preparation and bonding in organometallic compounds and about metal carbonyls also.
- Have a sound knowledge of basic concepts of bioinorganic chemistry with reference to metal ions present in biological systems and about the biochemistry of dioxygen carriers especially hemoglobin and myoglobin.
- Have brief description of various inorganic clusters compounds with special reference to silicones and phosphazenes.

Paper-XIX (CH-305) Physical Chemistry (Theory)

- To understand the need of statistical mechanics and Maxwell-Boltzmann distribution, partition function and its significance.
- Get basic knowledge of photochemistry and laws of photochemistry which help in explaining Jablonski diagram.
- To get information about solutions and colligative properties and their application in determining molar mass of solute.
- To introduce about fundamental concepts of phase equilibrium and their applications in studying one and two-component systems including eutectics.

Paper-XX (CH-306) Organic Chemistry (Theory)

- Able to gain knowledge about interesting concept of acidity of α -hydrogens of diethyl malonate, ethyl acetoacetate and the synthesis and Keto-enol tautomerism of ethyl acetoacetate.
- Have a sound knowledge about condensed five and six-membered heterocyclic rings, aromatic behaviour and basicity of pyridine, piperidine and pyrrole and the preparation and reactions of indole, quinoline and isoquinoline.
- Have knowledge about preparation, structure and nomenclature of amino acid, peptides and proteins and about isoelectric point and electrophoresis.
- To get information about basics of organic polymers and their applications.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Physics

PROGRAM SPECIFIC OUTCOMES OF PHYSICS

- Acquire a solid foundation in all aspects of Physics.
- Develop experimental, mathematical & computational skills.
- Expand the existing knowledge in basic areas of Physics acquired from the +2 classes and create a logical framework in assimilating the higher levels of Physics.
- Get opportunities and platform to acquaint the skills for gathering information from various resources and to understand its effective uses.
- Developed their experimental and data analysis, skills through a wide range of experiment in laboratories.
- Had experience of independent work such as Projects, Seminars etc.
- Attained a common level in basic of Physics and laid a secure foundation in Mathematics for their future courses.
- Develop their experimental skills through a series of experiments which also illustrate major themes of the lecture courses.

COURSE OUTCOME

B.Sc. (Semester-I)

Paper 1(PH-101): Classical Mechanics and Theory of Relativity

- Develop knowledge and understanding of the historical development of mechanics, some implications of the principle of mechanics and the scope of mechanics.
- Students who completed this course should have deep understanding and working knowledge in the concepts of Newtonian mechanics, lagrangian dynamics, and Hamiltonian mechanics.
- It improves the science of elementary particles and their fundamental interactions. It is a framework in which other physical laws are embedded.
- Students will be able to understand the phenomena of length contraction, time dilation, twin paradox and mass energy equivalence. They are in the position to equip with the necessary Mathematical concept to be able to solve relativistic problems.

Paper 2(PH-102): Electricity, Magnetism and Electromagnetic Theory

- Students will be able to solve the fundamental equations through advanced Mathematical steps tools like vector calculus.
- Students will be able to describe the important properties of magnetic field. Understand the properties and theories of dia, para & ferromagnetic materials.
- Students will be in position to make a Mathematical description of electromagnetic phenomena based on basic physics quantities through the fundamental equations of electromagnetism i.e. Maxwell's equations.
- Study in depth the transient current response of LR, CR, LCR circuits and the alternating current response of LCR series and parallel circuits which are essential in designing as well as understanding the working of electronic circuits.

B.Sc. (Semester-II)

Paper 1(PH-201): Properties of Matter, Kinetic Theory of Gasses

- Learn about Kinetic interpretation of Temperature, the real gas equations, Vander Waal equation of state and Brownian motion.
- Learn the basic aspects of kinetic theory of gases, Maxwell-Boltzmann distribution law, equitation of energies, mean free path of molecular collisions, viscosity, thermal conductivity, diffusion.
- Students will be able to learn about Kinetic interpretation of Temperature, the real gas equations, Vander Waal equation of state and Brownian motion.
- Students will be able to learn the basic aspects of kinetic theory of gases, Maxwell-Boltzmann distribution law, equitation of energies, mean free path of molecular collisions, viscosity, thermal conductivity, diffusion.

Paper 2(PH-202): Semiconductor Devices

- Students will be able to understand the basic concepts and different applications of PN junction diode in different type of rectifiers, voltage regulators, solar cell, LED's etc and their applications.
- Students will enhance their knowledge by studying transistor and their types.
- Students will be able to understand and explain the classification of Amplifiers and the various coupling & feedback methods in amplifiers.
- They will know the concept of feedback, principle and criteria for oscillations. Design and analyze oscillators to determine the frequency of oscillations.

B.Sc. (Semester-III)

Paper 1(PH-301): Optics

- They will be able to develop the basic knowledge of physics behind interference by Division of Wave front, conditions of interference and its applications.
- They will be able to develop the basic knowledge of physics behind interference by Division of amplitude and Interference due to transmitted light & reflected light.
- Students will be able learn about Huygens-Fresnel's theory, diffraction at a straight edge and at a circular aperture, diffraction due to a narrow slit and due to a narrow wire.
- Students will be able understand and explain the Fraunhofer diffraction, dispersive power of grating, Rayleigh's criterion and resolving power of telescope & a grating.

Paper 2(PH-302): Computer Programming & Thermodynamics

- Students are able to understand the knowledge algorithm logic, flowcharts so that they can understand control structures, functions, arrays etc.
- Student will be able to understand the structure and procedure of FORTRAN programming skills so that they can able to solve mathematical problems.
- Understand the basic concepts of thermodynamics, the first and the second law of thermodynamics, Joule Thomson effect, Joule-Thomson (Porous plug) experiment, the concept of entropy and the associated theorems, calculations of entropy of reversible & irreversible process, T-S diagram and Nernst heat law (third law of thermodynamics).
- Derive the Clausius-Clapeyron and Clausius latent heat equations and understand their significance. The students will also be able to learn about Maxwell's thermodynamic relations their physical interpretations.

B.Sc. (Semester-IV)

Paper 1(PH-401): Statistical Physics

- Students will understand the concepts of microstate, macrostate, thermodynamic probability and also understand the studies of particles with their distinguishably or indistinguishably nature and conditions which lead to the three different distribution laws e.g. Maxwell-Boltzmann distribution, Bose-Einstein distribution and Fermi-Dirac distribution laws of particles.
- Students will learn the basic Postulates of statistical physics, Phase space, and Division of Phase space into cells and be able to derive the expression for average speed, R.M.S. speed, average velocity, R.M.S. velocity, most probable energy & mean energy for Maxwell distribution.
- Student will understand the need and application of Quantum Statistics: Bose-Einstein & Fermi-Dirac statistics and be able to distinguish between classical statistical mechanics and quantum statistical mechanics.
- Students will learn and understand the different laws and theory of specific heat of solids and their significance.

Paper 2(PH-402): Wave and Optics-II

- Students will be able to understand the theories and laws of polarization along with understanding of the production and detection of (i) Plane polarized light (ii) Circularly polarized light and (iii) Elliptically polarized light.
- Learn the Fourier analysis of periodic functions and their applications in physical problems.
- Students will understand Fourier transformation its properties and applications combined with geometrical optics.
- They will have the idea of optical fibers, their properties and principle of propagation of electromagnetic waves through optical fibers, applications of fibers and different type of aberrations.

B.Sc. (Semester-V)

Paper 1(PH-501): Quantum Mechanics and Laser Physics

- They will have deep understanding of the limitations of classical physics and the emergence and mathematical foundation of quantum mechanics. They will understand general formalism of quantum mechanics, wave particle dualism and uncertainty principle.
- They will be able to understand how Schrödinger equation help in detecting the behavior of micro particles having unpredictable nature and is used in number of practical problems.
- Students will get familiar with optical phenomena and different concepts related laser physics.
- Students will get Qualitative understanding of laser mechanism, types of Lasers, characteristics of Laser Light. They will be able to understand and appreciate the applications of Lasers in different fields.

Paper 2(PH-502): Nuclear Physics

- Students will learn about nuclear composition & nuclear properties like nuclear size, spin, parity, statistics, magnetic dipole moment, quadrupole moment and also be able to understand the basics of experimental techniques/methods to determine the mass and size of nuclei.
- Students will learn about the emission of alpha, beta and gamma rays, the mechanisms of the emissions of these rays, outlines of theory of alpha decay and Pauli's theory of beta decay with the neutrino hypothesis. They will also learn some basic aspects of interaction of heavy charged particles (Alpha particles) and interaction of gamma ray by photoelectric effect, Compton scattering and pair production, energy loss due to ionization.
- Master the knowledge of principles and basic constructions of particle accelerators and the detectors of nuclear radiations.
- Learn the basic aspects of nuclear reactions, the Q-value of such reaction & its derivation from conservation laws and understand the Principle, construction, working and uses of nuclear fission and fusion reactors.

B.Sc. (Semester-VI)

Paper 1(PH-601): Solid State Physics and Nano Technology

- Have brief idea about crystalline and amorphous substances, about lattice, unit cell, primitive cell, miller indices, Bravais lattices in two & three dimensions and crystal structures of Zinc Sulphide, Sodium Chloride and Diamond.
- Acquire knowledge about X-ray diffraction, Bragg's Law and experimental X-ray diffraction methods and about the reciprocal lattice to a simple cubic lattice, BCC and FCC lattice.
- Understand the basic idea about superconductors, their classifications and practical applications.
- They will account for basics of nanotechnology, formation of Nano films and its applications.

Paper 2(PH-602): Atomic and Molecular Spectroscopy

- Students will be familiar with the phenomena in several areas of atomic and molecular physics. They will understand the interaction between atoms molecules and electromagnetic fields.
- Understand and explain the vector atom model, main features of atomic spectra of one valence electron.
- Students will understand the two valence electron vector model, different coupling schemes and the applications of spectra.
- Students will know the effect of external electric and magnetic fields on atoms and the basic principles of molecular rotational, vibrational and electronic spectrometers.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Botany

Program Specific Outcomes

- Students will gain knowledge and understanding about plant diversity.
- They will gain practical skills in the laboratory experiments. And will be able to hands on expertise in biological sciences.
- They will develop entrepreneurship skills, presentation skills + writing skills.
- Through their scientific knowledge in plant science, they will be able to clear various competitive exams like NET, JAM , TFIR etc.
- They will also gain knowledge about biodiversity exploration, estimation and conservation.
- They will be able to develop a vision to adopt green ways of technology for the betterment of environment + various ecosystem.

COURSE OUTCOME

B.Sc. (Semester- I)

Paper –I (Diversity of Microbes)

- The students will develop understanding about the diversity, identification, classification and economic importance of lower plants and microbes.
- Students will also develop an understanding of growth , development ,reproduction of lower plants, their complete life cycle and infectious cycle of microbes and fungi.

Paper –II (Cell Biology)

- They will also learn about the basics of cell and its inclusions
- They will be able to comprehend different types of cell divisions.
Chromosomal organization and alterations in chromosomal structure.

(Semester-II)

Paper –I (Diversity of Archegoniates)

- The structure will understand the diversity, identification, classification and economic importance of Bryophytes and pteridophytes.
- They will develop a critical understanding of the morphology, anatomy and reproduction of certain Bryophytes and pteridophytes.
- They will also develop an understanding of plant evolution leading to their transition to land habitat.

Paper-II(Genetics)

- Students will have conceptual understanding of laws of inheritance ,genetic basis of loci, alleles and their linkages.

- They will be able to comprehend the effect of chromosomal abnormalities in numerical as well as structural changes leading to genetics disorders. will be able to analyze the effect of mutations.
- They will be able to examine the structure ,functions and replications of DNA and can better comprehend the process of protein synthesis.

(Semester- III)

Paper –I (Biology and diversity of seed plants-I)

- The students develop the basic understanding of important characteristics,anatomy,morphology,reproduction and evolution of Gymnosperms, along with their economic importance.
- They will also develop an understanding of the Geological time scale,the process of Fossilization ,types of Fossils and will gain some insights into the reconstruction of few representatives of fossil gymnosperomous forms.

Paper-II (Plant Anatomy)

- They will develop an understanding of concepts and fundamentals of plant anatomy,so as to examine the structure of plant systems& organs as well as their secondary growth.
- They will develop critical understanding about the organization of shoot and root apex.

(Semester-IV)

Paper –I(Biology and diversity of seed plants-II)

- They will be able to understand about plant taxonomy and systematic and will be enlightened about the role of taxonomy in conservation of biodiversity.
- They will be able to interpret the rules of International code of Botanical Nomenclature(ICBN).
- They will be able to recognize the importance of herbarium.
- They will also understand about modern approaches in taxonomic studies.
- They will be able to generalize the characters of Angiospermic families,according to Bentham& Hooker's system of classification.

Paper-II (Plant Embryology)

- Students will also develop the understanding of growth,development and reproduction in angiospermic plants as well as the physiological changes happening in them.

(Semester- V)

Paper-I (Plant Physiology)

- Students will be able to understand the various physiological life processes in plants.
- They can comprehend the changes occurring during growth process of plants.
- They will also gain knowledge about various uptakes and transport mechanisms in plants and will be able to coordinate the various processes.
- They will understand about various hormones and signalling compounds.

Paper – II (Ecology)

- They will understand the concept, types, development & Functions of various ecosystem & their communication.
- The various environmental factors governing these ecosystems are also clearly understood.

(Semester – VI)

Paper – I (Biochemistry + Plant Biotechnology)

- They will develop a clear understanding of Basic of Enzymology, plant hormones, their mechanism of action + physiological role.
- They will gain insights into the lipid & nitrogen metabolism of plants.
- They will understand the principle of genetic engineering + modern age applications of recombinant DNA technology.
- Will develop an understanding of botanical properties of following & non – flowering plants with a focus on diversity + application of phytochemical.

Paper – II (Economic Botany)

- Will develop an understanding of Commercial products derived from plants, such as , medicines, beverages, spices, oils, fiber etc.
- Understand the plants as important source of food w.r.t requirement for human nutrition.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Zoology

PROGRAMME SPECIFIC OUTCOME

- Acquire good knowledge about the fundamentals and applications of Zoology and scientific theories.
- All branches of science and Technology are related to Zoology.
- Easily access the properties of all elements discovered.
- Will become familiar with the different branches of zoology like Developmental Biology, Physiology, Anatomy Taxonomy, Fisheries and wildlife etc.
- Will help in understanding the causes of environmental issues, Food chain balance, pollution and can open up new methods to control environmental pollution and extinction of species.
- Will develop analytical skills and problem solving skills requiring application of Zoology principles.
- Have the abilities to classify, separate and characterize the organisms using taxonomic categories and keys.

Course outcome

B.Sc. I (Semester- I)

Paper-I (Life To and Diversity from Protozoa to Parifera and Cell Biology – I)

- To study the general characters and classification of protozoa & porifera up to order level
- To and explain the biodiversity and economic importance of phylum (protozoa and porifera)
- To study the ultrastructure of different cell organelles (ER, Golgi complex, Ribosomes, Lysosome etc.) animal cells.

Paper - II (Life and Diversity from Coelenterata to Helminths and Cell Biology – II)

- To learn about the Biodiversity and economic importance of Phyla:(Coelenterata & Helminthes)
- To study and explain the general characters and classification up to order level.
- To make an elementary idea of cellular basis of immunity.
- Have knowledge about mitosis and meiosis.

B.Sc. I(Semester- II)

Paper-I (Life and Diversity of Annelida to Arthropoda and Genetics –I)

- To study the general characters and classification of phylum Annelida and Arthropoda
- Know the elements of Heredity and variations.
- To study the varieties of gene interactions, linkage and recombination, sex determination and its mechanism, sex linked inheritance.

Paper-II (Life and Diversity of Molluscs to Hemichordata and Genetics –II)

- To study and explain the general characters and classification up to order level.
- Know about biodiversity and economic importance, type study(Asteries).

- To study multiple allelism, Human genetics, Inborn errors of metabolism in man, Nature and function of genetic materials

B.Sc. II (Semester –III)

Paper-I (Life and Diversity of chordates-I)

- To study functional morphology, origin and evolutionary tree and chordates.
- Know the general characters and classification up to order level with examples.
- Discuss the scales, fins, parental cares in fishes, fish migration and type study of Labco.

Paper-II (Mammalian physiology –I)

- Know the classification, structure, function and general properties of Biomolecules.
- Study classification and mechanism of enzyme action, transport through biomembranes.
- Discuss nutritional components, ultrastructure of skeletal muscle and structure and type of Bone and bone disorder.

B.Sc. II(Semester-IV)

Paper-I(Life and diversity of chordates –II)

- Discuss origin, evolutionary tree and type study of frog, Parental care in Amphibia.
- To study classification of Aves, mammals up to order level with examples.
- Know adaptive radiation of mammals.

Paper –II(Mammalian Physiology –II)

- To study the origin, conduction and regulation of heartbeat, cardiac cycle, ECG, Composition of blood and lymph.
- Discuss transport of gases, patterns of excretory products structure and mechanism of hormone action, spermatogenesis and fertilization.

B.Sc III (Semester- V)

Paper- I (Environmental Biology)

- Study basic concepts of ecology, Biotic and abiotic factors affecting environment, introduction to major ecosystems of the world.
- Discuss the biogeochemical cycles, concept of biodiversity and conservation of natural resources, population interaction and environmental pollution.

Paper – II(Evolution and Developmental Biology)

- Discuss origin of life, Theories of organic evolution, concept of species, phylogeny of horse and evolution of man.
- To study historical perspectives, aims and scope of developmental biology.
- Learn about elementary knowledge of primary organisms, concept of regeneration, concepts of competence, determination and differentiation.

B.Sc III(Semester -VI)

Paper –I(Aquaculture and pest management –I)

- Discuss introduction to world fisheries, its production, utilization and demand
- Know about fishing crafts and gears ,fin fishes, molluscs and their culture.
- Study of important insects – pests of crops and vegetables.

Paper-II(Aquaculture and pest management -II)

- Discuss the seed production, Natural seed resources, Nutrition, field culture and culture technology.
- To study the systematic position, habits and nature of damage caused by pests.
- Know about insect control, chemical control and integrated pest management

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Biotechnology

PROGRAMME SPECIFIC OUTCOME

- Acquire good knowledge about the fundamentals and application of biotechnology and scientific theories.
- Will develop analytical skills and problem solving skills.
- Have the ability to synthesize, separate and characterize compounds using laboratory and instrumentation techniques.
- All branches of science and technology are related to biotechnology.
- Easily assess the properties of all elements discovered.
- Learn about our body defence mechanism through Immunology (branch of biotechnology).

Course Outcomes

M.Sc. I (Semester- I)

Paper – BT.101 (Biomolecules)

- To understand about different Biomolecules like water, Carbohydrates , Amino acids, Proteins, Lipids, Nucleic acids.
- To elaborate discussion of these Biomolecules like their structure, functions and other biological Significance.
- To study different properties and techniques related to these biomolecules.

Paper BT-102 (Microbiology)

- To learn history of microbiology and contribution of various scientists in the field of microbiology.
- To study bacterial and viral diseases in animals and microbial growth and metabolism.
- To understand the various types of microorganism strains, their structures and functions.

Paper BT-103 (Molecular Cell biology)

- To study the genetic material and their different forms of organization of genome in bacterial, viral, Human organelles, Gene function in Eukaryotes.
- To study the origin and evolution of cells, DNA Replied, DNA Repair, RNA Synthesis and processing, Protein synthesis and processing, Protein Regulation.
- To elaborate discussion of cell signaling, cell death and cell Manewal, Cancer.

Paper BT-104 (Biotechniques)

- In this section we study detailed infrastructure of various techniques involved in biotechnology.
- To study cell separation, disruption, extraction and concentration techniques, centrifugation methods.

- To discuss Microscopy, Spectroscopy, Chromatography, Electrophoresis, Radioisotope techniques.

M. Sc. I (Semester- I)

Paper BT -107 (Principles of genetic engineering)

- To understand genetic engineering, Nucleic acids, Manipulation of purified DNA, gene cloning vectors, Transformat of E.col.
- To study cloning of specific genes, methods for clone identification, protein – protein interaction, Nucleic acid sequencing.
- To understand polymerase chain reaction , Site directed mutagenesis, Gene expression and regulation studies, manipulation of gene expression in prokaryotes, heterologous proteins production in eukaryotes.

Paper BT -108 [Bioinformatics]

- To study Biological database, sequence alignment, profiles and Hidden Markov models, Protein motifs and domain prediction.
- To understand Gene and Promoter prediction, Molecular phylogenetics , Structural bioinformatics.
- To learn about Genomics and proteomics – Genome mapping, assembly and comparison, functional genomics, Proteomics.

Paper BT – 109 A [Animal cell & Tissue Culture]

- To understand animal cell and tissues culture, Requirements of cell and tissue culture, Aseptic techniques, culture vessels and substrates.
- To study defined media and supplements, primary culture subculturing of animal cells, cloning and selection.
- To discuss cell line Characterization, production of high value therapeutics, Applications of animal cell culture.

Paper BT-109B (Plant cell and Tissue culture)

- To understand Laboratory organization, callus culture, Micropropagation, Somaclonal variations.
- To study in vitro production of haploid plants, wide hybridization and embryo rescue technique.
- To discuss protoplast culture and somatic hybridization, In-vitro germplasm conservation and cryopreservation.

Paper BT-110 [Enzyme technology]

- To study History, advantage, Nomenclature, Classification and other important properties of enzymes.

- To understand Enzyme action, Regulation of Enzymes, Enzyme kinetics and its importance, Bisubstrate reactions.
- To study strategies used for enzyme production, immobilization of enzymes, enzymes, Applications of enzymes.

M.Sc. (Semester –III)

Paper BT -114(Molecular Genetics)

- To discuss Eukaryotic genome structure and organization the mutability of DNA.
- To understand transcription regulation in prokaryotes, transcriptional regulation in eukaryotes, Regulatory RNAs.
- To study site – specific recombination and transposition, genome mapping, genome sequencing, comparative genomics, Transcriptome analysis.

Paper BT -115(Plant Biotechnology)

- To discuss plant genetic transformation, strategies for introducing biotic stress resistance tolerance.
- To understand genetic engineering of plants for molecular farming, plant cells as biofactories for the production of secondary metabolites.
- To learn Intellectual property Rights, Biosafety and Ethical issues.

Paper BT-116(Microbial biotechnology)

- To study scope, application and challenges of microbial biotechnology, isolation preservation and improvement of important microorganisms.
- To understand industrial production of alcohol and improvement of genetic engineering.
- To study microbial polysaccharides, microbial inoculants, Biomass production.

Paper BT-117 [Immunology]

- To discuss the Immune system and how the immune system protects us from different types of bacteria, virus, fungi or other practical problems.
- To elaborate study of different kinds of cells and organs involved in the immune system for ex. B-Cells, T-Cells, Null Cells, monocytes, polymorphs Thymus, spleen, Lymph nodes.
- To understand antigens, antibodies and their interactions, generation of B-Cell and T- cell responses, Immune system in health and disease.

M.Sc. (Semester- IV)

Paper BT-120 (Environmental Biotechnology)

- To study about Environmental biotechnology, Waste water, Treatment of industrial effluents.
- To Discuss Bioremediation, Environmental monitoring microbial insecticides, Control of microbial biodegradation.

Paper BT-121(Animal Biotechnology)

- To understand Animal biotech, their scope, history, somatic cell genetics.
- To study gene transfer into animal cells, transgenic animals, Livestock transgenesis.
- To Discuss biotechnology in Livestock assisted reproductive biodiversity and conservation, Animal cloning, Animal genomics.

B.Sc. (Biotechnology)

Programme Specific Outcomes

- Acquire good knowledge about the fundamentals and applications of Biotechnology and scientific theories.
- All branches of Science and technology are related to Biotechnology.
- Easily assess the properties of all elements discovered.
- Will become familiar with the different branches of Biotechnology like genetics, Immunology, PDT, Biomolecule, Bioinformatics, Plant and Animal Biotechnology etc.
- Will help in understanding the causes of environmental pollution and can open up new methods to control environmental pollution in Environment Biotechnology.
- Will develop analytical skills and problem – solving skills
- Have the ability to synthesize, separate and characterize compounds using laboratory and instrumentation techniques.

B.Sc I (Semester I)

Paper – I (Introduction to Biotechnology)

- To understand about biotechnology stream and there scope in different fields like in Botany [plants] and zoology [Animals]
- To learn different applications of biotechnology in animal and veterinary science, pharmaceutical industry and food industry.
- Learn what are the safety guidelines and risk assessment in biotechnology.

Paper – II (Biochemistry –I)

- In this section we see how the biotechnology field is related to chemistry. To learn about Biomolecules features and there interactions.
- To understand carbohydrates – their structure, functions and other biological significance.
- To study protein classification and their forces for stabilizing different structural cues and different techniques to analyse protein structure.
- To understand about lipids and Nucleic acid structure and their biological significance.

B.Sc II(Semester – II)

Paper – III (General Microbiology)

- To learn history of Microbiology and contribution of various scientists in the field of microbiology.
- To understand the various types of Micro-organism strains, their structures and functions.

- To study Bacterial and viral diseases in animals and Microbial growth and Metabolism.

Paper – IV (Biochemistry – II)

- To study about Enzymes, their structure, and how they catalyse reaction. Also discuss their Kinetics.
- To know vitamins and Hormones – Different types of vitamins and Hormones, their structures and functions.
- To elaborate Metabolism of carbohydrates, lipids and Amino acids.

Course outcomes for B.Sc II(Semester – III)

Paper – VI (Immunology)

- To discuss the Immune system. How the immune system protects us from different types of Bacteria, Virus, Fungi or other foreign Particles.
- To elaborate study of different kinds of cells, and organs involved in the immune system .For ex. B-cells, T-cells, Null cells, Monocytes, Polymorphs, Thymus, Spleen, Lymph nodes.

Paper –VII (Molecular Biology)

- To study the genetic material and their different forms of organization of Genomes in bacterial, viral, Eukaryotic, Organelles.
- To elaborate study of DNA replication, DNA damage and repair, Genetic code, Transcription and Translation in eukaryotes and Prokaryotes.
- To understand the regulation of gene expression in prokaryotes and eukaryotes.

B.Sc II(Semester-IV)

Paper –VIII (Recombinant DNA Technology)

- Co1 To understand the tools of recombinant DNA Technology history and scope.
- To discuss different types of Gene cloning vectors.
- To study the different techniques of DNA Sequencing, Genome mapping, Gene expression and Application of Recombinant DNA Maphnology.

Paper –IX (Bioinformatics)

- To study Genomics, Functional Proteomics, computational Genomics.
- To understand sequence alignment and database search, Predictive methods using DNA and Protein sequences and Structural database.

Course outcomes for B.Sc. III (Sem V)

Paper – XI (Animal Biotechnology)

- To elaborate study of Animal Cell and Tissue culture like how culture media prepare, what are their components and their role in media.
- To study the different culturing techniques Primary cell culture techniques, Secondary cell culture, Organ culture.
- To understand Hybridoma technology, Embryo transfer technology, Production of Therapeutic products through genetic engineering and Gene therapy.

Paper – XII (Plant Biotechnology)

- To discuss plant tissue culture, Laboratory Layout, Aseptic techniques, Culture media, In-vitro methods in plant tissue culture.
- To study about callus and suspension culture techniques, organs culture, Production of Secondary Metabolites in vitro.
- To know genetic engineering in plants , Transgenic plants, How they developed, and Triprouing food quality.

B.Sc. III(Semester –VI)

Paper – XIII (Microbial Biotechnology)

- To understand about screening and Isolation of Microorganisms, Nutrition and cultivation of Microorganisms, aMicrobial fermenters and Downstream Processing.
- To discuss Microbial Products,Steroid Biotransformation; Servage wastewater treatment technique and plants, Bioconversions, Microbial technology in Agriculture.
- To know about genetically engineered microbes.

KVA DAV COLLEGE FOR WOMEN, KARNAL



Department of Computer Science

B.Sc. Computer Science Program

Program Specific Outcomes

The students would be able to

- 1: Understand the basic concepts involved in computing.
- 2: Share the ideas and the techniques they have learnt.
- 3: Apply the knowledge in Computer techniques to solve real world problems.
- 4: Think of new approaches for solving problems in different domains.
- 5: Follow ethics in designing software.
- 6: Collaborate with team members in developing projects.
- 7: Gain confidence to appear for competitive examinations like CSIR/UGC – NET, GATE, SET etc.

Course Outcome

(Semester-I)

Paper-I: Computer & Programming Fundamental

At the end of this course, the student will be able to:

- 1: Learn the basic terminology of hardware and software components of a computer system.
- 2: Understand basics of memory system and working of storage devices.
- 3: Understand the working of input/output devices commonly used in a computer system.
- 4: Understand the concept of operating system and use Windows OS.
- 5: Develop program logic using algorithms, flowchart, decision tables, DFDs, etc.
- 6: Develop sorting, searching, merging and other basic algorithms to solve problems.

Paper-II Course: PC Software

Upon Completion of the course, the students will be able to

- 1: Understanding the concepts of computers and the use of MS office packages.
- 2: Identify the role of MS-word and its potential application in real-life context.
- 3: Knowledge in the application of various menus and their uses in MS office packages.
- 4: Having hands-on training on the use of MS-Excel and MS-Power Point
- 5: Learnt to create simple database applications.

Semester-II

Paper I: Programming in ‘C’

Upon completion of the course, the students will be able to

- 1: Outline the concepts of procedure- oriented programming languages.
- 2: Identify the various control structures and their application in program development.
- 3: Understand the concept of Modular programming.
- 4: Understanding the basics of functions and their uses in program development.
- 5: Learnt the usage of arrays, strings, pointers and Union.
- 6: Develop simple application programs using various features in C.
- 7: Evaluate the importance of pointers with arrays and functions.
- 8: Develop C programs using simple application & file management concepts.

Paper II: Logical Organization of Computer

At the end of this course, the student will be able to:

- 1: Understand working of different types of flip-flops.
- 2: Design different types of registers and counters.
- 3: learn CPU organization and its working.
- 4: Understand I/O interface and various types of interrupt structures.
- 5: Understand number systems, error detecting & correcting code and character representations.
- 6: Learn number systems and representations of numbers in a computer system.
- 7: Understand computer arithmetic and Boolean algebra and simplification of Boolean expressions.
- 8: Understand working of logic gates and design various combinational circuits using these logic gates.

Paper-III: Practical

PC- Software

On completion of the course the student should be able to:

- 1: Familiarize with PC and WINDOWS commands, File creation, Editing, Directory creation.
- 2: Become proficient in using the features of word processing in Microsoft Word.
- 3: Become proficient in using spreadsheet software and be able to create technical and complex spreadsheets for data analyses using Microsoft Excel.
- 4: Use a database such as Microsoft Access. & Implementation of MS DOS.
- 5: Develop effective and professional business presentations using Microsoft Power Point.

Programming in C

Upon successful completion of the course, a student will be able to:

- 1: Understand the basic terminology used in computer programming.
- 2: Write, compile and debug programs in Language.
- 3: Create programs involving decision structures, loops, strings and functions.
- 4: Design programs involving structures and pointers.

Semester-III

Paper I: Data Structure

Upon Completion of the course, the students will be able to

- 1: Classify linear and non-linear data structures.
- 2: Select appropriate data structures for a given problem.
- 3: Examine operations like searching, insertion, deletion, traversal on various data structures.
- 4: Determine and analyze the complexity of given algorithms.
- 5: Develop appropriate problem solving technique for a given problem
- 6: Apply suitable algorithms for solving real - time problems.
- 7: Determine the tree and graph traversals algorithms.

Paper II: Software Engineering

- 1: Knowledge of basic SW engineering methods and practices, and their appropriate application.
2. A general understanding of software process models such as the waterfall and evolutionary models.
3. Understanding of software requirements and the SRS documents.
4. Understanding of the role of project management including planning, scheduling, risk management, etc.
5. Describe data models, object models, context models and behavioral models.
6. Understanding of software testing approaches such as unit testing and integration testing.
7. Understanding of software evolution and related issues such as version management.
8. Understanding on quality control and how to ensure good quality software.

Semeter-IV

Paper I: Object Oriented Programming with C++

Upon Completion of the course, the students will be able to

- 1: Demonstrate a thorough understanding of the object-oriented programming concepts of encapsulation, polymorphism, inheritance and information hiding.
- 2: Improve the code using reusability with extensible Class types, User-defined operators and function Overloading.
- 3: Identify the use of virtual functions in the implementation of polymorphism.

4: Discover and implement the features including templates, exception and file handling for providing programmed solutions to complex problems.

5: Develop real - time applications in C++

Paper-II : Operating System

1: Students will learn how Operating System is Important for Computer System.

2: To make aware of different types of Operating System and their services.

3: To learn different process scheduling algorithms and synchronization techniques to achieve better performance of a computer system.

4: To know virtual memory concepts.

5: To learn secondary memory management.

Paper-III: Practical

Data Structure

At the end of this course, the student will be able to:

1:Implement stack and queues data structure using C programming.

2:Understand the idea file organization and hashing functions.

3:Practical implementation of sorting.

4:Learn the idea of priority queues in data structures along with some advanced sorting techniques.

Programming with C++

1: Practical implementation of operators and different control structures of C++.

2: Develop programs using arrays, strings and functions.

3:Implement OOPS concepts with C++ programming.

4:Implementation of pointers, constructor and destructors in C++.

5:Implementation of polymorphism.

6: Learn to implement exception handling and template.

7:Learn File handling in C++ to maintain a file.

Semester-V

Paper-I: Fundamental of Data Base System

At the end of this course, the student will be able to:

1: Learn basic concepts of data base along with its functions and components.

2: Understand data base architecture and different data models.

3: Design an ER diagram of an enterprise.

4. Write SQL statements to retrieve information and learn the concept of relational algebra and calculus.

Paper-II: Web Designing

At the end of this course, the student will be able to:

1: Learn about WWW and search engines.

- 2: Understand domain and assigning name to them.
- 3: Understand basic web languages and its components.
- 4: Perform simple web page designing for practical exposure

Semester-VI

Paper-I: RDBMS

At the end of this course, the student will be able to:

- 1: Learn basic concepts of data base designing strategy of ER diagram.
- 2: Understand functional dependency and normalization.
- 3: Learn advance concept of DBMS.
- 4: Implement SQL and PL/SQL in any software industry for database handling.

Paper-II: Computer Network

At the end of this course, the student will be able to:

- 1: Have a comprehensive understanding of networking concepts and basic terminology along with its hardware components.
- 2: Understand and characterize various types of computer networks.
- 3: Conceptualize the various design issues related to Network Architecture and have an overview of the standard OSI reference model that illustrates the network architecture.
- 4: Gain knowledge of Local Area Network technologies and components that will provide the competency for setting up of network environments in local areas.

Paper-III:Practical

Web Designing using HTML

- 1: Be able to use the HTML programming language.
- 2: Resolves written HTML codes.
- 3: Runs the page he/she has designed using HTML codes.
- 4: Be able to use the Design Programs.
- 5: Uses Microsoft Expression Web 4 programme.
- 6: Designs site and page via Microsoft Expression Web 4 programme.

SQL and PL/SQL

- 1: Review the PL/SQL Block Structure
- 2: How to Generate Output from a PL/SQL Block
- 3: Variable Declaration, Assignment, Data Types and Scoping
- 4: Control Structures
- 5: Creating Procedures, Functions, and Packages
- 6: Handling Exceptions

B.Sc. Computer Application

Program Specific Outcomes

The students would be able to

- 1: Understand the basic concepts involved in computing.
- 2: Share the ideas and the techniques they have learnt.
- 3: Apply the knowledge in Computer techniques to solve real world problems.
- 4: Think of new approaches for solving problems in different domains.
- 5: Follow ethics in designing software.
- 6: Collaborate with team members in developing projects.
- 7: Gain confidence to appear for competitive examinations like CSIR/UGC – NET, GATE, SET etc.

Course Outcome

(Semester-I)

Paper-I: Fundamental of Computers and Windows Operating System

At the end of this course, the student will be able to:

- 1: Learn the basic terminology of hardware and software components of a computer system.
- 2: Understand basics of memory system and working of storage devices.
- 3: Understand the working of input/output devices commonly used in a computer system.
- 4: Understand the concept of operating system and use Windows OS.
- 5: Develop program logic using algorithms, flowchart, decision tables, DFDs, etc.
- 6: Develop sorting, searching, merging and other basic algorithms to solve problems.

Paper-II: Office Automation Tools

Upon Completion of the course, the students will be able to

- 1: Understanding the concepts of computers and the use of MS office packages.
- 2: Identify the role of MS-word and its potential application in real-life context.
- 3: Knowledge in the application of various menus and their uses in MS office packages.
- 4: Having hands-on training on the use of MS-Excel and MS-Power Point
- 5: Learnt to create simple database applications.

(Semester-II)

Paper I: Information Technology

At the end of this course, the student will be able to:

- 1: Understand evolution of PC and its classification and Microprocessor.
- 2: Learn about Various PC unit like Motherboard, expansion slots, Adapter cards etc.

- 3: learn CPU organization and its working.
- 4: Understand various information tools for Management control.
- 5: Understand E-commerce, EDI, Mobile Communication Bluetooth, Data Compressing.
- 6: Learn about network technologies, internet, www, email and other various data communication techniques.

Paper II: Programming in ‘C’

Upon completion of the course, the students will be able to

- 1: Outline the concepts of procedure- oriented programming languages.
- 2: Identify the various control structures and their application in program development.
- 3: Understand the concept of Modular programming.
- 4: Understanding the basics of functions and their uses in program development.
- 5: Learnt the usage of arrays, strings, pointers and Union.
- 6: Develop simple application programs using various features in C.
- 7: Evaluate the importance of pointers with arrays and functions.
- 8: Develop C programs using simple application & file management concepts

Paper-III: Practical

Office Automation Tools

On completion of the course the student should be able to:

- 1: Familiarize with PC and WINDOWS commands, File creation, Editing, Directory creation.
- 2: Become proficient in using the features of word processing in Microsoft Word.
3. Become proficient in using spreadsheet software and be able to create technical and complex spreadsheets for data analyses using Microsoft Excel.
4. Use a database such as Microsoft Access. & Implementation of MS DOS.
5. Develop effective and professional business presentations using Microsoft Power Point.

Programming in ‘C’

Upon successful completion of the course, a student will be able to:

- 1: Understand the basic terminology used in computer programming.
- 2: Write, compile and debug programs in Language.
- 3: Create programs involving decision structures, loops, strings and functions.
- 4: Design programs involving structures and pointers.

(Semester-III)

Paper-I: Web Designing Fundamentals

Upon Completion of the course, the students will be able to

At the end of this course, the student will be able to:

- 1: Learn about WWW and search engines.
- 2: Understand domain and assigning name to them.

- 3: Understand basic web languages and its components.
- 4: Perform simple web page designing for practical exposure.

Paper-II: Data Base Management System

At the end of this course, the student will be able to:

- 1: learn basic concepts of data base along with its functions and components.
- 2: understand data base architecture and different data models.
- 3: design an ER diagram of an enterprise.
- 4: write SQL statements to retrieve information and learn the concept of relational algebra and calculus.

(Semester-IV)

Paper-I: Web Designing Using Advance Tools

- 1: Learn JavaScript and VBScript.
- 2: Make use of control statement and objects of ASP.
- 3: Learn advanced web languages like DHTML and CSS along with its components.
- 4: Implement dynamic web page designing to acquire job as web developer.

Paper-II: Programming in Visual Basic

At the end of this course, the student will be able to:

- 1: Get the knowledge of the advanced programming language VB.
- 2: Understand the implementation of control structure in VB.
- 3: Learn the build in control and its implementation.

Paper-III: Practical Web Designing

- 1: Learn about WWW and search engines.
- 2: Understand domain and assigning name to them.
- 3: Understand basic web languages and its components.
- 4: Perform simple web page designing for practical exposure.
- 5: Learn program implementation of JavaScript and VBScript.
- 6: Use of control statement and objects of ASP.
- 7: Learn advanced web languages like DHTML and CSS along with its components.
- 8: Implement dynamic web page designing to acquire job as web developer.

Programming with VB

At the end of this course, the student will be able to:

- 1: Learn how to design an IDE
- 2: Learn how to use built in tool and its practical implementation
- 3: Learn how to create your own activeX control and Custom control
- 4: Learn advanced file handling concepts

(Semester-V)

Paper-I: Desktop Publishing

At the end of this course, the student will be able to:

- 1: Learn need and requirement of Desktop Publishing and hardware and software requirements for it.
- 2: Learn about Adobe PageMaker to design different page size, text formatting.
- 3: Learn about different paragraph setting to design visiting cards, marriage cards etc.
- 4: Learn about editing of publication and various graphics.

Paper-II: Programming Using C++

At the end of this course, the student will be able to:

- 1: Understand basic concepts of C++.
- 2: Learn operators, hierarchy and their precedence and different control structures of C++.
- 3: Develop programs using arrays, strings and functions.
- 4: Implement OOPS concepts with C++.

(Semester-VI)

Paper-I: Multimedia Tools

At the end of this course, the student will be able to:

- 1: Learn multimedia applications, tools and products.
- 2: Understand multimedia building blocks and compression techniques.
- 3: Acquire knowledge of internet role in multimedia.
- 4: Identify the future prospectus of multimedia.

Paper-II: Advance Programming Using C++

At the end of this course, the student will be able to:

- 1: Understand pointers, constructor and destructors in C++.
- 2: Acquire the detailed knowledge of polymorphism.
- 3: Learn to implement exception handling and template.
- 4: Learn File handling in C++.

Paper-III: Practical

DTP

- 1: How to design visiting Cards, Birthday cards and Various Pamphlets.
- 2: How to design Poster using PageMaker
- 3: How to design Identity card using PageMaker
- 4: Design of various Advertisements.

Programming in C++

- 1: Practical implementation of operators and different control structures of C++.
- 2: Develop programs using arrays, strings and functions.
- 3: Implement OOPS concepts with C++ programming.
- 4: Implementation of pointers, constructor and destructors in C++.
- 5: Implementation of polymorphism.
- 6: Learn to implement exception handling and template.
- 7: Learn File handling in C++ to maintain a file.

B.A. Computer Science Program

Program Specific Outcomes

The students would be able to

- 1: Understand the basic concepts involved in computing.
- 2: Share the ideas and the techniques they have learnt.
- 3: Apply the knowledge in Computer techniques to solve real world problems.
- 4: Think of new approaches for solving problems in different domains.
- 5: Gain confidence to appear for competitive examinations like CSIR/UGC – NET, GATE, SET etc.

Course Outcome

(Semester-I)

Paper-I: Computer & Programming Fundamental

At the end of this course, the student will be able to:

- 1: Learn the basic terminology of hardware and software components of a computer system.
- 2: Understand basics of memory system and working of storage devices.
- 3: Understand the working of input/output devices commonly used in a computer system.
- 4: Understand the concept of operating system and use Windows OS.
- 5: Develop program logic using algorithms, flowchart, decision tables, DFDs, etc.
- 6: Develop sorting, searching, merging and other basic algorithms to solve problems.

Paper-II Course: PC Software

Upon Completion of the course, the students will be able to

- 1: Understanding the concepts of computers and the use of MS office packages.
- 2: Identify the role of MS-word and its potential application in real-life context.
- 3: Knowledge in the application of various menus and their uses in MS office packages.
- 4: Having hands-on training on the use of MS-Excel and MS-Power Point
- 5: Learnt to create simple database applications.

Semester-II

Paper I: Programming in ‘C’

Upon completion of the course, the students will be able to

- 1: Outline the concepts of procedure- oriented programming languages.
- 2: Identify the various control structures and their application in program development.
- 3: Understand the concept of Modular programming.
- 4: Understanding the basics of functions and their uses in program development.
- 5: Learnt the usage of arrays, strings, pointers and Union.
- 6: Develop simple application programs using various features in C.
- 7: Evaluate the importance of pointers with arrays and functions.
- 8: Develop C programs using simple application & file management concepts.

Paper II: Logical Organization of Computer

At the end of this course, the student will be able to:

- 1: Understand working of different types of flip-flops.
- 2: Design different types of registers and counters.
- 3: learn CPU organization and its working.
- 4: Understand I/O interface and various types of interrupt structures.
- 5: Understand number systems, error detecting & correcting code and character representations.
- 6: Learn number systems and representations of numbers in a computer system.
- 7: Understand computer arithmetic and Boolean algebra and simplification of Boolean expressions.
- 8: Understand working of logic gates and design various combinational circuits using these logic gates.

Paper-III: Practical

PC- Software

On completion of the course the student should be able to:

- 1: Familiarize with PC and WINDOWS commands, File creation, Editing, Directory creation.
- 2: Become proficient in using the features of word processing in Microsoft Word.
- 3: Become proficient in using spreadsheet software and be able to create technical and complex spreadsheets for data analyses using Microsoft Excel.
- 4: Use a database such as Microsoft Access. & Implementation of MS DOS.
- 5: Develop effective and professional business presentations using Microsoft Power Point.

Programming in C

Upon successful completion of the course, a student will be able to:

- 1: Understand the basic terminology used in computer programming.
- 2: Write, compile and debug programs in Language.
- 3: Create programs involving decision structures, loops, strings and functions.
- 4: Design programs involving structures and pointers.

Semester-III

Paper I: Data Structure

Upon Completion of the course, the students will be able to

- 1: Classify linear and non-linear data structures.
- 2: Select appropriate data structures for a given problem.
- 3: Examine operations like searching, insertion, deletion, traversal on various data structures.
- 4: Determine and analyze the complexity of given algorithms.
- 5: Develop appropriate problem solving technique for a given problem
- 6: Apply suitable algorithms for solving real - time problems.
- 7: Determine the tree and graph traversals algorithms.

Paper II: Software Engineering

- 1: Knowledge of basic SW engineering methods and practices, and their appropriate application.
2. A general understanding of software process models such as the waterfall and evolutionary models.
3. Understanding of software requirements and the SRS documents.
4. Understanding of the role of project management including planning, scheduling, risk management, etc.
5. Describe data models, object models, context models and behavioral models.
6. Understanding of software testing approaches such as unit testing and integration testing.
7. Understanding of software evolution and related issues such as version management.
8. Understanding on quality control and how to ensure good quality software.

Semester-IV

Paper I: Object Oriented Programming with C++

Upon Completion of the course, the students will be able to

- 1: Demonstrate a thorough understanding of the object-oriented programming concepts of encapsulation, polymorphism, inheritance and information hiding.
- 2: Improve the code using reusability with extensible Class types, User-defined operators and function Overloading.

- 3: Identify the use of virtual functions in the implementation of polymorphism.
- 4: Discover and implement the features including templates, exception and file handling for providing programmed solutions to complex problems.
- 5: Develop real - time applications in C++

Paper-II : Operating System

- 1: Students will learn how Operating System is Important for Computer System.
- 2: To make aware of different types of Operating System and their services.
- 3: To learn different process scheduling algorithms and synchronization techniques to achieve better performance of a computer system.
- 4: To know virtual memory concepts.
- 5: To learn secondary memory management.

Paper-III: Practical

Data Structure

At the end of this course, the student will be able to:

- 1:Implement stack and queues data structure using C programming.
- 2:Understand the idea file organization and hashing functions.
- 3:Practical implementation of sorting.
- 4:Learn the idea of priority queues in data structures along with some advanced sorting techniques.

Programming with C++

- 1: Practical implementation of operators and different control structures of C++.
- 2: Develop programs using arrays, strings and functions.
- 3:Implement OOPS concepts with C++ programming.
- 4:Implementation of pointers, constructor and destructors in C++.
- 5:Implementation of polymorphism.
- 6: Learn to implement exception handling and template.
- 7:Learn File handling in C++ to maintain a file.

Semester-V

Paper-I: Fundamental of Data Base System

At the end of this course, the student will be able to:

- 1: Learn basic concepts of data base along with its functions and components.
- 2: Understand data base architecture and different data models.
- 3: Design an ER diagram of an enterprise.
4. Write SQL statements to retrieve information and learn the concept of relational algebra and calculus.

Paper-II: Web Designing

At the end of this course, the student will be able to:

- 1: Learn about WWW and search engines.
- 2: Understand domain and assigning name to them.
- 3: Understand basic web languages and its components.
- 4: Perform simple web page designing for practical exposure

Semester-VI

Paper-I: RDBMS

At the end of this course, the student will be able to:

- 1: Learn basic concepts of data base designing strategy of ER diagram.
- 2: Understand functional dependency and normalization.
- 3: Learn advance concept of DBMS.
- 4: Implement SQL and PL/SQL in any software industry for database handling.

Paper-II: Computer Network

At the end of this course, the student will be able to:

- 1: Have a comprehensive understanding of networking concepts and basic terminology along with its hardware components.
- 2: Understand and characterize various types of computer networks.
- 3: Conceptualize the various design issues related to Network Architecture and have an overview of the standard OSI reference model that illustrates the network architecture.
- 4: Gain knowledge of Local Area Network technologies and components that will provide the competency for setting up of network environments in local areas.

Paper-III: Practical

Web Designing using HTML

- 1: Be able to use the HTML programming language.
- 2: Resolves written HTML codes.
- 3: Runs the page he/she has designed using HTML codes.
- 4: Be able to use the Design Programs.
- 5: Uses Microsoft Expression Web 4 programme.
- 6: Designs site and page via Microsoft Expression Web 4 programme.

SQL and PL/SQL

- 1: Review the PL/SQL Block Structure
- 2: How to Generate Output from a PL/SQL Block
- 3: Variable Declaration, Assignment, Data Types and Scoping
- 4: Control Structures
- 5: Creating Procedures, Functions, and Packages
- 6: Handling Exceptions

BACHELOR OF COMPUTER APPLICATIONS (BCA)

PROGRAMME OUTCOMES (POs)

Knowledge	Capable of demonstrating comprehensive disciplinary knowledge gained during course of study.
Communication	Ability to communicate effectively on general and scientific topics with the scientific community and with society at large.
Problem Solving	Capability of applying knowledge to solve scientific and other problems.
Individual and Team Work	Capable to learn and work effectively as an individual, and as a member or leader in diverse teams, in multidisciplinary settings.
Investigation of Problems	Ability of critical thinking, analytical reasoning and research based knowledge including design of experiments, analysis and interpretation of data to provide conclusions.
Modern Tool Usage	Ability to use and learn techniques, skills and modern tools for scientific practise.
Science and Society	Ability to apply reasoning to access the different issues related to society and the consequent responsibilities relevant to the professional scientific practices.
Life-Long Learning	Aptitude to apply knowledge and skills that are necessary for participating in learning activities throughout the life.
Environment and Sustainability	Ability to design and develop modern systems which are environmentally sensitive and to understand the importance of sustainable development.
Ethics	Apply ethical principles and professional responsibilities in scientific practices.
Project Management	Ability to demonstrate knowledge and understanding of the scientific principles and apply these to manage projects.

PROGRAMME SPECIFIC OUTCOMES

1. The objective of the curriculum designed for BCA course is to nurture the technical aptitude of students for professional competency in the IT industry.
2. Develop proficiency for solving real world problems with the application of programming and supplementary computing skills.
3. Promote exposure to hardware as well as software knowledge with the inclusion of course content targeted to administer technical expertise for employment in the IT industry.
4. Explicit course content is targeted to inculcate programming skills using both conventional and contemporary programming languages as well as to develop potential for realizing web oriented and other commercial/non-commercial applications.
5. Judicious structuring of the course curriculum has been aimed in order to strengthen competitive ability as per the trending industry requirements.
6. Encourage skillful expertise for employment in Commercial/ Government sectors or pursuance of higher studies aimed towards innovative research leading to the progressive growth of the society and the nation.

Course Outcome of BCA I

(Semester -I)

BCA-111 : Computer and Programming Fundamentals

At the end of this course, the student will be able to:

- 1: Learn the basic terminology of hardware and software components of a computer system.
- 2: Understand basics of memory system and working of storage devices.
- 3: Understand the working of input/output devices commonly used in a computer system.
- 4: Understand the concept of operating system and use Windows OS.
- 5: Develop program logic using algorithms, flowchart, decision tables, DFDs, etc.
- 6: Develop sorting, searching, merging and other basic algorithms to solve problems.

BCA-112: Windows & PC Software

Upon Completion of the course, the students will be able to

- 1: Understanding the concepts of computers and the use of MS office packages.
- 2: Identify the role of MS-word and its potential application in real-life context.
- 3: Knowledge in the application of various menus and their uses in MS office packages.
- 4: Having hands-on training on the use of MS-Excel and MS-Power Point
- 5: Learnt to create simple database applications.

BCA-113: Mathematical Foundations-I

The aim of the course is to inculcate in students the fundamental mathematical background in computer science.

At the end of this course, the student will be able to:

- 1: To gain knowledge about Sets, Relations Functions, Matrices, Mathematical logic, and Group theory.
- 2: Understand the basic concepts of Sets, Relations Functions, Matrices, Mathematical logic, and Group theory.
- 3: Develop analytical ability to solve real-world problems using these methodologies.

BCA-114: Logical Organization of Computers-I

The aim of the course is to provide knowledge of computer as a system and making students aware of internal mechanism of computer hardware and its working.

At the end of this course, the student will be able to:

- 1: Understand number systems, error detecting & correcting code and character representations.
- 2: Learn number systems and representations of numbers in a computer system.
- 3: Understand computer arithmetic and Boolean algebra and simplification of Boolean expressions.
- 4: Understand working of logic gates and design various combinational circuits using these logic gates.

BCA-115: Communicative English

The objective of this course is to inculcate the basic communication skills into students. Students will learn the importance of communication skill, development of positive attitude and art of listening, writing and speaking. Students will be able to build their team and learn time management skills.

At the end of this course, the student will be able to:

- 1: Understand Communication Skill and learn to develop their personality.

- 2: Learn to form positive attitude and improve their communication skill.
- 3: Acquire the skills of listening, reading and writing.
- 4: Build team and manage their time.

BCA-116: Programming in C

The aim of the course is to provide basic knowledge of C. a High level language as one of the programming tool and generating logical development skills using programming.

At the end of this course, the student will be able to:

- 1: Learn the basics of C program, data types and input/output statements.
- 2: Understand different types of operators, their hierarchies and also control statements of C.
- 3: Develop programs using functions.
- 4: Implement programs using arrays and strings.

(Semester -II)

BCA-121 : Advanced Programming in C

The aim of the course is to provide knowledge of C as a High level language as one of the programming tool and generating logical development using programming.

- 1: Get familiar with advanced concepts like structures, union etc. in C language.
- 2: Learn a complete overview of pointers in C and allocation and de-allocation of memory.
- 3: Understand file types and errors in file handling along with its solutions.
- 4: Learn macros and to implement C to acquire job in software industry.

BCA-122: Logical Organization of Computers-II

The aim of the course is to provide knowledge of computer as a system and making student aware of internal mechanism of computer hardware and its working.

At the end of this course, the student will be able to:

- 1: Understand working of different types of flip-flops.
- 2: Design different types of registers and counters.
- 3: Learn CPU organization and its working.
- 4: Understand I/O interface and various types of interrupt structures.

BCA-123: Mathematical Foundations-II

The aim of the course is to inculcate in students the fundamental mathematical background in computer science.

At the end of this course, the student will be able to:

- 1: To gain knowledge about Propositions and Logical Operators, Truth Tables, Group, Subgroup, Cosets, Factor group, Rings, Sub rings, Ideals and Matrices.
- 2: Understanding the basic concept of a square matrices, Theorem etc.
- 3: Develop analytical ability to solve real-world problems using these methodologies.

BCA-124: Office Automation Tools

The aim of this course is to provide knowledge of basic requirements that are needed for establishing an automated Office. All office components have been introduced and students will be able to automate the office.

At the end of this course, the student will be able to:

- 1: To develop, format, setup and print Word documents.
- 2: Learn advance features of Word Processing and use tables, comments and mail merge.
- 3: Create worksheets and handle databases using advanced features such as filters, pivot tables and cell locking.
- 4: Develop PowerPoint presentations using basic features of PowerPoint application software.
- 5: Develop PowerPoint presentations using advanced features of PowerPoint application software.
- 6: Create tables and manipulate them.
- 7: Acquire knowledge of MS Access advance concepts like writing queries and designing forms.

BCA-125: Structured System Analysis and Design

On successful completion of the course, a student will be able to:

- 1: Understand the steps in software development.
- 2: Know the tools for System Analysis and design.

BCA-126: Personality Development

On completion of the course the student should be able to:

- 1: Develop the student's ability to use English language accurately and effectively by enhancing their communication skills
- 2: Mastering the art of a professional business presentation
- 3: Distinguish different communication process and its practical application
- 4: More effective written communication
- 5: How to prepare students for their interviews.

BCA-131: Lab-1 (Based on BCA-112 & BCA-124)

On completion of the course the student should be able to:

- 1: Familiarize with PC and WINDOWS commands, File creation, Editing, Directory creation.
- 2: Become proficient in using the features of word processing in Microsoft Word.
- 3: Become proficient in using spreadsheet software and be able to create technical and complex spreadsheets for data analyses using Microsoft Excel.
- 4: Use a database such as Microsoft Access. & Implementation of MS DOS.
- 5: Develop effective and professional business presentations using Microsoft Power Point.

BCA-132: Lab-2 (Based on BCA-116 & BCA-121) Programming in 'C'

Upon successful completion of the course, a student will be able to:

- 1: Understand the basic terminology used in computer programming.
- 2: Write, compile and debug programs in Language.
- 3: Create programs involving decision structures, loops, strings and functions.
- 4: Design programs involving structures and pointers.

(Semester –III)

BCA 231: Object Oriented Programming in C++

The aim of the course is to provide knowledge of C++ (high level language) as one of the programming tool and generating logical development using programming. This course will help students to learn about OOPS concepts and linking C++ as a powerful OOPS language.

At the end of this course, the student will be able to:

- 1: Understand basic concepts of C++.
- 2: Learn operators, hierarchy and their precedence and different control structures of C++.
- 3: Develop programs using arrays, strings and functions.
- 4: Implement OOPS concepts with C++.

BCA 232: Data Structure

Learning of data structure is like learning alphabets to learn any proper language. In this course students will be aware of memory management and use of data structure in computer programming.

At the end of this course, the student will be able to:

- 1: Learn basics of data structure and algorithm complexities.
- 2: Acquire knowledge of arrays and strings.
- 3: Understand the idea of implementation for linked lists and stacks.
- 4: Learn various searching and sorting techniques along with implementation of queues.

BCA 233: Computer Architecture

The aim of this course is to provide knowledge of computer as a system and making students aware of internal mechanism of computer hardware and its working.

At the end of this course, the student will be able to:

- 1: Learn various trends in computer architectures.
- 2: Learn working of micro programmed control unit.
- 3: Learn hardware algorithms for basic arithmetic operations.
- 4: Understand role of memory hierarchy and working of various types of memory.

BCA 234: Software Engineering

The aim of the course is to provide knowledge of Software Engineering as a paradigm in Computer Science. This course will enable students to be the computer engineer or system analysts for an enterprise.

At the end of this course, the student will be able to:

- 1: Understand concept of Software Engineering and types of System.
- 2: Plan the software project for an Enterprise.
- 3: analyze the requirement of a client to design software.
- 4: design software using structured and object-oriented approach.
- 5: understand concept of software metrics and implementation issues.
- 6: understand software reliability and various testing techniques.
- 7: learn to ensure software quality and debugging of the flaws if any.

BCA 235: Fundamentals of Data Base System

Today almost all real life problems include data. The objective of this course to get students aware about the basic concept of Data. In this paper students will learn database management and its implementation.

At the end of this course, the student will be able to:

- 1: learn basic concepts of data base along with its functions and components.
- 2: understand data base architecture and different data models.
- 3: design an ER diagram of an enterprise.
- 4: write SQL statements to retrieve information and learn the concept of relational algebra and calculus.

BCA 236: Computer Oriented Numerical Methods

The aim of the course is to have a proper understanding of statistical and graphical techniques in statistical applications. This course will make students knowing about the concept of fundamentals of sampling.

At the end of this course, the student will be able to:

- 1: Learn the concepts of algebraic methods and find solutions of polynomial equation.
- 2: Apply numerical methods to obtain approximate solutions to mathematical problems.
- 3: Fit curves and find correlations.
- 4: solve statistical problems using probability distributions.

(Semester -IV)

BCA 241: Advanced Data Structure

Learning of data structure is like learning alphabets to learn any proper language. This becomes even more important as it is main tool to learn computer storage and implementing problem solutions related to various aspects. After this course student will be aware of memory management and use of data structure in computer programming.

At the end of this course, the student will be able to:

- 1: Learn tree structure and implementation of its different types.
- 2: Implement various operations on graphs in data structure.
- 3: Understand the idea file organization and hashing functions.
- 4: Learn the idea of priority queues in data structures along with some advanced sorting techniques.

BCA 242: Advanced Programming Using C++

The aim of the course is to provide knowledge of C++ (high level language) as one of the programming tool and generating logical development using programming. This course will help students to learn about OOPS concepts and linking C++ as a powerful OOPS language.

At the end of this course, the student will be able to:

1. Understand pointers, constructor and destructors in C++.
- 2: Acquire the detailed knowledge of polymorphism.
- 3: Learn to implement exception handling and template.
- 4: Learn File handling in C++.

BCA 243: E-Commerce

The aim of the course is to make students aware of e-commerce in general and use of sites in particular. E-commerce is latest trend in modern era and this paper will help students establish relation to real life.

At the end of this course, the student will be able to:

- 1: Learn the main components of e-commerce and its prerequisites.
- 2: Understand the architecture of EDI and learn the different mode of electronic payment.
- 3: Learn the implementation of b2c type of e-commerce in real life applications.
- 4: Understand the idea of commerce over mobile phones, security prospectus and legal aspects of e-commerce.

BCA 244: Relational Data Base Management System

At the end of this course, the student will be able to:

- 1: Learn basic concepts of data base designing strategy of ER diagram.
- 2: Understand functional dependency and normalization.
- 3: Learn advance concept of DBMS.
- 4: Implement SQL and PL/SQL in any software industry for database handling.

BCA 245: Computer Oriented Statistical Method

The aim of the course is to have a proper understanding of statistical and graphical techniques in statistical applications. This course will make students knowing about the concept of fundamentals of sampling.

At the end of this course, the student will be able to:

- 1: Learn the concepts of algebraic methods and find solutions of polynomial equation.
- 2: Apply numerical methods to obtain approximate solutions to mathematical problems.
- 3: Fit curves and find correlations.
- 4: Solve statistical problems using probability distributions.

BCA 246: Management Information System

The aim of this course is to help students to understand the role of information technology and decision support systems in business. Student will learn to design, implement, evaluate and maintain the system for an enterprise.

At the end of this course, the student will be able to:

- 1: Relate the basic concepts and technologies used in the field of Management Information Systems.
- 2: Apply the understanding that how MIS is helpful in decision making.
- 3: Learn the process of system detailed designing.
- 4: Understand the processes of developing and implementing information systems.

BCA 251: Lab-1 Based on (BCA 231 & BCA 242)

- 1: Practical implementation of operators and different control structures of C++.
- 2: Develop programs using arrays, strings and functions.
- 3: Implement OOPS concepts with C++ programming.
- 4: Implementation of pointers, constructor and destructors in C++.
- 5: Implementation of polymorphism.
- 6: Learn to implement exception handling and template.
- 7: Learn File handling in C++ to maintain a file.

BCA 252: Lab-2 Based on (BCA 232 & BCA 241)

At the end of this course, the student will be able to:

- 1: Implement stack and queues data structure using C programming.

- 2: Understand the idea file organization and hashing functions.
- 3: Practical implementation of sorting.
- 4: Learn the idea of priority queues in data structures along with some advanced sorting techniques.

(Semester -V)

BCA- 351: Web Designing Fundamentals

The aim of the course is to provide knowledge of web as a tool in presenting information. Each and every product in e-world now needs a website, this course will make student knowing about the concept of web design in general.

At the end of this course, the student will be able to:

- 1: Learn about WWW and search engines.
- 2: Understand domain and assigning name to them.
- 3: Understand basic web languages and its components.
- 4: Perform simple web page designing for practical exposure.

BCA- 352: Operating System-I

The aim of the course is to provide knowledge of Operating System (OS) as a system program. Making students to learn about OS and linking OS as a powerful tool to make system work. Students will be able to learn types of OS and learn about system operations using OS.

At the end of this course, the student will be able to:

- 1: Understand the basic concepts of operating systems and its services.
- 2: Understand concept of process management and scheduling.
- 3: Acquire knowledge of process synchronization along with deadlock handling.
- 4: Learn about memory management and virtual memory concepts.

BCA- 353: Artificial Intelligence

The aim of this course is to help students to understand the concept of Artificial Intelligence, Knowledge Representation, Logic, NLP and Learning.

At the end of this course, the student will be able to:

- 1: Learn the basic concept of Artificial Intelligence (AI) and its application areas.
- 2: Acquire the knowledge of heuristic search and approaches for knowledge representations.
- 3: Understand the idea of natural language processing and predicate logic.
- 4: Gain the knowledge of learning technologies & build expert systems.

BCA- 354: Computer Network

Provide a comprehensive introduction to Computer Networks and its associated concepts and terminology along with the knowledge of Network architecture, design issues, and hardware components. Give exposure to the contemporary networking technologies.

At the end of this course, the student will be able to:

- 1: Have a comprehensive understanding of networking concepts and basic terminology along with its hardware components.

- 2: Understand and characterize various types of computer networks.
- 3: Conceptualize the various design issues related to Network Architecture and have an overview of the standard OSI reference model that illustrates the network architecture.
- 4: Gain knowledge of Local Area Network technologies and components that will provide the competency for setting up of network environments in local areas.

BCA- 355: Programming Using Visual Basic

The aim of the course is to get expertise in visual programming and understand the functionalities of graphic platform.

At the end of this course, the student will be able to:

- 1: Get the knowledge of the advanced programming language VB.
- 2: Understand the implementation of control structure in VB.
- 3: Learn the build in control and its implementation.

BCA- 356: Multimedia Tools

The aim of this course is to list out appropriate hardware, software and different applications of multimedia evaluate the appropriate multimedia systems and develop effective multimedia applications.

At the end of this course, the student will be able to:

- 1: Learn multimedia applications, tools and products.
- 2: Understand multimedia building blocks and compression techniques.
- 3: Acquire knowledge of internet role in multimedia.
- 4: Identify the future prospectus of multimedia.

(Semester -VI)

BCA- 361: Web Designing Using Advanced Tools

The aim of the course is to provide knowledge of web designing. Each and every product in e-world now needs a website, this course will make student ready to represent a website and also student will learn to host a site.

At the end of this course, the student will be able to:

- 1: Learn JavaScript and VBScript.
- 2: Make use of control statement and objects of ASP.
- 3: Learn advanced web languages like DHTML and CSS along with its components.
- 4: Implement dynamic web page designing to acquire job as web developer.

BCA- 362: Operating System-II

The aim of the course is to provide knowledge of Operating System (OS) as a system program. Making students to learn about OS and linking OS as a powerful tool to make system work. Students will be able to learn types of OS and learn about system operations using OS.

At the end of this course, the student will be able to:

- 1: Learn to work process synchronization and directory structure.
- 2: Understand concept of data migration and process migration.
- 3: Learn security and protection mechanism for an operating system.
- 4: Learn to implement Linux an operating system in an organization.

BCA- 363: Computer Graphics

The aim of this course is to help students gain experience in interactive computer graphics using 2D, 3D, point and line drawing algorithms.

At the end of this course, the student will be able to:

1. Understand the core concepts of computer graphics.
- 2: Learn and implement point, line and circle drawing algorithms.
- 3: Acquire knowledge two dimensional transformations and line clipping algorithms.
- 4: Understand 3-D graphics concept and acquire skills for designing 3-D graphics.

BCA- 364: Internet Technologies

Introduce the structural and architectural concepts of the Internet and its services. Give exposure to the major protocols of the Internet related with various services and other design issues along with the security concerns in networks and the Internet.

At the end of this course, the student will be able to:

- 1: Have a comprehensive understanding of the Internet architecture and its Protocol stack.
- 2: Gain insight into the functionality of major protocols and services of the Internet along with the different ways of getting access to the Internet.
- 3: Comprehend application layer functionality of the Internet/ any network so as to acquire capabilities for designing service oriented applications.
- 4: Get familiar with security issues related to computer networks and the Internet and the solutions for handling security related problems in networks.

BCA- 365: Advanced Programming with Visual Basic

The aim of the course is to get expertise in visual programming and understand the functionalities of graphic platform.

At the end of this course, the student will be able to:

- 1: Get the knowledge of the structure and model of the programming language VB.
- 2: Understand and implement object oriented features in VB programming language to solve the given problem.
- 3: Learn binds the gap between relational and object-oriented approaches.
- 4: Learn ActiveX Control and its implementation.

BCA- 366: Programming in Core Java

The aim of the course is to provide knowledge of JAVA as a High level language as one of the programming tool and generating logical development using programming. Making student to learn about OOPS and linking JAVA as a powerful OOPs language. Also making student aware of property of JAVA as Platform independent.

At the end of this course, the student will be able to:

- 1: Demonstrate the basic programming constructs of Java and OOPs to develop Java programs.
- 2: Learn and develop various controls and branching of logics under various cases using language control structures.
- 3: Exemplify the usage to implement polymorphism and Inheritance in java programs.
- 4: Acquire knowledge of Packages, Interfaces, Exceptions and Multithreading in building efficient applications.

BCA-371: Lab-1 Based on (BCA 351 & BCA 361)

At the end of this course, the student will be able to:

- 1: Learn program implementation of JavaScript and VBScript.

- 2: Use of control statement and objects of ASP.
- 3: Learn advanced web languages like DHTML and CSS along with its components.
- 4: Implement dynamic web page designing to acquire job as web developer.

BCA-372: Lab-2 Based on (BCA 355 & BCA 365)

At the end of this course, the student will be able to:

- 1: Learn how to design an IDE
- 2: Learn how to use built in tool and its practical implementation
- 3: Learn how to create your own activeX control and Custom control
4. Learn advanced file handling concepts.

Post-Graduation Diploma in Computer Application (PGDCA) Annual System

Program Specific Outcomes

- 1:** It will equip the students with skills required for designing, developing applications in Information Technology.
- 2:** Students will able to learn the latest trends in various subjects of computers & information technology.
- 3:** 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.
- 4:** To give hands on to students while developing real life IT application as part of the study.
- 5:** To train graduate students in basic computer technology concepts and information technology applications.
- 6:** Design and develop applications to analyze and solve all computer science related

CS-DE-11: Computer Organization & Networking Fundamentals

At the end of this course, Student will be able to:

1. Understand working of different types of flip-flops.
2. Design different types of registers and counters.
3. Learn CPU organization and its working.
4. Understand I/O interface and various types of interrupt structures.
5. Understand number systems, error detecting & correcting code and character representations.
6. Learn number systems and representations of numbers in a computer system.
7. Understand computer arithmetic and Boolean algebra and simplification of Boolean expressions.
8. Understand working of logic gates and design various combinational circuits using these logic gates.

9. Have a comprehensive understanding of networking concepts and basic terminology along with its hardware components.
10. Understand and characterize various types of computer networks.

CS-DE-12: Problem Solving Through ‘C’

The primary goal is to prepare students for practical knowledge of basics of programming

1. To provide complete knowledge of C language.
2. Students will learn how to practically design programs.
3. Understand the fundamentals of C programming.
4. Students will acquire knowledge and skills of programming.
5. Students will be able to develop logics which will help them to create programs, applications in C.
6. Also by learning the basic programming constructs they can easily switch over to any other language in future.

CS-DE-13: Data Structures

Learning of data structure is like learning alphabets to learn any proper language. In this course students will be aware of memory management and use of data structure in computer programming.

At the end of this course, the student will be able to:

- 1: Learn basics of data structure and algorithm complexities.
- 2: Acquire knowledge of arrays and strings.
- 3: Understand the idea of implementation for linked lists and stacks.
- 4: Learn various searching and sorting techniques along with implementation of queues.

CS-DE-14: Data Base Management System

At the end of this course, the student will be able to:

1. It aims at acquainting students better with the basics of DBMS, different Architectural Models for DBMS, Normalization of data, Concurrency control problems and its management, Protection, Security and recovery aspects of databases along with practical knowledges of databases using SQL and PL/SQL.
2. The key goal is to prepare students for a professional career in the field of data administration and database design.
3. To get acquaint students with good knowledge of DBMS. During the course, students will learn about database design and database handling activities.
4. Practical Skills: Using SQL and PL/SQL.
5. Transferable skills: Usage of DBMS design and administration.
6. Gather data to analyse and specify the requirements of a system.

CS-DE-15: Operating System

At the end of this course, the student will be able to:

1. To introduce students with basic concepts of Operating System, its functions and services.
2. Making the students understand and learn the basics of computer how to operate it.
3. To make familiar with the part and function of computer , its types , how to use computer in our day to day life , its characteristics, its usage , Limitations and benefits etc.
4. Appreciate the role of operating system as System software.
5. Understand the fundamental hardware components that make up a computer's hardware and the role of each of these components.
6. Understand the difference between an operating system and an application program, and what each is used for in a computer.
7. Describe some examples of computers and state the effect that the use of computer technology has had on some common products.

CS-DE-16: Software Lab – I (Programming using C)

Upon successful completion of the course, a student will be able to:

1. Understand the basic terminology used in computer programming.
2. Write, compile and debug programs in Language.
3. Create programs involving decision structures, loops, strings and functions.
4. Design programs involving structures and pointers.

CS-DE-17: Software Lab – II Word, Excel, Access/SQL

1. Become proficient in using the features of word processing in Microsoft Word.
2. Become proficient in using spreadsheet software and be able to create technical and complex spreadsheets for data analyses using Microsoft Excel.
3. Use a database such as Microsoft Access. & Implementation of MS DOS.
4. Review the PL/SQL Block Structure
5. How to Generate Output from a PL/SQL Block
6. Variable Declaration, Assignment, Data Types and Scoping
7. Control Structures

MASTER OF SCIENCE (COMPUTER SCIENCE (SOFTWARE))

PROGRAMME OUTCOMES (POs)

1. Knowledge Capable of demonstrating comprehensive disciplinary knowledge gained during course of study.
2. Research Aptitude Capability to ask relevant/appropriate questions for identifying, formulating and analyzing the research problems and to draw conclusion from the analysis.
3. Communication Ability to communicate effectively on general and scientific topics with the scientific community and with society at large.
4. Problem Solving Capability of applying knowledge to solve scientific and other problems.

5. Individual and Team Work Capable to learn and work effectively as an individual, and as a member or leader in diverse teams, in multidisciplinary settings.
6. Investigation of Problems Ability of critical thinking, analytical reasoning and research based knowledge including design of experiments, analysis and interpretation of data to provide conclusions.
7. Modern Tool usage Ability to use and learn techniques, skills and modern tools for scientific practices.
8. Science and Society Ability to apply reasoning to assess the different issues related to society and the consequent responsibilities relevant to the professional scientific practices.
9. Life-Long Learning Aptitude to apply knowledge and skills that are necessary for participating in learning activities throughout life.
10. Ethics Capability to identify and apply ethical issues related to one's work, avoid unethical behaviour such as fabrication of data, committing plagiarism and unbiased truthful actions in all aspects of work.
11. Project Management Ability to demonstrate knowledge and understanding of the scientific principles and apply these to manage projects.

Course Outcomes

(Semester-I)

MS-15-11: WEB ENGINEERING

The objective of this course is to provide fundamentals concepts of Web Services, JavaScript and lays foundations for the advanced studies in the area of web services.

At the end of this course, the student will be able to design web pages using HTML5 and CSS.

1. Understand objects and data validation in JavaScript.
2. Build Dynamic web site using server side PHP Programming and Database connectivity.
3. Design web pages using HTML and CSS.

MS-15-12: DATA STRUCTURES AND ALGORITHMS

The objective of this course is to provide in-depth coverage of advanced data structures and algorithm design techniques. It focuses on learning about analyzing and designing algorithms to solve a problem and learn to find the asymptotic efficiency of an algorithm.

At the end of this course, the student will be able to:

1. Analyze worst-case running times of algorithms using asymptotic analysis.
2. Understand the basic and advanced data structures and to implement them.
3. Understand and implement various techniques for problem solving.
4. Identify the type of problem and solving using appropriate technique.

MS-15-13 SOFTWARE ENGINEERING

The basic objective of software engineering is to develop methods and procedures for software development that can scale up for large systems and that can be used consistently to produce high-quality software at low cost and with a small cycle of time.

1. Basic knowledge and understanding of the analysis and design of complex systems.

2. Ability to apply software engineering principles and techniques.

MS-15-14 DISCRETE MATHEMATICAL STRUCTURES

The objective of this course is to provide in-depth coverage of discrete mathematical structures. It focuses on learning about sets, logics, analysis techniques, and graphs and their use in the field of computer science.

At the end of this course, the student will be able to.

1. Understand the basic concepts of sets, function and relations.
2. Understand logics and counting principles.
3. Understand the lattices, Boolean algebra and their use in computer science.
4. Design and understand the working with graphs and trees.

MS-15-15 S/W LAB – I BASED ON MS-15-11

The objective of this lab is to develop an ability to design and implement static and dynamic website

At the end of the course, students should be able to:

1. Design and implement dynamic websites with good aesthetic sense of designing and latest technical know-how's.
2. Have a Good grounding of Web Application Terminologies, Internet Tools, E – Commerce and other web services.
3. Get introduced in the area of Online Game programming.

MS-15-16 S/W LAB – II BASED ON MS-15-12

The course is designed to develop skills to design and analyze simple linear and non linear data structures. It strengthen the ability to the students to identify and apply the suitable data structure for the given real world problem. It enables them to gain knowledge in practical applications of data structures .

At the end of this lab session, the student will

1. Be able to design and analyze the time and space efficiency of the data structure.
2. Be capable to identity the appropriate data structure for given problem. Have practical knowledge on the applications of data structures.

MS-15-17 SEMINAR

Each student shall individually prepare and submit a seminar report within stipulated time. A panel consisting of two teachers (internal) should evaluate the seminar report and the presentation. Marks should be distributed considering report writing, presentation, technical content, depth of knowledge, brevity and references and their participation in seminar. The time allotted for presentation will be 30 minutes.

MS-15-21: JAVA PROGRAMMING

The course aims is to equip the students with JAVA programming language concepts with object-oriented programming principles. In this course student will be able to learn the basic syntax and semantics of the Java language and programming environment, build robust applications using Java's object-oriented features, implement the interface, Packages and inheritance, understand exceptional handling and multi-threading concepts and implementation using Applets, AWT and Event Handling and concepts of JAVA beans, Swing.

At the end of this course, the student will be able to:

1. Learn the basic features of Java.
2. Develop program using different concepts of oops.
3. Develop programming using Java I/O stream classes.
4. Design and Implement Graphics programming using Applet, AWT and Layouts.

MS-15-22 LINUX AND SHELL PROGRAMMING

The objectives of this course are to provide the in-depth coverage of various concepts of Linux. Linux administration is an essential course for the students.

At the end of this course, the student will be able to:

1. Understand the basic concepts and commands of Linux.
2. Understand the file management and process manipulation in Linux.
3. Understand the C environment under Linux and do the system administration and communication in Linux.
4. Develop shell programs in Linux.

MS-15-23 THEORY OF COMPUTATION

The objective of this course is to provide the in-depth coverage of theoretical computer science. It provides an insight about design of all types of machines and their applications.

At the end of this course, the student will be able to:

1. Design various finite state machines for real life problems.
2. Differentiate between the applications of different kind of machines.
3. Solve the tractable and intractable problems using various approaches.
4. Understand the need and importance of turing machines and their suitability.

MS-15-24 COMPILER DESIGN

The objective of the course is to provide in-depth coverage of underlying concepts & techniques used in compiler design and to cover major topics in compilation Theory. This course will make students ready for job assignments involving compilers and prepare students to undertake projects on compilers Construction.

At the end of this course, the student will be able to:

1. Understand overall process of compilation.
2. Understand the process of parsing in compilers.
3. Analyze semantic analysis, building a symbol table, handling storage management and error-detection in the process of compiler designing.
4. Design a compiler and understand the concept of code generation and optimization.

MS-15-25 S/W LAB – III BASED ON MS-15-21

1. To write programs using Abstract classes.
2. To write programs for solving real world problems using java collection frame work.
3. To write multithreaded programs.
4. To write GUI programs using swing controls in Java.
5. To introduce java compiler and eclipse platform.
6. To impart hands on experience with java programming.
7. Design and develop GUI applications using Abstract Windowing Toolkit (AWT), Swing.

MS-15-26 S/W LAB – IV BASED ON MS-15-22

This course introduces basic understanding of UNIX OS, UNIX commands and File system and to familiarize students with the Linux environment. To make student learn fundamentals of shell scripting and shell programming. Emphases are on making student familiar with UNIX environment and issues related to it.

Upon completion of this course, the student will be able to:

1. You will be able to run various UNIX commands on a standard UNIX/LINUX Operating system.
2. You will be able to do shell programming on UNIX OS.
3. You will be able to understand and handle UNIX system calls.

MS-15-27 SEMINAR

Each student shall individually prepare and submit a seminar report within stipulated time. A panel consisting of two teachers (internal) should evaluate the seminar report and the presentation. Marks should be distributed considering report writing, presentation, technical content, depth of knowledge, brevity and references and their participation in seminar. The time allotted for presentation will be 30 minutes.

(Semester-III)

MS-15-31: OBJECT ORIENTED ANALYSIS AND DESIGN USING UML

To understand the concepts of UML and its applications for class modeling, state modeling, use case modeling, interaction modeling, activity modeling etc. and to analyse & design software systems using object-oriented approach.

At the end of this course, the student will be able to:

1. Understand basics of modeling and fundamentals of UML such as things, relationships, diagrams, extensibility mechanisms and views;
2. To learn about class modeling and state modeling using object-oriented analysis and design methods with a clear emphasis on UML;
3. To learn use case modeling, interaction modeling and activity modeling using UML.
4. Have a working ability and grasping attitude to analyse and design software systems based on object-oriented thinking using UML.

MS-15-32: ADVANCED DATABASE SYSTEMS

The objective of this course is to provide an in-depth knowledge of SQL and PL/SQL to design database for an organization. This course focuses on advance topics of the database including EER model, object oriented database, and emerging concepts of database.

At the end of this course, the student will be able to:

1. Review the fundamental aspects of database along with EER model;
2. Get the practical exposure to SQL and PL/SQL to implement database management system in an organization;
3. Learn normalization and concurrency control techniques;
4. Acquire knowledge of different kind of emerging databases in real life scenario.

MS-15-33: COMPUTER NETWORKS

Provide an in-depth coverage of various concepts, components, and technologies of Computer Networks and Data Communication. Provide the architectural overview of the Internet. Enable the exposure of students to the current trends in wired and wireless communication technologies and real-world networking scenario.

At the end of this course, the student will be able to:

1. Characterize various types of computer networks and standards along with an insight into the principles of networking by using protocol layering of the Internet and the TCP/IP protocol suite.
2. Comprehend the notion of data communication and its related functional components and aspects.
3. Understand design issues related to Local area Networks and get acquainted with the prevailing wired and wireless LAN technology standards.
4. Get versed with the routing, addressing, congestion control, and security issues in Networks and the Internet architecture.

MS-15-34: ADVANCED OPERATING SYSTEMS

The main goal of a distributed system is to make it easy for users to access remote resources, and to share them with other users in a controlled manner. Resources can be virtually anything, typical examples of resources are printers, storage facilities, data, files, web pages, and networks.

1. To analyze the current popular distributed systems such as peer-to-peer (P2P) systems will also be analyzed.
2. To know about Shared Memory Techniques.
3. Have sufficient knowledge about file access.
4. Have knowledge of Synchronization and Deadlock.

MS-15-35: S/W LAB – V BASED ON MS-15-31

1. To practically apply knowledge of class modeling and state modeling using object-oriented analysis and design methods with a clear emphasis on UML.
2. To practically apply knowledge of use case modeling, interaction modeling and activity modeling using UML.
3. To practically implementation of generalization concept.

MS-15-36: S/W LAB – VI BASED ON MS-15-32

At the end of the course the students are able to:

1. Apply the basic concepts of Database Systems and Applications.
2. Use the basics of SQL and construct queries using SQL in database creation and interaction.
3. Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.
4. Analyze and Select storage and recovery techniques of database system.

MS-15-37: SEMINAR

Each student shall individually prepare and submit a seminar report within stipulated time. A panel consisting of two teachers (internal) should evaluate the seminar report and the presentation. Marks should be distributed considering report writing, presentation, technical content, depth of knowledge, brevity and references and their participation in seminar. The time allotted for presentation will be 30 minutes.

(Semester-IV)

MS-15-41: ADVANCED WEB TECHNOLOGY

The objective of this course is to provide the coverage of advanced technologies used in the design and development of web based applications such as PHP/Java Script/JSP for client-side and server-side programming.

At the end of this course students should be able to:

1. To get knowledge about web sites development.
2. To get knowledge bout web applications using both client and server side programming.
3. Understand the basic concepts of cyber forensics.

MS-15-42: COMPUTER GRAPHICS

Provide an introduction to the theory and practice of computer graphics. Provide an insight to applications of Graphics and the graphics hardware devices and software used. Introduce the use of the components and principles needed to design a graphics system and the algorithms related with them. To comprehend and analyse the fundamentals of animation and underlying techniques and principles.

At the end of this course, the student will be able to:

1. Have a knowledge of graphics applications and components and devices required to support the applications.
2. Develop algorithms for scan converting geometrical primitives such as lines, circles, ellipses, and curves along with algorithms for filling polygons, required for designing real-world applications.
3. Design algorithms for carrying out manipulations in pictures using geometric transformations, viewing transformations, and clipping operations.
4. Model 3-dimensional objects and apply viewing, visible –surface determination, and shading techniques to the models for achieving realism. The student will also learn to design and develop animation sequences.

MS-15-43: ADVANCED COMPUTER ARCHITECTURE

To know parallel processing and new trends and developments in computer architectures. Understand design and development of ILP based processors and evaluate their performance. Understand MIMD architectures and different topologies used in these architectures. Study the cache coherence problems and their solutions

At the end of this course, the student will be able to:

1. Learn the concepts of parallel architectures and exploitation of parallelism at instruction level.
2. Understand architectural features of multi-issue processors;
3. Learn MIMD architectures and interconnection networks used in them and evaluate their comparative performances.
4. Analyze causes of cache coherence problem and learn algorithm for its solution.

MS-15-44: SECURITY IN COMPUTING

Provide an understanding of Security and its goals including classical and modern algorithms. Give an insight into the various techniques and algorithms related to maintaining confidentiality and integrity of information in computers and communication in Networks.

At the end of this course, the student will be able to:

1. Have an understanding of the basic terms, concepts, and principles of cryptography and network security including threats, vulnerability, and controls along with a familiarization of various Cryptographic tools that include classical and contemporary mechanisms.
2. Learn the mechanisms and algorithms related to confidentiality, Integrity, and access control.
3. Gain awareness of the threats and attacks to which networks/Internet may be vulnerable and the security mechanisms and policies that are detailed at the network layer of the Internet architecture.
4. Have exposure to the security issues, mechanisms, and protocols related to the Transport layer of the Internet architecture, Wireless Networks, as well as E-Mails.

MS-15-45: S/W LAB-VII BASED ON MS-15-41

At the end of this course students should be able to:

1. Design web sites for various requirements.
2. Design web applications using both client and server side programming.
3. Understand the basic concepts of cyber forensics.

MS-15-46: S/W LAB-VIII BASED ON MS-15-42

At the end of this course students should be able to:

1. To develop program for scan converting geometrical primitives such as lines, circles, ellipses.
2. To develop program for filling polygons with different filling styles and colours.
3. To develop various programs for different geometric transformations, viewing transformations.
4. To develop programs for Cohen Sutherland and mid-point subdivision line clipping operations.
5. To develop programs for 3-dimensional objects and apply viewing.

MS-15-47: SEMINAR

Each student shall individually prepare and submit a seminar report within stipulated time. A panel consisting of two teachers (internal) should evaluate the seminar report and the presentation. Marks should be distributed considering report writing, presentation, technical content, depth of knowledge, brevity and references and their participation in seminar. The time allotted for presentation will be 30 minutes.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Mathematics

Programme Specific Outcomes (PSO) for Under Graduate Programme in the subject of Mathematics

- Develop the essential mathematical reasoning, knowledge, skills and aptitude to pursue further studies and research in Mathematics
- Gain basic understanding and knowledge in different core areas of Mathematics such as algebra, analysis, calculus, differential equations, mechanics, numerical analysis and in some of the other elective areas. Demonstrate concepts /theories/methods from such areas of Mathematics
- Communicate mathematics effectively and precisely by written, computational and graphical means.
- Apply knowledge, understanding, methods, techniques and skills of Mathematics to analyse, evaluate and solve problems of Mathematics and/or the mathematical problems having applications in engineering/science/technology/life sciences/social sciences so as to enhance career prospects in different fields.

Course Outcomes (CO) for Under Graduate Programme in the subject of Mathematics

Semester -1

Course Code: BM-111

Course Name: Algebra

Course Outcomes: This course will enable the students to:

- Determine rank of a matrix, inverse of a matrix, linear dependence and independence of rows and columns of matrices, row rank, column rank of matrix, eigen values, eigen vectors, characteristic equation and characteristic polynomial of square matrices.
- Find solution of homogeneous and non-homogeneous system of linear equations using matrices. Determine relation between roots and coefficients of a general polynomial equation. Understand unitary and orthogonal matrices and to solve related problems. Solution of polynomial equations having conditions on roots, common roots and multiple roots.
- Identify multiple roots. Application of Descarte's rule of sign. Solve cubic and biquadratic equations.

Course Code: BM-112

Course Name: Calculus

Course Outcomes: This course will enable the students to:

- Calculate the limit of functions, examine the continuity of functions, understand differentiability of different type of functions, successive differentiation of functions and series expansions.

- Understand concepts of asymptotes, curvature .
- Determine singular points of a curve and their types. Trace the curve. To understand rectification of curves and to apply the reduction formulae.
- Determine area bounded by curves, volumes and surface area of solids formed by revolution of curves.

Course Code: BM-113

Course Name: Solid Geometry

Course Outcomes: This course will enable the students to:

- Understand the concept of a second degree equation representing different conic sections and its classification and properties. Learn terms related to conic sections and their use in problem solving.
- Know representation of system of conics and confocal conics and related results. Learn general form of equation of a sphere and to solve problems related to intersection of spheres, tangent plane and line, orthogonality, length of tangent and co-axial system of spheres. Apply this knowledge to investigate and solve problems.
- Learn equations of cones and cylinders and then to solve related problems. Apply knowledge for problem solving and life-long learning.
- Familiarize with concepts of conicoids and related tangent plane, director sphere, normal, envelop and to make further use thereof.

Semester -II

Course Code: BM-121

Course Name: Number Theory and Trigonometry

Course Outcomes: This course will enable the students to:

- Determine rank of a matrix, eigen values, eigen vectors, characteristic equation and characteristic polynomial of square matrices. Understand unitary and orthogonal matrices and to solve related problems.
- Find solution of homogeneous and non-homogeneous system of linear equations using matrices. Determine relation between roots and coefficients of a general polynomial equation.
- Identify multiple roots. Application of Descarte's rule of sign. Solve cubic and biquadratic equations.
- Understand the basic concepts of number theory and their applications in problem solving. Prove Fermat and Wilson's theorems and their applications.

Course Code: BM-122

Course Name: Ordinary Differential Equations

Course Outcomes: The course will enable the students to:

- Understand the basic concepts of ordinary differential equations and to learn various techniques of finding exact solutions of certain solvable first order differential equations.

- Develop the skills of solving homogeneous and non-homogeneous second order linear ordinary differential equations with constant coefficients and with variable coefficients.
- Develop the skills of solving ordinary simultaneous differential equations and total differential equations.

Course Code: BM-123

Course Name: Vector Calculus

Course Outcomes: This course will enable the students to:

- Understand and solve problems related to scalar and vector product of vectors. Learn vector differentiation and directional derivatives and their problem solving.
- Learn gradient, divergence and curl operators. Apply knowledge and these tools in problem solving.
- Understand vector identities, Laplacian operator. Learn vector integration and line integral. Solve problems using these concepts.
- Learn surface and volume integral formulations and their evaluation. Prove Gauss Divergence, Green's and Stoke's theorems. Realize importance of Green, Gauss and Stokes' theorems.

Semester -III

Course Code: 231

Course Name: Advanced Calculus

Course Outcomes: This course will enable the students to:

- Understand continuity, Sequential continuity and uniform continuity and solve the related problems.
- Understand and to prove Rolle's Theorem, mean value theorems and their geometrical interpretations. To determine indeterminate forms.
- Learn conceptual variations while advancing from one variable to several variables in calculus, limit and continuity, partial differentiation of such functions. To understand composite functions, homogeneous functions and to solve related problems.
- Understand differentiability of real valued functions of two variables and to prove associated results. To determine maximum and minimum of functions of two variables and to apply multivariable calculus in optimization problems.
- Understand curves in space, circle of curvature and spherical curvature, involutes and evolutes. concept of surface and envelopes.

Course Code: 232

Course Name: Partial Differential Equations

Course Outcomes: The course will enable the students to:

- Understand the basic concepts of Partial differential equations, Complete solution, singular solution , General solution and learn various methods namely Lagrange's Method, Charpit's Method Jacobi method to find solution of certain first order partial differential equations. and.

- Develop the skills of solving homogeneous and non-homogeneous second and higher order linear partial differential equations with constant coefficients and with variable coefficients.
- Learn classification of second order partial differential equations, their canonical forms, and methods of solving those. Find characteristic equations and curves. Apply this knowledge to solve problems of science and society.
- Model physical phenomena using partial differential equations such as the Laplace, heat and wave equations and to solve these equations. Learn solving non-linear equations by Monge's method. Apply these methods as a tool for modelling and solving real world problems.

Course Code: BM-233

Course Name: Statics

Course Outcomes: This course will enable the students to:

- Understand basic concepts of forces, their resultant and moment; couples and their moments. To attain the problem solving skill for scientific problems.
- Learn the concepts of friction and laws of friction, centre of mass and centre of gravity and to solve problems related to these concepts.
- Understand the equilibrium of a body acted upon by forces in plane and the principle of virtual work for a system of coplanar forces acting on a rigid body and central axis. Apply this knowledge to investigate and solve scientific problems.
- Understand three dimensional force system, central axis, wrenches, null lines and planes.

Semester -IV

Course Code: BM-241

Course Name: Sequence and Series

Course Outcomes: This course will enable the students to:

- Understand basic concepts of real number system and set theory. Preliminary results on neighbourhood of a point, interior and limit points, open sets, closed sets etc.
- Learn real sequences, their limit, boundedness and convergence. To find convergence and divergence of a sequence. To understand Cauchy sequence, subsequence and to prove related theorems.
- Understand infinite series and its basic properties. Attain skills to determine convergence of a series of real numbers by applying various tests.
- Understand absolute and conditional convergence of alternating series and related tests. Learn about arbitrary series, cauchy product of series, convergence and absolute convergence of infinite products.

Course Code: BM-242

Course Name: Special function and Integral Transform

Course Outcomes: This course will enable the students to:

- Understand singular points of a differential equation and to solve such differential equation by power series method. Learn Hypergeometric differential equation, Hypergeometric function and its properties.
- Know Bessel's differential equation and its solution. Understand recurrence relations, generating function and orthogonality of Bessel's function. Understand Bessel integral. Attain skills to make use of Bessel functions in scientific problem solving.
- Familiarise with Legendre's differential equation and its solution in the form of Legendre functions. Understand recurrence relations, generating function and orthogonality of Legendre's function, Rodrigues' formula. Apply knowledge in problem solving.
- Know Hermite's differential equation and its solution in the form of Hermite functions. Understand recurrence relations, generating function and orthogonality of Hermite function, Rodrigues' formula. Attain skill to apply these tools for investigation and solution of problems.
- Know about Laplace transforms and its properties in detail and to apply those in solving differential equations.
- Familiarize with Fourier transforms of functions, properties of Fourier transform, inverse Fourier transforms and relation between Laplace and Fourier transforms. Develop skill of applying Fourier transforms to solve differential equations.

Course Code: BM-243

Course Name: programming in C and Numerical Methods

Course Outcomes: This course will enable the students to:

- Familiarize with C programming language. Learn elements of C, data types, constants and variables, operations and operators, statements and expressions. Use these tools for writing C programs.
- Learn Input/ Output functions in C, to write reading and writing statements in C, decision making statements and structures in C. Apply this knowledge to use as tools in writing C programs.
- Understand loops and arrays, their types, characteristics and structures. Attain the skill to write C programs which involve arrays and multiple iterations.
- Learn strings of characters, their declaration, input/ output, operations on strings and functions which handle strings. Learn declaration, types and calling of user defined functions in C.
- Apart from C language students learn the various iterative methods namely Bisection Method, Regular falsi Method, Secant Method and Newton Raphson method to find the approximate solution of Algebraic and Transcendental equations.
- Learn the new methods namely Gauss Elimination Method, Gauss Jordan Method, Triangularisation Method, Cholesky Decomposition Method, Crout's Method to solve simultaneous linear algebraic equations.

Semester -V

Course Code: BM-351

Course Name: Real Analysis

Course Outcomes: This course will enable the students to:

- Understand the concept of upper and lower sums, upper integrals and lower integrals. Introduction to Riemann integral, basic properties of Riemann integral.
- Know about Improper integral and their convergence.
- Understand the concept of metric spaces, open and closed sets in metric spaces, completeness in metric space.
- Know the concept of continuity and uniform continuity in metric spaces, compactness in metric spaces, connectedness in metric spaces.

Course Code: BM-352

Course Name: Groups and Rings

Course Outcomes: The course will enable the students to:

- Recognize the mathematical objects called groups, their elementary properties, order of a group, subgroup, cyclic groups and their properties.
- Understand the notions of cosets, normal subgroups, and quotient groups. Know homomorphisms, isomorphisms, automorphisms of a group and their properties and to prove three isomorphism theorems. Understand permutation groups, even and odd permutation .
- Learn about ring, subring, integral domain, field and ideal and related results.
- Understand quotient rings, Euclidean ring, polynomial rings, ring homomorphisms, ring isomorphisms and fundamental isomorphism theorems of rings. Understand Criterion of irreducibility and Unique Factorization Domain.

Course Code: BM-353

Course Name: Numerical Analysis

Course Outcomes: This course will enable the students to:

- Understand errors and their types. Learn techniques to obtain numerical solutions of algebraic and transcendental equations.
- Attain numerical skills to find solutions of system of linear equations by different methods.
- Learn different interpolation and extrapolation methods and their applications. Apply numerical methods to obtain derivatives.
- Understand numerical methods for evaluating integrals and solving differential equations and to develop skill of applying these methods for future use in scientific problems.

Semester -VI

Course Code: BM-361

Course Name: Real and Complex Analysis

Course Outcomes: This course will enable the students to:

- Evaluate double and triple integrals. To learn about Dirichlet integrals, Beta and Gamma functions and to solve related problems.

- Learn Fourier series, properties of Fourier coefficients, Dirichlet's conditions, Parseval's identity for Fourier series.
- Know about extended complex plane, stereographic projection of complex numbers, continuity and differentiability of complex functions, analytic functions, Cauchy-Riemann equations and Harmonic functions.
- Understand elementary mappings like Translation, Rotation, Magnification and Inversion. Know about Conformal mappings, Möbius transformation, Fixed points, Cross ratio, Inverse points and Critical mappings.

Course Code: BM-362

Course Name: Linear Algebra

Course Outcomes: This course will enable the students to:

- Understand the concepts of vector spaces, subspaces, bases and their properties, Dimensions, Quotient space, Homomorphism and Isomorphism of vector spaces, linear transformations and their rank and nullity and to use those concepts for problem solving.
- Learn to determine eigen values, eigen vectors and characteristic polynomial of linear transformations and their further use in investigation and solution of problems.
- Have knowledge of inner product spaces, orthogonalization and diagonalization of matrices/ linear transformations and to apply that in further learning and for scientific applications.
- Learn adjoint operation, Hermitian, unitary, normal and triangular forms of linear transformations and related problem solving.

Course Code: BM-363

Course Name: Dynamics

Course Outcomes: This course will enable the students to

- Learn fundamentals of dynamics like velocity, acceleration, angular velocity & acceleration, Newton's laws of motion, simple harmonic motion & to develop the skill of solving simple dynamical problems.
- Understand concepts of work, power & energy and projectile motion & to solve related problems. Learn about Kepler's laws of planetary motions.
- Understand conservative and impulsive forces & particle motion on a smooth or rough path in a plane. Apply theoretical concepts to problem solving.
- Understand equation of motion of a body moving under a central force & Kepler's laws of the planetary motion. Solve problems of central orbits & planetary motion.

COURSE CODE-BBA-1**COURSE NAME-BUSINESS MATHS (PAPER-104)**

Course Outcomes: This course will enable the students to

1. Get knowledge about the sets and practical application of sets.
2. Understand about logical & compound, conditional & biconditional statements.
3. Study about simultaneous linear equations ,linear laws of demand & supply and market equilibrium.
4. Learn about the solutions of quadratic equations & Permutations and combinations using in business problems.
5. Get knowledge about the limit & Continuity of a function & Differential calculus(including maxima & minima & exclude trigonometric functions)
6. Understand about Meaning &elementary operations on matrices, solutions of linear equations using crammer's rule & matrix inversion method.

Semester -II**COURSE CODE-BBA-1****COURSE NAME-BUSINESS MATHS-2(PAPER-112)**

Course Outcomes: This course will enable the students to

1. Study about the Arithmetic , Geometric & Harmonic progressions to use in daily life.
2. Get knowledge about the Integral calculus that include definite & indefinite integral to use it in business.
3. Understand about the Cartesian Co-ordinate system and the straight line to use in architecture field.
4. Get knowledge about the Compound interest, Depreciation which is useful in the banking, the economy, or business& finance.
5. Understand about the Logarithm, Law of operations, Log tables to use them in computer application.

Semester -1**COURSE CODE: B.Com.-1(Paper-105)****COURSE NAME: BUSINESS MATHEMATICS-1**

Course Outcomes: This course will enable the students to

1. Get knowledge about logarithms & anti-logarithms. Know about sequence & series.
2. Understand the concept of differentiation , its rules & standard forms. maxima & minima of functions of one variable, relating to cost. revenue & profit.
3. Understand the concept of matrices & determinants.

4. Know about the compound interest and annuities ,its types, present valueand amount of an annuity ,problems relating to sinking funds.
- 5.

Semester -II

COURSE CODE: B.Com.-1(Paper-205)

COURSE NAME: BUSINESS MATHEMATICS-1

Course Outcomes: This course will enable the students to

1. Get knowledge about Permutation \$ Combinations, Binomial Theorem
2. Know about Linear inequalities \$ their solution in two variables.
3. Understand the concept of Linear programming ,Graphical Methods in case of mixed constraints.their multiple solutions.
4. Understand the concept of Data representation and Interpretation,their classification \$ representation.

Semester -1

COURSE CODE –BCA-1(paper-113)

COURSE NAME-MATHEMATICAL FOUNDATIONS-1

Course Outcomes: This course will enable the students to

1. Get knowledge about the sets,subsets and operations on them.
2. Learn about permutation and combination in every field.
3. Knowledge about the continuity of a function ,differentiation which is useful in engineering & physics.
4. Understand about the differential equations of first &second order &method to solve them.
5. Study about the homogeneous and non-homogeneous differential equation.

Semester -II

COURSE CODE-BCA-1(paper-123)

COURSE NAME-MATHEMATICAL FOUNDATION-2

Course Outcomes: This course will enable the students to

1. Get knowledge and understanding of fundamental concepts including groups ,subgroups and normal subgroups.
2. Understand about rings, fields & their properties.
3. Study about the systems of linear equations using the inverse of coefficient matrix when

- possible.
4. Understand about matrix operations such as addition, scalar multiplication & transposition.
 5. Study about eigen values , eigen vectors and diagonalization of a matrix.

Semester –III

COURSE CODE : B.C.A.-II(Paper -236)

COURSE NAME: COMPUTER ORIENTED NUMERICAL METHODS

Course Outcomes: This course will enable the students to

1. Get knowledge about Computer Arithmetic, Floating point representation of numbers, their errors, Iterative methods.
2. Solutions of linear and differential equations ,their methods
3. Interpolations and approximations, Interpolation and Chebyshev polynomial
4. Get knowledge about numerical differentiation and integration Trapezoidal and Simpson Rules, Gaussian Quadrature.

Semester –IV

COURSE CODE : B.C.A.-II(Paper -245)

COURSE NAME: COMPUTER ORIENTED STATISTICAL METHODS

Course Outcomes: This course will enable the students to

1. Get knowledge about Basic statistics, Measure of central tendency, Preparing frequency distribution table, Understand about Mean, Median & Mode. Measure of dispersion. Understand about measure of dispersion, Frequency distribution.
2. Get knowledge about Distribution Pattern, Correlation & Regression
3. Understand the concept about test of significance, Curve fitting
4. Know the Meaning of ANOVA, Their assumptions ,Baye's theorem.

Programme Outcomes (PO) for Post Graduate Programme in the subject of Mathematics (M.Sc. Mathematics)

- Enable them to use and learn techniques, skills and modern tools for scientific practices
- To apply reasoning to assess the different issues related to society and the consequent responsibilities relevant to the professional scientific practices
- Aptitude to apply knowledge and skills that are necessary for participating in learning activities throughout life.
- Capable to apply critical thinking to solve problems.
- To make them familiar with a number of examples where Mathematics is used to explain abstract and physical phenomena.
- To critically interpret numerical and graphical data to draw conclusions.
- Ability to recognize connection between theory and applications.

- Ability to demonstrate knowledge and understanding of the scientific principles and apply these to manage projects.
- To read mathematical literature independently including scholarly books and research papers.
- Enable to get employment utilizing their mathematical knowledge in both government and private sectors.
- Get enough knowledge of the subject required to clear competitive exams like NET, GATE etc.
- Can pursue Ph.D. programme in Mathematics in any prestigious universities and research institutes.
- Capability to identify and apply ethical issues related to one's work, avoid unethical behaviour such as fabrication of data, committing plagiarism and unbiased truthful actions in all aspects of work.

Course Outcomes (CO) for Post Graduate Programme in the subject of Mathematics (M.Sc. Mathematics)

Semester -1

Course Code: MM-401

Course Name: Advanced Abstract Algebra-I

Course Outcomes: After completion of the course, the student will be able to:-

- Understand concepts of irreducible polynomial, Eisenstein criterion, field extension, algebraic and transcendental extension, algebraically closed field.
- Have deep understanding of Splitting fields, normal extension, multiple roots, prime field, finite field and separable extension.
- Learn about automorphism groups, fixed field, Dedekind lemma, fundamental theorem of Galois theory, roots of unity, Cyclotomic polynomial and cyclic extension.
- Have deep understanding of polynomials solvable by radicals, symmetric functions, ruler and compass construction.
- Learn about cyclic decomposition, alternating group A_n , simplicity of A_n for $n \geq 5$, Sylow's theorem and its applications
- Understand concepts of normal subgroup, quotient group, isomorphism, automorphism, conjugacy, normal series, composition series, solvable group, nilpotent group and refinement theorem.

Course Code: MM-402

Course Name: Real Analysis-I

Course Outcomes: After completion of the course, the student will be able to:-

- Understand the concept of Riemann-Stieltjes integral along its properties; integration of

vector-valued functions with application to rectifiable curves.

- Understand and handle convergence of sequences and series of functions; construct a continuous nowhere-differentiable function; demonstrate understanding of the statement and proof of Weierstrass approximation theorem.
- Understand differentiability and continuity of functions of several variables and their relation to partial derivatives; apply the knowledge to prove inverse function theorem and implicit function theorem.
- Learn about the concepts of power Series, exponential & logarithmic functions, trigonometric functions, Fourier series and Gamma function; apply the knowledge to prove specified theorems

Course Code: MM-403

Course Name: Topology

Course Outcomes: After completion of the course, the student will be able to:-

- Know about topological spaces, understand neighbourhood system of a point and its properties, interior, closure, boundary, limit points of subsets, and base and subbase of topological spaces; apply the knowledge to solve relevant exercises.
- Learn about first and second countable spaces, separable and Lindelof spaces, continuous functions, separation axioms and their properties.
- Know about quotient topology; demonstrate understanding of the statements and proofs of Embedding theorem and Urysohn's Lemma.
- Know about filters and compactness in topological spaces and apply the knowledge to prove specified theorems.

Course Code: MM-404

Course Name: Complex Analysis-I

Course Outcomes: After completion of the course, the student will be able to:-

- Understand the concepts of limit, continuity, differentiation and integration for functions defined over a complex plane as well as for the elementary functions.
- Solve the complex integrals of various kinds through the applications of relevant theorems, formulae and power series expansions.
- Analyse the complex functions with singularities for zeroes and residues at poles and apply the results to solve the improper integrals
- Solve complex improper integrals through the indentation, transformation/mapping of integration paths so as to avoid singularities and branch points/cuts.

Course Code: MM-405

Course Name: Differential Equations-I

Course Outcomes: After completion of the course, the student will be able to:-

- Understand concepts of an initial value problem and its exact and approximate solutions, existence of solutions, uniqueness of solutions and continuation of solutions of an initial

value problem of order one. Apply the knowledge to prove specified theorems and to solve relevant exercises

- Learn about system of linear differential equations of first order and its preliminary concepts, homogeneous and non-homogeneous linear systems, existence and uniqueness theory, fundamental matrix, theory of adjoint systems, linear systems with constant coefficients and with periodic coefficients. Attain the skill to obtain fundamental matrix of such a given linear system to demonstrate problem solving.
- Have deep understanding of theory of linear differential equations of higher order by getting knowledge of basic theory, Wronskian theory and fundamental sets, adjoint equations and standard theorems related to these topics. Apply methods of reduction of order and variation of parameters to solve linear and non-linear differential equations respectively and to solve higher order linear differential equations with constant coefficients.
- Understand system of differential equations and its existence theory, dependence of solution of an IVP on initial parameters, extremal solutions, upper and lower solutions so as to be able to develop research aptitude in this area.

Course Code: MM-406

Course Name: Practical-I

Course Outcomes: After completion of the course, the student will be able to:-

- Solve practical problems related to theory courses undertaken in the Semester-I from application point of view.
- Know syntax of expressions, statements, structures and to write source code for a program in C.
- Edit, compile and execute the source program for desired results
- Debug, verify/check and to obtain output of results.

Semester -II

Course Code: MM-407

Course Name: Advanced Abstract Algebra-II

Course Outcomes: After completion of the course, the student will be able to:-

- Understand the concept of commutators, commutator subgroup, nilpotent groups, upper and lower central series.
- Understand concepts of modules, submodules, direct sum, R-homomorphism, quotient module, completely reducible modules, free modules, representation of linear mappings and their ranks.
- Learn about ascending chain conditions and descending chain conditions, noetherian ring ,artinian rings, nil and nilpotent ideals.
- Learn about similar linear transformation, triangular form, nilpotent transformation, primary decomposition theorem, Jordan form, rational canonical form and elementary divisors.

Course Code: MM-408

Course Name: Real Analysis-II

Course Outcomes: After completion of the course, the student will be able to:-

- Understand the concepts of measurable sets and Lebesgue measure; construct a non-measurable set; apply the knowledge to solve relevant exercises.
- Know about Lebesgue measurable functions and their properties; and apply the knowledge to prove Egoroff's theorem, Lusin's theorem and F.Riesz theorem.
- Understand the requirement and the concept of the Lebesgue integral (as a generalization of the Riemann integration) along its properties and demonstrate understanding of the statement and proofs of the fundamental integral convergence theorems.
- Know about the concepts of differentiation of monotonic function, functions of bounded variations, differentiation of an integral and absolutely continuous functions; apply the knowledge to prove specified theorems.

Course Course Code: MM-409

Course Name: Computer Programming(Theory)

Course Outcomes: After completion of the course, the student will be able to:-

1. Write programs in FORTRAN-90 language and understand the use of IMPLICIT NONE statement.
2. Understand logical expressions, procedures(functions and subroutines).
3. Understand format specifications in a program.
4. Understand the concept how to process sequential and direct access files.
5. Know the features of FORTRAN-90 and FORTRAN-95.

Course Code: MM-410

Course Name: Complex Analysis-II

Course Outcomes: After completion of the course, the student will be able to:-

1. Understand the basics of logarithmically convex functions that helps in extending maximum modulus theorem; learn about spaces of continuous, analytic and meromorphic functions.
2. Be familiar with Riemann mapping theorem, Weierstrass' factorization theorem, Gamma functions and its properties.
3. Understand Runge's theorem; know harmonic function theory on a disk; apply the knowledge in solving Dirichlet's problem; know about Green's function.
4. Know how big the range of an entire function is to prove Picard and related theorems.

Course Code: MM-411

Course Name: Differential Equations-II

Course Outcomes: After completion of the course, the student will be able to:-

- Understand preliminary, oscillation and Sturm' theory of second order ordinary differential equations and comparison theorems. Apply this knowledge to solve problems of checking second order ODEs for oscillatory, finding common zeros and applying Prüffer transformation.
- Have good understanding of boundary value problems of second order, their classification and solution. Appreciate the concept of Green's function. Attain skills to solve boundary value problems which find great applications in areas of applied mathematics, science and

engineering.

- Know critical points of linear and non-linear system of differential equations, their types and stability. Understand concepts of potential energy function, limit cycles, semi orbit and limit sets. Apply the gained knowledge to determine type and stability of critical points and check for existence of limit cycles of given systems. Have a foundation to understand area of non-linear analysis of dynamical systems where mathematics and space science connect to each other.
- Understand stability of linear, quasi-linear and non-linear systems. Learn to apply Lyapunov direct method to determine stability of such systems for investigating and solving problems.

Course Code: MM-412

Course Name: Practical-II

Course Outcomes: After completion of the course, the student will be able to:-

- Solve practical problems related to theory courses undertaken in the Semester-II from application point of view.
- Know syntax of expressions, statements, structures and to write source code for a program in FORTRAN-90.
- Edit, compile and execute the source program for desired results.
- Debug, verify/check and to obtain output of results.

Semester -III

Course Code: MM-501

Course Name: Functional Analysis

Course Outcomes: After completion of the course, the student will be able to:-

- Know about the requirements of a norm; completeness with respect to a norm; understand relation between compactness and dimension of a space; check boundedness of a linear operator and relate to continuity; convergence of operators by using a suitable norm; apply the knowledge to compute the dual spaces.
- Extend a linear functional under suitable conditions; apply the knowledge to Hahn Banach Theorem for further application to bounded linear functionals on $C[a,b]$; know about adjoint of operators; understand reflexivity of a space and demonstrate understanding of the statement and proof of uniform boundedness theorem.
- Know about strong and weak convergence; understand open mapping theorem, bounded inverse theorem and closed graph theorem; distinguish between Banach spaces and Hilbert spaces; decompose a Hilbert space in terms of orthogonal complements.
- Understand totality of orthonormal sets and sequences; represent a bounded linear functional in terms of inner product; classify operators into self-adjoint, unitary and normal operators.

Course Code: MM-502

Course Name: Analytical Mechanics and Calculus of Variation**Course Outcomes:** After completion of the course, the student will be able to:-

- Understand concepts calculus of variations and to solve variational problems of different forms of functional
- Know about the variational principles which are of great scientific significance and provide a unified approach to various mathematical and physical problems.
- Learn about three dimensional rigid body dynamics and generalized coordinates.
- Understand Lagrange's equation for potential forces, Variational principles, Hamiltonian, Canonical transformations and Hamilton Jacobi equation.

Course Code: MM-503**Course Name: Elasticity(opt-i)****Course Outcomes:** After completion of the course, the student will be able to:-

- Understand concepts of extension and torsion and learn to solve different elastostatics problems of extension and torsion of beams.
- Learn techniques to make use of complex analysis (analytic functions, conformal mappings) for solving elastostatics problems. Be familiar with flexure of beams of different cross-sections.
- Understand plane deformation, plain stress and Airy Stress function and attain capability to solve two dimensional problems in elasticity for analytical solutions.
- Learn techniques for solving some scientifically important elastodynamics problems in three-dimensions and understand vibrations of elastic solids and wave propagation in such solids.

Course Code: MM-504**Course Name: Fluid Mechanic-I(opt-i)****Course Outcomes:** After completion of the course, the student will be able to:-

- Be familiar with continuum model of fluid flow, classify fluid/flows, Stream, path and streak lines, rotational and irrotational motion.
- Understand Eulerian and Lagrangian descriptions of fluid motion, law of conservation of mass and boundary surfaces. Attain ability to derive equation of continuity and problem solving.
- Learn to derive equations of motion, Bernoulli equation, vorticity equation corresponding to different problems of fluid dynamics and to solve those equations.
- Prove theorems on circulation and energy in fluid flow. Make strong foundation for doing research in the area of fluid mechanics and bio-mechanics.

Course Code: MM-505**Course Name: Integral Equations-I(opt-i)****Course Outcomes:** After completion of the course, the student will be able to:-

- Understand the concept of integral equations to identify different constituents to classify them and to apply the eigen-system method for solving the Fredholm type with separable kernel.

- Derive procedures to for iterative methods to solve integral equations of both Fredholm and Volterra types without restricting the kernel to be separable and proving specific theorems of Fredholm's theory.
- Design methods for solving the integral equations with symmetric kernel as linear/bilinear expansions over an orthonormal system of functions and to prove various theorems to analyse these methods. Apply the knowledge to solve problems.
- Learn the use of numerical method for finding an eigenvalue and the analytical methods to solve the singular integral equations from Cauchy-type to Hilbert-type, which involve Cauchy's principal value, closed/open contours and the Riemann-Hilbert problem.

Course Code: MM-506

Course Name: Practical-III

Course Outcomes: After completion of the course, the student will be able to:-

- Solve practical problems related to theory courses undertaken in the Semester-III from application point of view.
- Know syntax of expressions, statements, structures and to write source code for a program in FORTRAN-90/95.
- Edit, compile and execute the source program for desired results.
- Debug, verify/check and to obtain output of results.

Semester -IV

Course Code: MM-507

Course Name: General Measure and Integration Theory

Course Outcomes: After completion of the course, the student will be able to:-

- Understand the concept of measure defined on a ring of sets, its properties; extension, uniqueness and completeness of measures; measurable spaces, measurable and simple functions.
- Have deep understanding of the concepts of convergence in measure, almost uniform convergence; apply the knowledge to prove Egoroff's theorem, Riesz-Weyl theorem; learn about integrable functions, indefinite integrals; demonstrate understanding of the statement and proof of the monotone convergence theorem.
- Understand the concepts of product measures; apply the knowledge to prove Fubini's theorem; understand signed measures; demonstrate understanding of the statement and proof of the Jordan-Hahn decomposition, Radon-Nikodym theorem.
- Know about the concepts of Baire sets, Baire measures, regularity of measures on locally compact spaces; apply the knowledge to prove Riesz-Markoff representation theorem related to the representation of a bounded linear functional on the space of continuous functions.

Course Code: MM-508

Course Name: Partial Differential Equations

Course Outcomes: After completion of the course, the student will be able to:-

- Classify the PDE of different orders into elliptic/ parabolic/ hyperbolic types and work on the methods to solve homogeneous and non-homogeneous elliptic equations.
- Understand the role of Green's function in solving PDE and work on the methods/principle used to derive formulas for solutions of homogeneous and non-homogeneous heat equations.
- Use various methods to solve the homogeneous and non-homogeneous wave equations, one to three dimensional, in different coordinate systems. Capacity to apply those techniques/methods to numerous problems that arise in science, engineering and other disciplines.
- Learn to solve non-linear first order PDEs through complete integrals, envelopes, characteristics and solve Laplace, heat and wave equations using method of separation of variables and using integral transforms

Course Code: MM-509

Course Name: Mechanics of Solid(opt-i)

Course Outcomes: After completion of the course, the student will be able to:-

- Understand the concept of tensors as a generalized form of directional entities and to explore their properties through the operations of algebra and calculus. Be familiar with affine transformation and infinitesimal deformation.
- Understand analysis of strain and stress tensors. Prepare a strong foundation to learn theory of elasticity to solve scientific problems.
- Relate strain tensor and stress tensor through anisotropic elastic moduli, subjected to reflection/rotational symmetries to define elastic isotropy, and using theorems/ principles to explore the role of these relations in strain energy, compatibility and uniqueness of solution.
- Learn variational methods to solve boundary value problems in elasticity. Learn to prove standard theorems related to theory of variational problems and to apply these techniques/methods by minimizing the potential / strain / complementary energies to solve scientific problems in mechanics of solids and get exposed to research problems in the field of elasticity.

Course Code: MM-510

Course Name: FLUID Mechanics-II

Course Outcomes: After completion of the course, the student will be able to:-

- Identify those viscous fluid flow problems whose exact solutions can be found and to learn the methods to solve such problems. Apply the knowledge to solve real world problems
- Understand two dimensional flow problems, stream function, axi-symmetric flow, complex potential, source, sink and doublets in two dimensions, Milne-Thomson circle theorem, Blasius theorem. Attain skills to solve fluid flow problems in two dimensions. Get exposure to research problems in fluid dynamics.
- Have thorough knowledge of viscous fluids; stress, strain rate and relations between them and equations of motion for viscous fluids. Understand motion of sphere in a fluid and fluid flow past a sphere at rest; sources, sinks, doublets and their images. Learn to solve three dimensional flow problems of fluid dynamics

- Recognize concepts of dynamical similarity, dimensional analysis, Reynolds number, Mach Number, Froude Number, Eckert Number, Buckingham π -theorem and its applications. Understand the concept of boundary layer and the associated theory. Get exposure to real fluid flow problems of science and engineering

Course Code: MM-511

Course Name: Mathematical Aspects of Seismology

Course Outcomes: After completion of the course, the student will be able to:-

- Understand introductory concepts of seismology and wave propagation so as to form a strong foundation to learn the subject. Know mathematical representation of progressive waves and wave characteristics. Have knowledge to solve wave equation in different coordinate systems.
- Learn damping, inhomogeneity and dispersion of waves, representation of spherical waves and their expansion in terms of plane waves. Learn techniques to solve wave equation in order to obtain D'Alembert, Kirchoff, Poisson and Helmholtz formulae which find great importance in energy transport phenomenon in science and engineering.
- Learn about seismic waves and understand reflection and refraction of seismic waves. Apply knowledge of mathematics and knowledge attained in first two COs to formulate mathematical models having application in seismology and to solve such problems.
- Understand surface waves and seismic sources (area, line and point). Attain skills to formulate and solve Lamb's problems. Attain knowledge and mathematical tools to pursue research in the area of seismology and to contribute to the science and society

Course Code: MM-512

Course Name: Practical-IV

Course Outcomes: After completion of the course, the student will be able to:-

- Solve practical problems related to theory courses undertaken in the Semester-IV from application point of view.
- Know syntax of expressions, statements, data types, structures, commands and to write source code for a program in MATLAB.
- Edit, compile/interpret and execute the source program for desired results.
- Debug, verify/check and to obtain output of results.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Commerce

Bachelor of Commerce

Course Outcome

Semester-I

Paper : Financial Accounting

After completing the course, the student shall be able to:

- Understand different accounting terminology and difference between book keeping, accounting and accountancy.
- Know about the accounting principles and their use in Indian accounting system..

Paper : Micro Economics

After completing the course, the student shall be able to:

- Understand the traditional and modern theories of cost.
- Understand the price and output determination under monopoly and different markets.

Paper : Principles of Business Management

After completing the course, the student shall be able to:

- Understand the history of management, process and functions of management.
- Learn directing through motivation and its process.

Paper: Business Communication

After completing the course, the student shall be able to:

- Understand the meaning and concept of business communication.
- Know about the basic form of communicating, communications models and process.
- Know about corporate communication, effective communication skills and practices in business communication.

Paper : Business Mathematics

After completing the course, the student shall be able to:

- Understand the concept of logarithms, anti logarithms and solve related problems.
- Find the derivatives of functions and solve problems related to maxima and minima.

Paper : Computer Applications in Business

After completing the course, the student shall be able to:

- To become familiar with computer basics terminologies, hardware and software's.
- To understand various applications and usage of computer in business field.

(Semester II)

Paper : Advanced Financial Accounting

After completing the course, the student shall be able to:

- Understand of fundamentals of partnership accounts
- Knowledge regarding concept of change in profit sharing ratio among existing partners.

Paper : Macro Economics

After completing the course, the student shall be able to:

- Understand the nature, scope and variables of micro economics.
- Circular flow of income between various sectors with the help of using different models.
- Measures to overcome the inflation.

Paper : Fundamentals of Marketing

After completing the course, the student shall be able to:

- Understand the environment which affects the marketing strategies of a firm.
- Knowledge regarding the behavior of customers and why they purchase a particular product.

Paper : Business Environment in Haryana

After completing the course, the student shall be able to:

- Students are able to understand the economy of Haryana.
- Knowledge about agriculture sector of Haryana.
-

Paper : Business Mathematics

After completing the course, the student shall be able to:

- Understand the concept of permutations and combinations.
- Solved the system of linear equations graphically.
- Understand the concept of classification and tabulations.

Paper : E-Commerce

After completing the course, the student shall be able to:

- Understanding the use of various technologies of computers used in today's business.
- Role of information technology act 2005 and other cyber laws.

(Semester -III)

Paper : Corporate Accounting I

After completing the course, the student shall be able to:

- Know the accounting for Share & Debentures.
- Understand the procedure of buyback of shares.
- Prepare fund accounts of companies.
- Understand the accounting treatment for amalgamation of companies.

Paper : Business Laws

After completing the course, the student shall be able to:

- CO1: Apply the understanding of various provisions of contracts including special contracts and legitimate rights and obligations of buyer and seller for making the business agreements and contracts.
- CO2: Make choice of appropriate negotiable instruments among the different instruments describe Negotiable Instruments Act.
- CO3: Apply skills to initiate entrepreneurial ventures as partnership and LLP.
- CO4: Analyse the fundamentals of Internet based activities under the Information and Technology Act.

Paper : Business Statistics-I

After completing the course, the student shall be able to:

- Understand the meaning of statistics, knowledge of collection of data.
- Knowledge of methods of constructing price and quantity index numbers.
- How to test the adequacy of index number formulae.

Paper : Indian Financial System

After completing the course, the student shall be able to:

- Understand the financial system and markets.
- Knowledge about Capital markets and money market.
- SEBI role in regularizing the market activities.
- Understanding the working of various development banking such as IDBI, IFCI, SIDBI etc.

Paper : Rural Marketing

After completing the course, the student shall be able to:

- Understand the concept of rural marketing and its role in the development of country.
- Various factors that affects rural marketing.
- Problems and challenges faced in rural marketing.

Paper : Company Law-I

After completing the course, the student shall be able to:

- Various basic concepts of Company law act 2013.
- Various types of companies and their working as per the rules lay down under the said act.
- Various provisions in relation to MOA and AOA.
- Doctrine of indoor management.

Paper : Corporate Accounting II

After completing the course, the student shall be able to:

- CO1: Understand the methods of valuation of Shares & Goodwill.
- CO2: Prepare the consolidated balance sheet.
- CO3: Understand & prepare the accounts of Banking & Insurance Companies.
- CO4: Know the procedure and accounting process for liquidation of companies.

Paper : Computerized Accounting System

After completing the course, the student shall be able to:

- CO1: Have a comparative overview of various accounting software, including Tally ERP (latest version)
- CO2: Install and configure Tally ERP (latest version) software
- CO3: Conduct various accounting operations on Tally ERP (latest version)
- CO4: Able to do inventory management, calculate tax liability, payroll management, etc. using Tally ERP (latest version)

Paper : Business Statistics-II

After completing the course, the student shall be able to:

- Knowledge of concept of correlation, and its various methods for calculations.
- Understanding the difference between correlation and regression and their variables.
- Understanding the types of probability.
- Binomial, Poisson and normal distribution theorems of probability.

Paper : Company Law-II

After completing the course, the student shall be able to:

- Students are able to understand about company member, transfer and transmission of shares and debentures, depository system.
- Learnt about directors, their legal position, qualification, appointment, removal, power and duties.
- Understanding about the Dividends accounts, audit, borrowing powers and debentures. Provision regarding winding up of the company.

Paper : Business Laws-II

After completing the course, the student shall be able to:

- Understand ,Indian Partnership Act, 1932 ,Limited Liability Partnership Act, 2008
- Learnt about Information Technology Act 2000
- Understand RTI Act, 2005

Paper : Advertising

After completing the course, the student shall be able to:

- Understand communication and advertising mix.
- Advertising media and agency.
- Measures the advertising effectiveness.

(SEMESTER-V)

Paper: Income Tax-I

After completing the course, the student shall be able to:

- Understanding the concept of income tax and related terms
- Various heads of income.
- Calculation of income under the head salary, house property, business and profession, capital gains and other sources.
- Provisions regarding clubbing of incomes.
- Provisions related to set off and carry forwards of losses.

Paper : Cost Accounting

After completing the course, the student shall be able to:

- Basics concepts and terms in cost accounting.
- Classification of cost accounts.
- LIFO, FIFO and other methods for maintaining inventory accounts.
- Unit and output costing, contract costing, process costing.
- Cost sheet advantages and formation.
- Contract costing.

Paper : Financial Management

After completing the course, the student shall be able to:

- Understand importance of Financial management
- Know about Financial planning and forecasting forecasting: meaning, benefits and techniques of
- Understand how to calculate Cost of capital
- Understand Capital structure decisions and Capital budgeting decisions
- Know about Working capital management

Paper :Goods and Service Tax

After completing the course, the student shall be able to:

- Understand the meaning of GST
- Learn Computation of input tax credit and transfer of input tax credit
- Know Various returns to be filed under GST
- Get an idea about TDS, Interest Provisions on delayed payment

- Know about Offences and penalties

Paper: Auditing

After completing the course, the student shall be able to:

- Know the meaning and types of auditing;
- Methods of audit work:
- Understand Vouching
- Know who is company auditor and his Audit reports
- Understand investigation and Professional ethics of auditing

Paper: Supply Chain Management

After completing the course, the student shall be able to:

- Know the meaning and importance of Supply chain management
- Understand the Transportation mode and warehousing
- Get an idea about Information system in SCM
- Recent developments in SCM - third/fourth party logistics.

(Semester-VI)

Paper : Management Accounting

- After completing the course, the student shall be able to:
- Nature and scope of management accounting
- Discuss the changes that have taken place in the techniques employed by management accounting.
- Define and explain the meaning and types of all budgets.
- Formation of accounts under different types of budgets.
- Breakeven point analysis and profit volume graphs.
- Standard costing system and marginal costing system understanding.

Paper : Fundamentals of Insurance

- After completing the course, the student shall be able to:
- Know life and general insurance
- Understand Fire insurance, Marine losses and measures of indemnity; motor insurance
- Know about Insurance intermediaries
- Get an idea about code of conduct; unfair practices.

Paper : Retail Management

After completing the course, the student shall be able to:

- Understand the concept of retail Management
- Interpret the retail strategic planning process
- Explain the security issues
- Analyzing the retail store outlets

Paper : Income Tax-II

After completing the course, the student shall be able to:

- Students shall be aware of tax deduction benefits and able to make tax saving decisions.
- Calculation of total incomes of individuals, HUF, firm, companies.
- Various offences and prosecutions prescribed under the income tax act 1961.
- Assessment procedure knowledge.
- Knowledge of various kinds of income tax returns.

Paper : Human Resource Management

After completing the course, the student shall be able to:

- Understand the meaning and importance of Human resource management:
- Know the difference between HRM and HR
- know about Human resource planning
- Learn about Job Analysis; job description and job specification.
- Understand Recruitment, Selection process
- Have basic idea about promotion and demotion
- Concept of Performance appraisal:

Paper : Business Environment

After completing the course, the student shall be able to:

- Know the meaning of Business environment its components, and importance.
- Know about Economic systems: capitalist, socialist & mixed economy.
- Have an idea about Economic planning in India: achievement & failures,
- Understand monetary policy and fiscal policy
- Know about Foreign investment.

B.COM (VOCATIONAL)

SEMESTER 1

Computer Applications

Paper : Computer Fundamental and Logical Organization

- Learnt about the basic and advanced computer concepts, hardware and software.
- Gaining understanding about the power point.
- Be familiar with the concepts of input output devices.

Paper : Business Data Processing and PC Software-I

- Learn about the practical knowledge and working with windows, desktop, ms word.
- How to manage the files, excel functions, charts etc.

Office Management & Secretarial Practice

Paper : Introduction to Computer Application

After completing the course, the student shall be able to understand

- The components and characteristics of computers
- Computer software and its application
- introduction to operating system
- Introduction to google applications, spreadsheets, word processors, database management software
- Basic knowledge about networks
- introduction of LAN (Local Area Network) and WAN (Wide Area Network).
- Know the Concept and evolution of internet

Paper : Computer Fundamentals and Business Data Preocessing

After completing the course, the student shall be able to:

- Understand the Fundamentals of computer
- limitations and capabilities of computer
- know about windows
- understands number systems, overview and functions of operating system
- get an idea about Data processing in various business functions

Advertising, Sales Promotion and Sales Management

Paper : marketing communication-1

After completing the course, the student shall be able to:

- Understand the meaning and nature of communication
- Know about its process
- How to apply this process in marketing
- Know emerging trends

Paper : fundamentals of advertising

After completing the course, the student shall be able to understand:

- Importance of advertising in modern marketing
- Types of advertising
- Setting of advertising objectives and budget

Semester II

Computer Applications

Paper : Programming in “C”

After completing the course, the student shall be able to:

- Understand the fundamentals of C programming language.
- Understand the concept of various types of data handling technique
- Understand Arithmetic, logical, relational and bitwise operators and their hierarchy,
- How to develop simple programmes

Paper : Business Data Processing and PC Software-II

After completing the course, the student shall be able to:

- Learn about the concept of presentations
- Learn about the concept of DTP
- How to create stories in page maker software with publication.
- Understand different mobile applications
- To know about Statistical software

Office Management & Secretarial Practice

Paper : SHORTHAND (ENGLISH)THEORY

After completing the course, the student shall be able to:

- Know about the origin of shorthand with particular emphasis on pitman shorthand

- Understand definition and importance of stenograph
- Understand Consonants and Vowels.
- Know the concept of Diphthong
- Grammalogues and phraseography grammalogues,

Paper : SHORTHAND (ENGLISH)PRACTICAL

After completing the course, the student shall be able to:

- Write grammalogues/phrases to write in shorthand,
- write passage with a speed of 30 words w.p.m

Advertising, Sales Promotion and Sales Management

Paper : marketing communication-II

After completing the course, the student shall be able to:

- Know methods of marketing communication
- Understand personal selling, sales promotion
- Different strategies and method

Paper : creativity in advertising

After completing the course, the student shall be able to:

- Understand creativity in advertising
- Know about advertising message, advertising copy
- Know about elements of a broadcast copy

Semester III

Computer Applications

Paper : Fundamentals of Data Management Systems

- Data Management System and its concepts
- The concept of Normalization
- Know different methods to access SQL plan; DDL, describe command; DML, joining tables; break clause.
- The candidates should be able to work on Oracle

Paper : Data Structure

After completing the course, the student shall be able to understand

- The meaning of Data structure and array

- push/pop algorithms, and various List: single linked list, algorithm and double linked list and circular linked list concepts.
- to gain knowledge about practical aspect of Data Structure Using C Language

Office Management & Secretarial Practice

Paper: Typewriting Theory (English)

After completing the course, the student shall be able to understand

- Meaning of Carbon Manifolding
- Understand Stencil and related concepts
- The concept of duplicating

Paper : Office Practice & Communication

After completing the course, the student shall be able to understand

- Functions and importance of Office
- Know about different modern office appliances and machines
- Different methods of record management
- Filing and indexing
- Know about computers and word processor

Advertising, Sales Promotion and Sales Management

Paper : Personal selling and salesmanship-I

After completing the course, the student shall be able to understand

- meaning and importance of personal selling
- AIDA model of selling
- Know process of effective selling

Paper : Advertising media

After completing the course, the student shall be able to understand

- Meaning of advertising media and types of media
- Problems of teaching rural audience
- Know about media planning and factors influencing
- Know about media scheduling

Semester IV

Computer Applications

Paper : Programming In Java

- The concept of Java-
- GUI components- common GUI event types and listener interfaces - Joptionpane – JLabel – JTextField – JButton – Jcheckbox – JTextarea – JComboBox – Jlist – JPanel –
- Mouse Event Handling – Adapter Classes - Key Event Handling. Layout Managers – Flow layout, BorderLayout, GridLayout - Graphics and Java 2D - Graphics contexts and Graphics objects - Color control - Font Control – Drawing Lines, Rectangles and ovals - JSliderUsing menus with frames Practical
- The candidates should be able to write programmes for the simple business applications using Java Programming

Paper : Advanced Computer Applications

- The fundamentals of Networking
- internet services and hardware and software requirements for internet;
- learn about different browsers- internet explorer, mozilla firefox, opera, google chrome etc
- Information technology application in business,
- E-governance- concept and examples
- digitalization of services – income tax, digital lockers, etc. E-disha, etc., linking AADHAR to service
- Cyber Laws – IT Act 2000,
- The students will be able to use the e-governance services – digital locker, file income tax return, file various applications such as passport, access bank accounts, etc

Office Management & Secretarial Practice

Paper : Shorthand Theory and Practical

After completing the course, the student shall be able to understand

- Extended use of certain consonant
- Know Halving and doubling principle and their exception,
- Understand Prefixes, suffixes, contraction and intersections
- Learn note taking techniques and transcription on typewriter

Paper : Office Practice & Communication Theory & Practical

After completing the course, the student shall be able to understand

- Meaning and importance of mails
- Different types of mails
- Know about office correspondence
- How to prepare different letters

Advertising, Sales Promotion and Sales Management

Paper : Personal selling and salesmanship-II

After completing the course, the student shall be able to understand

- Qualities of successful salesperson
- Distribution Network Relationship
- Get an Idea About Others Problem in Selling

Paper : advertising operations

After completing the course, the student shall be able to understand

- Advertising department and functions. Evaluation
- methods of measuring advertising effectiveness:
- An overview of legal framework governing advertising in India and (ASCI) Code
- The concept of Advertising agencies and its functions

Semester V

Computer Applications

Paper : System Analysis & Design

After completing the course, the student shall be able to understand

- The concept of SAD its characteristics, elements, types of system, system development life cycle; techno-economic feasibility.
- role of system analyst
- about form design
- The candidates will be able to develop a systems design, in their vicinity using computer applications

Paper : Web Technology

After completing the course, the student shall be able to understand

- Internet basic –like introduction to HTML, tags- list - creating table - linking document frames - graphics to HTML doc - style sheet - style sheet basic - add style to document - creating style sheet rules - style sheet properties - font - text - list - color and background color - box - display properties.
- Introduction to Java Script - object model - introduction - object in HTML - event handling - window object - document object - browser object - form object - navigator object screen object - build in object - user defined object- cookies
- How to Create Web Page and Scripts

Office Management & Secretarial Practice

Paper : Office Practice

After completing the course, the student shall be able to understand

- Meaning of Office stationery
- The concept of Meeting
- The working knowledge of making use of information from different sources like telephone directory, post office guide, railway time table, telegraphy, internet., etc
- How to make travel arrangement (offline and online)
- How to prepare tour programme, railway and air reservation booking, hotel accommodation, fitting of form for tour advance, preparing TA bills

Paper : Typewriting (ENGLISH)

After completing the course, the student shall be able to understand

- How to write A passage of 800 words to be typed in twenty minutes at the speed of 40 w.p.m. 16 Marks
- How to write A letter of 400 words to be typed in twenty minutes
- How to make A tabular statement of not more than four columns and fifteen items to be typed in twenty minutes with proper display

Advertising, Sales Promotion and Sales Management

Paper : Management of Sales Force-1

After completing the course, the student shall be able to understand

- Importance of Sales Force
- Retirement, selection, Training Direction, Motivation
- Know about performance appraisal

Paper : Sales Promotion & Public Relations-1

After completing the course, the student shall be able to understand

- Nature and importance of sales promotion
- Forms of sales promotion
- Know about major tools of sales promotion

Semester VI

Computer Applications

Paper : Social Networking & Data Analysis

After completing the course, the student shall be able to understand

- The concept and applications of Social networking like : Facebook, twitter, linked in, Instagram, blogging etc.,
- Different trends in social media,
- social and ethical aspects of social networking
- about privacy issues, security, data protection, etc
- the concept and evolution of Big data and Hadoop linear regression, classification, clustering, time series, etc.
- how to make a profile on social networking and perform elementary data analytics for the same.

Paper : Enterprises Resource Planning

After completing the course, the student shall be able to understand

- The concept and functions of Enterprise
- Concept ,origin and need of ERP
- business process reengineering and management information system

Office Management & Secretarial Practice

Paper : Computer Application Theory

After completing the course, the student shall be able to understand

- Meaning of Computer and its application to business
- The concept of Configuration, windows operating, file management and disc management
- MS Office: MS Word, MS Excel, MS PowerPoint Various operating systems

Paper : Shorthand (ENGLISH) Practical

After completing the course, the student shall be able to understand

- How to write letters and passage at the speed of 80 w.p.m. which is to be typed on the typewriter/computer within a period of 25 minutes

Advertising, Sales Promotion and Sales Management

Paper : Management of Sales Force-II

After completing the course, the student shall be able to understand

- Meaning of sales planning and sales budget
- Know about sales territory and sales quota
- Ethical considerations in sales force management

Paper : Sales Promotion & Public Relations-II

After completing the course, the student shall be able to understand

- How to develop sales promotion programmes
- Meaning importance of public relations
- Major tools of public relations
- Ethical and local aspects of sales promotion and public relations

Course Outcomes of BBA

Semester 1

Business Organization

- Understanding the concept, nature, business ethics and values of business organization
- Distinctive features of different forms of business organization; sole proprietor.
- registration, partnership deed, partner's rights, duties and liabilities, dissolution of partnership.
- Joint stock company-Concept characteristics types, formation of company.
- Multinational companies-concept and role of MNCs
- Co-operative and state ownership: forms of organization, nonprofit organizations.
- A brief introduction to working and functioning of trade associations

Business Accounting

- Basic Accounting- Nature, scope and objectives of accounting; accounts as information System, users of accounting information.
- Journal and Ledger: Double Entry System; Journal and recording of entries in journal
- Ledger – Posting from Journal to respective ledger accounts.
- Trial Balance: Need and objectives; Application of Trial Balance
- Rectification of errors.
- Final Accounts: Concept of adjustment; Preparation of Trading Account and Profit and Loss
- Account. Preparation of Balance Sheet.
- Advance Tally version

Managerial economics

- Understanding the meaning nature and scope of Managerial economics
- To know about opportunity cost, marginal and incremental principles.
- To know about Theory of demand: Nature of demand for a product, individual demand, market demand, determinants of demand. Law of demand, Elasticity of demand and its determinants.
- Theory of Consumer Behavior: Cardinal Utility analysis, indifference curve analysis,
- Applications of indifference curves.

- Theory of production and costs
- To understand the important properties of indifference curve and isoquant curve.
- Computation of price, output and equilibrium under perfect competition.
- Computation of price, output and equilibrium under monopoly competition.
- Computation of price, output and equilibrium under monopolistic competition.
- Computation of price, output and equilibrium under oligopoly

Business Mathematics-I

- Set theory, logical statement and truth tables, linear and quadratic equations.
- Permutations and combinations. Binomial theorem, Limit and continuity, differential calculus (including maxima and minima)
- Matrices: Meaning and elementary operations on matrices, inverse of a matrix, solution to linear equations using Cramer's rule and matrix inversion method

Hindi

- Official language and communication skills
- Students will be able to understand fundamentals principles of Hindi language.
- They will acquire a deep Knowledge of official Hindi
- Students were able to enhance their Knowledge /potential by writing essays/ articles on various issues.
- The students were made aware about the history of technical words
- Through the method of translation, they were prepared to represent themselves at a professional level.
- They were given practical as well as theoretical knowledge communication skills in Hindi.

Computer Fundamentals

- Understand the concepts of computer, its Components, Types, history
- Types of Computer Memory, Operating systems
- Language Processor: - Assembler, Compilers and Interpreters.
- Understanding the concept of Network:-LAN,WAN, MAN.
- Window-features, types.
- Introduction to Internet: Internet basic, benefit and limitation, application and scope
- Introduction to MS-Office

SEMESTER-II

Principles of Management

- To understand the concept, nature, process and significance of management and Development of
- management thought
- Understanding of Planning, Organizing ,directing , staffing and controlling
- Know about Communication ,Social responsibility and business ethics
- Having the knowledge of scope of management
- Know about management by objectives

Analysis of Financial Statements

- Student will able to know the process of analysis and interpretation of financial statements.
- They may understand the different types of ratios .
- Preparation and analyses of cash flow and the funds flow statements.

Managerial Economics-II

- Understand the Concept of Macro economics.
- To know about National income; Concepts and measurement. Classical theory of output and employment
- Get an idea about Keynesian & Friedmannian theory of income determination, Theory of investment:
- To know about determinants of Macro equilibrium with aggregate demand and aggregate supply functions
- Understand the Concept of multiplier and Inflation
- Stabilization policies: Monetary and fiscal policies.

Understanding Social Behaviour

- Understanding the basic concepts of sociology
- Meaning of Social Structure and Processes and its Types
- Know about Social Institutions and Their Functions
- Elaborating the social process
- Know about social institution and functions.
- Knowledge of socialization
- Having knowledge of social action of sociology
- Getting an idea about social changes
- Grasping the social problems and their causes and remedies
- Knowing about family, religion and marriage
- Understanding the caste of sociology
- Know about attitude formation, values and norms
- Elaborating the power and politics

- The Relationship Between Man and Society.

Business Mathematics-II

- Plane Analytical Geometry: Cartesian Coordinate systems, Length of line segment, section formula (Ratio), equation of a straight line.
- Arithmetic, Geometric and harmonic progressions.
- Integral calculus: Integration as an inverse of derivative, integration by substitution method and by parts, indefinite integral and definite integral and its application in business
- Logarithm, Law of operations, log tables, compound interest, depreciation.

Business Communication-I

- Understand the meaning & importance of communication and Barriers
- Knowledge of writing and listening presentation and writing skills
- Understand the Importance of non-verbal communication – positive gestures, symbols and signs

Semester III

Understanding Human Behaviour

- Understanding the concept of Human Behaviour
- Knowledge of different Behavioural Approach
- Understanding the concept of Personality and theories
- Understanding the concept of Motivation
- Understanding the concept of perception and emotions
- Having the knowledge of learning and its theories

Micro Business Environment

- Understanding the Business environment and its types
- Understanding the concept of Environmental Scanning and risk factor
- Get knowledge about Economic systems and Economic planning in India:
- Economic roles of government
- Understand the Social responsibility of business
- Knowledge of MRP Act and Competition Act.

Business Statistics-I

- Understanding meaning, scope, functions, importance, limitations and distrust of statistics
- Types of statistical methods and data: primary and secondary
- Understanding mean, median, mode,
- Knowledge of Measures of dispersion and skewness
- Meaning and importance of Business forecasting uses of index numbers.
- Technique of selecting a suitable sample using Sampling, types of sampling and reliability of these methods.
- Meaning and importance of business forecasting.
- Introduction to Index numbers and methods of constructing index numbers.
- Practical knowledge of all statistical techniques in Microsoft Excel.

Management Accounting

- Understanding the concept of management accounting
- Management Accounting v/s Financial Accounting,
- Knowledge of Cost Accounting
- Knowledge about Budgets and Budgetary Control
- Marginal Costing: Break- even -analysis and Decision Involving alternate choices.
- Standard Costing: Types of variances and their implementation. Management Accounting
- Knowledge of Control Techniques
- Introduction to Responsibility Accounting.
- prepare a master budget and demonstrate an understanding of the relationship between the components.
- Perform cost variance analysis and demonstrate the use of standard costs in flexible budgeting.
- Outline and apply management tools and techniques such as the balanced scorecard, operational performance measures, quality, and environmental cost management.

Fundamentals of DBMS and ORACLE

At the end of this course, student will:

- Be able to model applications data requirements using conceptual modelling tools like ER diagrams & design database schemas based on the conceptual model.
- Analyze a problem, identify & define the computing requirements appropriate to its solution.
- Students can use current techniques, skills & tools necessary for computing practice.
- Can design & implement a database schema for a given problem- domain
- Declare & enforce integrity constraints on a database using RDBMS.
- Programming PL/SQL including stored procedures & functions.

Business Communication-II

- To know about the Importance and Nature of Business Communication, Effective Communication Skills
- Understand Barriers and Gateways in Communication.
- Knowledge of writing skills
- Deep knowledge of the concept of Communication
- Understanding the concept of public speaking
- Knowing about listening and negotiating
- Knowing about the interviews and meeting
- Giving an idea on mechanisms of writing skills
- Understanding the concept of effective listening
- Knowledge about the telephonic and face to face conversation
- Understanding the concept of organization communication

Semester IV

Human Behaviour at Work

- Understanding the concept of Behaviour at Workplace Group
- Detailed knowledge of Group Dynamics in Workplaces, Group Cohesiveness.
- Group Conformity; Group Obedience; Group Morale; Group Performance, Group decision-making
- Understanding the concept of Interpersonal Communication
- Know about Verbal and Non-Verbal Communication
- Elaborating 7 C's of Effective Communication
- Understanding Group synergy, Team building

Macro Business Environment

- Understanding the concept of Liberalization, privatization, and globalization
- Knowledge of Industrial policy of India-
- Understand concept of monetary and fiscal policies and their role in economy
- The importance of foreign trade in domestic economy and how to enhance its volume and direction in Indian market
- Understand the role of MNCs and their foreign government for collaborations with
- Indian Companies and Indian Government for better trade relations
- Knowledge of Exim policy of India and its impact on Indian exports & imports in various sectors.

Business Statistics-II

- Introduction to Linear Regression and how it is used in determining the statistical relationship between two or more variable.
- Comparison of correlation & regression and properties of regression lines.
- Estimation of error and variance using total, explained and unexplained variance.
- Introduction to definition and significance of Probability and its types (Joint, marginal & conditional).
- Become familiar with terminologies of probability.
- Learn about theories of probabilities.
- Study of numerical data points in successive order i.e. Time Series, its components, analysis and measurement of trend.
- Understanding Hypothesis Testing by measuring and examining random sample of the population.
- Practical computation of all statistical techniques in Microsoft Excel

Marketing Management

- Knowing about Marketing Management and marketing environment.
- Understanding Marketing Information System and Marketing Research
- Understanding of Consumer Behaviour-
- Knowledge about Branding and Packaging decision.
- Knowledge about Pricing
- Knowledge about Distribution Channels
- Knowledge about Promotion and promotion Mix
- Understanding of Marketing organization and control.

Financial Management

- Understanding of importance of Financial Management subject for students.
- Knowledge of financial management as a functional area of management.
- Understanding of three core decisions of financial management i.e. investing, financing and dividend decisions.
- Implications of core financial decisions.
- Importance of key objective of firms i.e wealth maximization of all stakeholders.
- Learn the concept of cost of capital and accordingly proceed with the financial planning of firm.
- Capital Budgeting process and the importance of investment decisions.
- Understand how to decide Capital Structure and how a firm finances its overall Operations and growth.
- Knowledge of different long-term sources of finance.
- Process of deciding dividend pay-out for the shareholders.
- Concept of working capital and its importance.

Principle of Material Management

- Knowledge of Material Management
- Understanding of Material Planning
- Understanding of Material Budget.
- Knowledge of Objectives of Purchasing. Legal Aspects of Purchasing.
- Concept of Value Analysis and Value Engineering. Quality Assurance. Incoming Quality Control.
- Concept of Statistical Quality ,Inventory Management and Control System. Stores Management and Operation. Material
- Knowledge of Handling. Physical Distribution Logistics. Transportation. Operation research.
- Deep understanding of Management Information System.

Semester V

Business Law-I

- Knowledge of major provisions of the act relating to Contracts, Indemnity and Guarantee, Pledge & Bailment and Agency.
- Understanding of Indian Sales of Goods Act, 1930, legal aspects relating to formation of contract of sales and their classification.
- Different aspects related to Sales of Goods Act such as Price, conditions and warranties.
- Understanding of procedure of transfer of property in goods.
- Measuring performance of the contract of sales, unpaid seller and his rights.
- Negotiables Instruments Act 1981,: Importance and Implication.

Principles of Retailing

- Know about Meaning and importance of retailing in the Indian economy
- Understanding the concept of retail
- Understanding about customer buying process and factors affecting buying decision process
- Knowledge of Store Location And factors for choosing a location.
- Concept of Store layout and Design
- Knowledge of Retail Merchandising

Principles of Banking

- Understanding the concept of bank along with its functions
- Having the knowledge of classification of banks
- Detailed knowledge of concept and functions of bank management

- Getting an idea about legal framework regulations of banks
- Understanding the bank regulations act
- Overview of Reserve Bank of India and its policies
- Elaborating functions, structure and recent developments in Central Banks
- Giving overview on banking forms
- Detailed knowledge of corporate banking
- Understanding the concept of rural banking
- Knowing about the retail banking
- Overview on banking reforms in banking
- Understanding the banker- customer relationship
- Detailed knowledge of payment and collection of cheques
- Knowledge about banking technology

Fundamentals Of E Commerce

- Demonstrate an understanding of the foundations & importance of E- Commerce
- Demonstrate an understanding of retailing in E-Commerce by analyzing strategies & assessing effects of disintermediation.
- Analyze the impact of E-Commerce on business models & strategy.
- Describe Internet trading relationships including Business to Consumer, Business to Business etc.
- Describe the key features of Internet, Intranets & Extranets & explain how they relate to each other.
- Discuss privacy issues in E-Commerce.
- Assess electronic payment systems.
- Recognize & discuss global E-Commerce issues.

Export Procedure And Documentation

- How to Enter Export Business
- Knowledge about Key Documents Required in Export Business
- Understanding different Methods of Payment in International Business.
- Concept of INCOTERMS.
- Understanding of Institutional Infrastructure for Indian Exporters.
- Knowledge of EXIM Policy.
- How to Manage Risk in Export Business

Principles Of Production Management

- To gain an understanding and appreciation of the principles and applications relevant to the planning, design, and operations of manufacturing/service firms.

- To develop skills necessary to effectively analyze and synthesize the many interrelationships inherent in complex socio-economic productive systems
- To reinforce analytical skills already learned and build on these skills to further increase your "portfolio" of useful analytical tools for operations tasks.
- To gain some ability to recognize situations in a production system environment that suggests the use of certain quantitative methods to assist in decision making on
- operations management and strategy
- To understand how Enterprise Resource Planning and MRPII systems are used in managing operations
- To increase the knowledge and broaden the perspective of the world in which you will contribute your talents and leadership in business operations.
- To understand the managerial responsibility for Operations, even when production is outsourced, or performed in regions far from corporate headquarters.
- Understand the core features of the operations and production management function at the operational and strategic levels, specifically the relationships between people, process, technology, productivity and quality and how it contributes to the competitiveness of firms.
- Get an idea on the various parts of the operations and production management processes and their interaction with other business functions (strategy, engineering, finance, marketing, HRM, project management and innovation)

Semester VI

Entrepreneurship Development

- To understand the Meaning, Nature and Scope of Entrepreneurship
- To know about the Qualities of a Successful Entrepreneur.
- Relatedness of economic development and entrepreneurship development.
- Classroom scenario creation for venture capital.
- Role of Government and non-Government agencies in Entrepreneurship development.
- Classroom division for creating various stages in venture capital.
- To understand different Entrepreneurial Strategies and
- Business Plan Development.

Business Law-II

- To study the role and importance of company in Indian Companies Act 1956
- To understand how articles and memorandum of association are important
- To have basic knowledge of prospectus which is required when you start your own company
- To analyze the legal rule and borrowing powers and qualities of directors and managers for setting up a new venture

- To gain knowledge of how to work under pressure in companies and how to deal with oppression and mismanagement.
- To understand legal implications in formation of company and how to wind up the company in event of losses.
- To known about Securities Exchange Board of India Act 1992

Logistics Management

- To understand the meaning, Concept, Scope, Role & Importance of logistics ,
- To gain knowledge about objectives of logistics management.
- To study Customer Service: concept & practices
- To understand Supply chain management, Order processing
- To gain knowledge about Warehousing, Inventory Management ,Transportation
- Role of technology in logistics, logistics performance measurement & control

Principles of Insurance

- To Understand the meaning of insurance.
- Students will be able to understand the meaning of life insurance ,General insurance
- Types of risks assumed, and specific policies issued by general insurance companies.
- Different life insurance policies issued by LIC.
- Analysis the private sector life insurance companies.
- Methods to calculate the surrender values.

Introduction To Financial Services

- To study the Meaning, importance, types of financial services
- To know about Merchant banking, its functions & activities
- To have basic knowledge of credit rating agencies for rating and accreditation of companies
- To understand how to protect yourself from credit and debit cards frauds, cyber-attacks and various other issues
- To gain knowledge of Mutual funds

Course Outcomes of M.Com Semester-I

Paper : Organizational Behaviour

- To understand different concepts, history and significance of OB.
- To understand Personality, learning groups, transactional and other analysis.
- To know about self-awareness, ego status and strokes.

- To understand group dynamics

Paper : Business Environment

- gains the knowledge of environment in which business operates.
- to know about Various steps involved in environment scanning.
- Critically evaluate the economic policy of India.
- understand fiscal and monetary policy.
- Appreciating the role of small-scale industry in India.
- Gain knowledge about Environment (Protection) Act; Consumer Protection Act; Competition Act; Foreign Exchange Management Act; Right to Information Act.

Paper : Managerial Economics

- Understanding the basic concepts, demand, and elasticity of demand.
- Computation of price, output and equilibrium under perfect market, monopoly, monopolistic and oligopoly markets.
- To understand Various theories of business cycles.
- Gain knowledge about inflation ad various measures to control it.

Paper : Company Law

- To understand the meaning and types of companies
- To understand how company is a separate legal entity and discuss the doctrine of lifting the corporate veil.
- Gain knowledge about prospectus
- Privileges and exemptions to private companies.
- Discuss the concept of memorandum of association, article of association as prescribed by the act.
- To understand the concepts of shares
- To understand the concept of winding up of the company, Amalgamation, reconstruction
- To know about Directors and Company meetings

Paper : Accounting For Managerial Decisions

- Understand the basic concept of management accounting.
- Knowledge of MIS.
- To know about the divisional performance's measurement.
- To know about Kinds of budgets and formations.
- Concept of marginal costing and breakeven analysis.
- Contemporary issues in management accounting.

Paper : Marketing Management

- To understand what marketing management and its importance
- Evolution of marketing, marketing research process.
- Understanding consumer behavior and its determinants.
- Understand the process of new product development.
- Concept of Promotion, pricing, distribution strategies.
- Understanding the concept of direct and online marketing.

Semester-II

Paper : Human Resource Management

- Understand the concept of HRM and its functions, objectives and significance.
- To understand the study of domestic and international HRM
- Factors affecting international HRM.

Paper: International Business Environment

- Understanding of basic concepts of international marketing, functions of MNC's
- Analyzing the impact of technological environment.
- Understanding and working of International economic institutions: WTO, UNCTAD, IMF, World Bank
- gain knowledge about Regional economic co-operation
- Impact of Foreign Exchange Markets

Paper : Strategic Marketing

- Understand the concept of strategic management.
- Analyzing environment using different strategies
- knowledge about Marketing strategies for new market entries; marketing strategies for growth markets; marketing strategies for mature markets and declining markets.
- Criterion for evaluation of strategy and control process.

Paper : Financial Management And Policy

- Students get to know the meaning, nature and scope of financial management.
- Time value of money and its techniques.
- Students gain the understanding of developments in financial management.
- How to compute the cost of capital
- Concept of Working Capital Management
- Concept of capital budgeting

Paper : Corporate Accounting

- Knowledge about issue and forfeiture of shares and its computations.
- Explanation of final accounts and formation.
- Comprehensions of amalgamation, external and internal reconstruction.
- Human resource accounting and its various methods of valuation.

Paper : Business Statistics

- To understand regression and correlation.
- Explain the concept of multiple regressions, partial and multiple correlation
- Various test of adequacy of index numbers formulae.
- Understanding time series
- Knowledge of normal, Poisson and binomial distribution.

Semester-III

Paper: Advanced Financial Management

- Basic understanding about the determinants of dividend decisions.
- Concepts of capital structures and determinants.
- Understanding the concept of leverage
- Techniques of corporate restricting.

Paper : Computer Applications In Business

- It prepares students to use the various computer software to be used in business.
- The emerging role of computers in business irrespective of its nature and size.

Paper : Entrepreneurship Development

- Having knowledge of different ED's programs.
- Increasing role of Small-scale industries
- How to prepare Project Report on Managerial and Operational aspects of small business
- To know about Personal Protection Equipment (PPEs) for safety at workplaces.

Paper : Marketing Research

- Students gain the understanding of the need and importance of marketing research.
- To understand different types of data
- Various problems associated with market research.
- Sample design, questionnaire design and techniques in scaling.

Paper : Financial Institutions And Markets

- Gaining the understanding of financial system and financial markets.
- Knowledge about money market and capital market.
- Understanding the working of various bodies involved in the development of financial markets.

Paper: Advertising Management

- Understanding meaning and importance of advertising
- Concept of communication process
- Knowledge of different aspects of advertising
- To understand copy development and testing
- Concept of media planning

Semester-IV

Paper : Project Planning And Control

- Understanding the knowledge of investment opportunities, generation of screening ideas, and feasibility study of project planning.
- Analyzing the demand for project.
- Deciding capital structure and computation of profitability of the project.
- Evaluation and review of project by using PERT/CPM.

Paper : IT and E-Commerce

- Understanding the Meaning of electronic commerce, its business applications
- comparison with traditional commerce
- various Business models in E-commerce
- to gain knowledge about e-banking
- to know about Tools to conducting online research

Paper: Corporate Tax Planning and Management

- Understanding the Concept of tax planning, avoidance, evasion & management.
- Computation of total income and tax liability of companies.
- To know about Tax planning and financial management decisions
- To know about Tax provisions relating to free trade zones, special economic zones, infrastructure sector and backward areas, tax incentives for exporters.

- Tax issues and planning in respect of amalgamation of companies, mergers & acquisition

Paper: Sales Management

- To understand the meaning, Objectives and functions of Sales Management
- Concept of Personal Selling
- To know about Sales Planning, Sales forecasting, Sales budgeting.
- Get an idea about Territory and Quota Management
- To gain knowledge about how to Manage the Salesforce
- Ethical issues in sales management

Paper: Service Marketing

- To know about Services Marketing, Customer expectations of services; Customer perception of services.
- To understand the concept of Relationship Marketing
- Concept of Service Development
- Different approaches and pricing strategies
- how to Manage Service Employees
- To understand strategies for enhancing customer participation
- To gain knowledge about Customer protection and ethics in services.

KVA DAV COLLEGE FOR WOMEN, KARNAL



Bachelor of Arts

KVA DAV COLLEGE FOR WOMEN, KARNAL



Department of History

PROGRAMME SPECIFIC OUTCOME

- There are different scopes in different areas like sericulture department as demonstrator, care taker of the farm, trainer for others, etc.
- Archeologist: Archeological Survey of India with private Firms related to archeology.
- Historian: With so much debate over the authenticity of historical books, there is ever increasing demand for historians.

COURSE OUTCOMES

(Semester-I)

Paper- From the Earliest Period to Gupta Period

This course will enable the students to

- List the sources and evidence for reconstructing the history of Ancient India.
- Discuss the main features of Harappan and Saraswati Civilization.
- Analysis the way of earlier historians interpreted the history of India and while doing so they can write the alternative ways of looking at the past.
- Analysis Vedic polity and state, rise of Magdha Empire.
- Examine the Mauryan polity under Chandra Gupta Maurya and Ashoka.
- Discuss the Achievements of Kushanas and Satvahanas.
- Examine the expansion of Gupta Empire under Samudragupta and Chandragupta- II.

(Semester-II)

Paper- From Sixth Century to 1526 CE

This course will enable the students to

- Describe the achievements of Harshvardhana, Chalukaya and Kushana.
- Explain the rise of Rajputs
- Explain features of feudal society and economy
- Impacts of Invasions of Mahmood Ghaznavi and Muhammad Ghori on society and economy.
- Discuss the expansion of Delhi Sultanate under Qutubuddin Aibek, Iltutmish, Balban, Alauddin Khilji and Muhammad Tughlaq.
- Analysis the main features of Administration and Iqta System under Delhi Sultanate.
- Throw light on the administration of Bahmani and Vijaynagar.

(Semester-III)

Paper- Political History of India (1526-1857)

This course will enable the students to

- Describes the establishment of Mughal Empire under Babur and Humayun.
- Describe the administrative reforms of Shershah Suri.
- Describe the relation of Mughals with Rajputs.
- Throw light on the Deccan Policy of Aurangzeb, Administration of Mughals with special reference to Land Revenue System.

- Write an essay on the Mansabdari and Jagirdari systems.
- Describe the emergence of regional powers in Maharashtra, Bengal and Punjab.
- Discuss the circumstances of the battles of Carnatic and establishment of British Rule in Bengal.

(Semester-IV)

Paper- Indian National Movement 1858-1947

This course will enable the students to

- Discuss the emergence and growth of national consciousness among the Indians.
- Analysis the circumstances of the formation of Indian National Congress.
- Throw light on the Ideology, Programmes of Moderates and Extremists.
- Describes the circumstances of the partition of Bengal and emergence of Swadeshi and Boycott Movement.
- Throw light on the Home Rule Movement.
- Describe growth of Revolutionary Movement during 1905 - 1919.
- Describe the circumstances of the formation of Muslim League and its role in communal politics during 1906 – 1919.
- Write an essay on Rowlett Satyagrah and Jallianwala massacre.
- Describe the main features of the Government of India Act of 1919
- Discuss the emergence of Mahatma Gandhi in Indian politics.
- Analysis the circumstances and expansion of Non-Cooperation Movement.
- Throw light on the ideology, programme of Moderates and Extremists.
- Describe the role of Bhagat Singh and HSRA in national movement.
- Throw light on Round Table Conferences and Poona Pact.
- Describe the causes and growth of Civil Disobedience Movement.
- Describe the circumstances and expansion of Government of India Act of 1935
- Write an essay on Subhash Chandra Bose and INA in National Movement.
- Critically examine the growth of communal politics and role of Muslim League in the Partition of India

(Semester-V)

Paper- Rise of Modern World

This course will enable the students to

- Throw light on Scientific Revolution.
- Describe the causes, development and impacts of Agrarian Revolution.
- Explain the main causes and development of American war of independence.
- Describe the main causes, development and impacts of Industrial Revolution.
- Throw light on causes and consequences of French Revolution.
- Write an essay on Parliamentary Reforms in England.
- Critically examine imperialism in Africa.
- Throw light on the formation of Triple Alliance and Triple Entente.
- Describe the main causes and consequences of World War-I.
- Describe the main causes and consequences of Bolshevik Revolution in Russia.
- Write an essay on Nazism and Fascism.

- Describe the main causes and consequences of World War-II.

(Semester-VI)

Paper- History of Modern Europe (1789-1919)

This course will enable the students to

- Throw light on causes and consequences of French Revolution.
- Describe the emergence and decline of Napoleon Bonaparte.
- Explain the main conditions and significance of Congress of Vienna.
- Describe the nature and impacts of the concert of Europe.
- Discuss the nature and growth of Metternich system.
- Write an essay on unification of Italy and Germany.
- Critically examine foreign policy of Bismarck.
- Throw light on the formation of Triple Entente.
- Describe the circumstances of partition of Africa.
- Describe the main causes and consequences of World War-I.
- Describe the main causes and consequences of Bolshevik Revolution in Russia.
- Write an essay on the treaty of Versailles and its consequences.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Home Science

B.A HOME SCIENCE

COURSE OUTCOMES

FAMILY RESOURCE MANAGEMENT

COURSE No. 101

Explain the significance of management in day-to-day life and enumerate the steps involved in the management process;

- Identify the motivating factors in management and discuss the role of decision - making in the management process.
- Explain the terms ‘resources’ and ‘management’ identify, describe the characteristics and classify resources and describe ways of maximizing satisfaction from the use of resources;
- Awareness on the importance of consumer education and management at individual and family levels
- Awareness among the consumers about their problems, rights, responsibilities and food adulteration
- To create an awareness on the importance of management at individual and family levels
- To understand the basics of management to help in identifying and understanding the application of principles of management for different resources
- To create awareness on the importance of consumer education and management at individual and family levels
- To create awareness about human and non –human resource.
- To introduce students about concept and scope of home science.
- To create awareness about elements and principles of art
- Awareness on the importance of layout of different rooms in a house.
- Students also learn types of flower arrangement

HEALTH AND HYGIENE

COURSE No. 102

- . Student learns the concepts
- Imparting knowledge regarding Infections, diseases and immunization so that they can keep their families protected.
- Educating them how to maintain high levels of personal hygiene.
- Introducing concepts of mental health, positive health and school hygiene.
- Informing about national health related programmes.
- Knows the importance of health and hygiene
- Understands the importance of water hygiene.
- . Knows the properties of a healthy and clean water.
- Knows the negative effects of hard water.
- To create awareness about water purification (by household and natural methods)
- Students learn about first aid meaning and importance
- This subject create awareness about :
- Infections types infective agents, period of infectivity.
- Types of diseases and their mode of spread.

Human Physiology
COURSE No. 201

- Students understand their own body: its structure and functions.
- Learners gain knowledge regarding different systems of human body viz. skeletal system, respiratory, digestive, nervous, endocrine, circulatory, excretory and reproductive systems, etc..
- The paper will help in caring and maintaining their own and their families' physical being.

Clothing and Textile
COURSE No. 202

- Introduces students to different natural and man- made fibres, their properties, production processes and by that knowledge the course prepares them to be better buyers and informed consumers and to enter the fibre processing section of textile industry.
- Imparts knowledge regarding yarn making, fabric making methods and prepares students to enter the fabric manufacturing section of textile industry.
- Introduces students to modern laundry equipments, supplies and processes and thereby, help them in better care of fabric products.
- Imparting knowledge regarding basic and special finishes given to fabrics to improve their aesthetics and functionality and thereby, enables them to know about fabric processing section of the textile industry.
- Introduces students to sewing equipments, their use and care. Imparts knowledge regarding different design development techniques thereby, helping them to move forward in fashion designing field.
- Make students learn clothing requirements of different family members according to age, occupation, occasion, physiological conditions, etc. and thereby enabling them to become good wardrobe planners.
- Impart knowledge regarding principles and elements of apparel design and thereby, making them well equipped for fashion designing.
- Introducing students to the rich heritage of Indian Traditional Textiles and Embroideries so that they can be inspired with them for future textile designing.
- Imparting knowledge regarding parameters of selection of household linens so that they can make wise choices in the market place.
- Entrepreneurial Techniques in handicrafts, textile design and fashion design are promoted.

Foods and Nutrition
COURSE No. 301

- Food science involves the study of physical, chemical and biological factors that constitute food. This paper provides knowledge of food functions, food groups, cooking methods and ways of improving nutritional value of food.
- Basic concepts of chemistry that are useful in nutrition science are introduced.
- This paper educates about functions, sources, recommended dietary allowances, effects of excess and deficiency of various micro and macro nutrients in food. Students will be given the basis for the next step of diet planning.

- Biochemical study of nutrients and enzymes present in human food. It forms the basis for understanding their importance in maintaining goodness of food and health.
- Dietetics is the branch that deals with the study of diets in health and disease. Students learn planning, calculation and preparation of diets for various age groups and physiological conditions. Knowledge is imparted regarding causes, symptoms, dietary modifications, prevention and nutritional management in various diseases. This prepares students to become future dietitians.

Human development

COURSE No. 302

- Introducing the field of human development explaining stages and areas of development. Imparting knowledge regarding different methods used to study lifespan development among human beings.
- Understanding prenatal and postnatal development in humans. By this the students will carry their pregnancy in a better way and will care for their infants effectively. Moreover, common ailments of childhood are also discussed in this paper.
- Making aware with national programmes for women and children and programmes for poverty alleviation so that they get benefits.
- Understanding Physical, Motor, Emotional, Cognitive, Moral, Language, Personality and Social Development in childhood and adolescence. Making students aware about importance of Play in child's life. Common behavioural problems and their remedies in various stages of life are explained which empower the students to help their dear ones and pupils to come out of their problems. By learning these students may become better parents and teachers.
- Child psychology, Learning methods, Concept of intelligence and its measurement also form part of the syllabus which make students understand childhood in a better way.
- Entrepreneurial Techniques in childhood educational material are promoted.

PRACTICALS:

Practical

SEM 1

1. Students learn flower arrangement for different occasions - Fresh & Dry
- 2 Learners gain knowledge about preparation of one drift wood for making dry flower arrangement.
- 3 Learn how to make different types of Rangolies
- 4 student learn Pot making – by painting and by decoration
- 5 Table manners & Table setting including napkin folding and menu card are taught.
6. Drawing of layout plans for different rooms

Practical

SEM 2

1. Cleaning & polishing of - Brass, Copper, Silver, Aluminum, Steel, Leather, wood, and glass articles are taught.
2. Student learn preparation of polishes for i) wood (ii) leather
3. Preparation of two articles of interior decoration by students.

4. Impart Knowledge of Immunization Schedule Survey in PHC and local hospitals by students.
5. Acquaintance with First aid techniques

**Practical
SEM 3**

- A. Study of different parts of sewing machine its care defect and remedies are taught.
- B. Samples - Basic stitches – tucking, running stitches, hemming, and button hole stitch. - Seams- plain seam, run and fill seam. - Processes-gathers into a band - Darts (Knife and box) - Placket opening (continues, wrap and two piece placket) - Pen tucks and cross tucks are prepared by students.
- C. Students also learn Embroidery – article of fancy embroidery using stitches are prepared.
- D. Knitting- Following of knitting instructions preparation of two samples of knitting with different designs are prepared by students.
- E. student also learn Tie and Dye (one article) samples using different methods are prepared.

**Practical
SEM 4**

- A. Students learn how to take body measurements of different body types.
- B. Understanding Drafting of the following: 1. Child's bodice block and its adaptation to a gathered frock. 2. Adult's bodice block and its adaptation to their choice garments 3. Drafting of salwar or petticoat, blouse/nighty and kameez.
- C. Understanding Drafting and stitching of following garments: 1. Frock gathered with sleeves (3 to 8 years old) 2. Salwar or Petticoat (any one) 3. Kameez or Nighty/Blouse (any one)

**Practical
SEM 5**

Lab - I 1. Knowledge is imparted regarding causes, symptoms, dietary modifications, prevention and nutritional management in various diseases

Students learn planning, calculation and preparation of diets for various age groups and physiological conditions like

- a) Pre-school and school going child.
- b) Adolescents boys and girls.
- c) Adult belonging to low, middle and high income group.
- d) Pregnant and lactating mother

2. Planning and preparation of invalid diets for the patients suffering from:

- a) Typhoid fever.
- b) Diarrhea.
- c) Constipation.
- d) Diabetes.
- e) High blood pressure.

**Practical
SEM 6**

- A. Imparting knowledge about preparation of various dishes under following heads using different method of cooking. - Desserts - Snacks - Using the methods of baking, frying, grilling
- B. Preparation of various dishes under following heads using different method of cooking. - Salad and salad dressing - Indian and continental - Packed lunch and picnic lunch.
- C. Students learn Food preservation of Pickle, Chutney, Jam, Squash, Morrbba
- D. Party Dishes and their presentation with table setting are taught.
- E. Understanding of Micro wave cookery.

Program Outcome

1. Understand and appreciate the role of inter disciplinary sciences in the development and well being of individuals, family and communities.
2. Understand the sciences and technologies that enhance the quality of life of people.
3. Acquire professional and entrepreneurial skills for economic empowerment of self in particular community in general.
4. Develop professional skills in food, nutrition, textiles, housing, product making, communication and human development.
5. Understand the food composition its physio-chemical, nutritional, microbiological and sensory aspects.
6. Understand various concepts of food processing and preservation techniques.
7. Understand the current state of normal functioning of human system of correlate physiology with various health disorders and their pathogenesis.
8. Understand emergent issues in human development and child studies with respect to human life span and culture and demonstrate the ability to transact knowledge of childhood development and culture with in every day social context and workspaces.
9. Understand the current processes and trend, new development and technological changes in the field of textiles.
10. Study the fabrics, finishes, laundry and selection criteria for textiles used in home.

B.VOC (Fashion Technology)

(SEMESTER-I)

Paper: Fashion Art and Design Concept (Th.)

Subject Outcomes: -

- Students are accredited with skills of drawing and usage of various art mediums.
- Students are able to create compositions using various color schemes
- They will acquire the ability to perform visual research for application of elements in context of fashion.

Paper: Sewing Techniques and Equipments (Th.)

Subject Outcomes: -

- Basic stitching and creative skill will be developed which will help them to construct their garments

- Students will be able to use different stitches and seams as per the requirement of the garment.

Paper: Drafting and Pattern Making (Th.)

Subject Outcomes: -

- Students will gain proper understanding of basics of patternmaking.
- Students will be able to develop patterns by using the acquired knowledge of patternmaking
- Students will use basic pattern making principles to create design variations.

Paper: Fashion Marketing and Merchandising (Th.)

Subject Outcomes: -

- Students will be able to know about different kinds of marketing and merchandising techniques.
- Students will develop knowledge of various national and international stores and their marketing techniques

Paper: Sewing Techniques (Pr.)

Subject Outcomes: -

- Students will gain basic understanding of garments, machines and their use in apparel and fashion industry
- Students will be able to know about the different size charts and will be able to take measurements of the person
- Students will develop an understanding of how different constructional tools help to make a perfect garment.

Paper: Fashion Illustration (Pr.)

Subject Outcomes: -

- Students will learn to draw fashion figures by understanding body proportions.
- They will be able to enhance their rendering skills using different colour mediums.

Paper: Surface Ornamentation (Th.)

Subject Outcomes: -

- Students will be able to explore and bring into practice their ideas through embroidery techniques.
- Student will be able to understand the application of different embroidery techniques to create 2D and 3D effects.

- Students will be able to create innovative designs by combining number of stitches and by using creative raw material.
- Students will be able to develop utility articles with the help of basic embroidery stitches

Paper: Workshop (Pr.)

Subject Outcomes:

- Students will be able to learn different techniques of printing and painting.
- Students will be able to learn tie and dye techniques and their various methods.

Paper: Communication Skills (Th.+ Pr.)

Subject Outcomes:

- Students will be able to learn the use of communication and its types and also able to know about the different languages.

Paper: Basics of Computer (Th. + Pr.)

Subject Outcomes:

- Students will learn how to operate the computer and its usage in our life.
- Students will learn different software and new technologies.

II SEMESTER

Paper: Textile Science (Th.)

Subject Outcomes:

- Students will learn theoretically understanding of different textile materials (Fiber, yarn, fabric)
- Students will develop understanding regarding the identification and testing parameters of textiles.
- Students will be able to develop basic as well as creative textiles.

Paper: Fashion Photography (Th.)

Subject Outcomes:

- Student will be able to showcase their collections and design work through digital media.
- Through the understanding of fashion photography student will be able to apply their knowledge in identifying the trends of fashion.
- Student will learn to create still life models and backdrops.

Paper: Fabric Construction (Th.)

Subject Outcomes:

- Students will learn about different techniques of producing fabric like weaving, knitting, felting etc.
- Student learn about different weaves and machines.

Paper: Garment Construction (Th.)**Subject Outcomes:**

- Students will be able to learn the existing designs of women and men wear.
- Students will be equipped with the knowledge and confidence to respond creatively to a design brief within the women's wear market.
- Students will learn about different styles of pockets, sleeves, plackets, yokes, necklines etc.

Paper: Textile Science (Pr.)**Subject Outcomes:**

- Students will learn practical understanding of different textile materials (Fiber, yarn, fabric)
- Students will develop understanding regarding the identification and testing parameters of textiles.
- Students will be able to develop basic as well as creative textiles.

Paper: Fashion Design and Illustration (Pr.)**Subject Outcomes:**

- Students will learn to draw fashion figures by understanding body proportions.
- They will be able to enhance their rendering skills using different colour mediums.

Paper: Garment Construction (Pr.)**Subject Outcomes:**

- Students will be able to develop the existing designs of women and men wear.
- Students will be equipped with the knowledge and confidence to respond creatively to a design brief within the women's wear market.

Paper: CAD- I (Pr.)**Subject Outcomes:** -

- Students will learn to draw fashion figures by understanding body proportions digitally.
- They will be able to enhance their rendering skills using different colour mediums on Coral Draw.

Paper: Industrial Training**Subject Outcomes:** -

- Students will gain basic understanding of garments, machines and their use in apparel and fashion industry.
- Students will be able to know about the different size charts and will be able to take measurements of the person.

Paper: Communication Skills (Th.+ Pr.)**Subject Outcomes:**

- Students will be able to learn the use of communication and its types and also able to know about the different languages.
- Students will be able to know different mediums and channels of communication.

Paper: Environmental Science (Th.+ Pr.)**Subject Outcomes:**

- Gain in-depth knowledge on natural processes that sustain life and **Develop critical thinking for shaping strategies** (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development.

III SEMESTER

BVFT (201)

Paper: Fashion Trend and Forecasting (Th.)

Subject Outcomes:

- Learnt to identify a brand's sales model and target customer.
- Gained an understanding of how a brand will research trends for its target customer.
- Practised predicting colour palettes from emerging trends.
- Developed your own macro-trend proposal.

BVFT (202)

Paper: Knitting Technology (Th.)

Subject Outcomes:

- Students will be able to understand manufacturing and applications knitting and nonwovens.
- This subject covers the basic knowledge about alternate fabric manufacturing process that is nonwoven and knitting manufacturing technology

BVFT (203)

Paper: Textile Processing (Th.)

Subject Outcomes:

- Students will learn practical understanding of different textile materials (Fiber, yarn, fabric)
- Students will develop understanding regarding the identification and testing parameters of textiles.
- Students will be able to develop basic as well as creative textiles.

BVFT (204)

Paper: Export Management (Th.)

Subject Outcomes:

- The student is able to examine the concepts like product planning, branding decisions, packaging, labeling, marking, Export pricing strategies and various International Commercial Terms in export marketing.

BVFT (205)

Paper: Pattern Techniques (Pr.)

Subject Outcomes:

- Students will be able to develop pattern for adults.
- Students will develop the capability and skills of creating the patterns for designer wear with dart manipulation techniques.
- Students will get to know about the importance of darts and their uses.
- Students will be able to develop commercial paper pattern to meet industry standards.

BVFT (206)**Paper: Knitting Technology (Pr.)****Subject Outcomes:**

- Students will able to understand manufacturing and applications knitting and nonwovens.
- This subject covers the basic knowledge about alternate fabric manufacturing process that is nonwoven and knitting manufacturing technology.

BVFT (207)**Paper: Textile Processing (Pr.)****Subject Outcomes:**

- Students will learn practical understanding of different textile materials (Fiber, yarn, fabric)
- Students will develop understanding regarding the identification and testing parameters of textiles.
- Students will be able to develop basic as well as creative textiles.

BVFT (208)**Paper: Fabric Artistry and Embroidery (Pr.)****Subject Outcomes:**

- Students will be able to explore and bring into practice their ideas through embroidery techniques.
- Student will be able to understand the application of different embroidery techniques to create 2D and 3D effects.
- Students will be able to create innovative designs by the use of bead work, patch work, quilting, sequins work etc.

BC- I**Paper: Business Communication (Th.)****Subject Outcomes:**

- Understand the theory of communication, its concepts, channels and objectives
- Understand problems or barriers in communication and importance of listening skills
- Draft business correspondence like mails, letters
- Master in language and writing skills

BVEPD**Paper: Export procedure and Documentation (Th.)****Subject Outcomes:**

- The student is able to examine the concept, factors influencing, importance, risk involved in export marketing, problems of India's export sector and direction of export trade for products and services.
- The student examines about export finance options, documentation and procedure involved and role of export promotion and financing intermediaries.

IV SEMESTER

BVFT (211)

Paper: Apparel Manufacturing Technology (Th.)

Subject Outcome:

- Students will gain insight about fashion industry.
- Students will develop comprehensive understanding of the fashion industry, its markets, and the particular role of the fashion product designer and developer within the industry.
- Students will understand the importance of labels, its making as well as its connectivity with consumers.

BVFT (212)

Paper: Quality Control Technology (Th.)

Subject Outcome:

- Implement quality measurement systems in various applications
- Students will learn to prepare and use control charts for SQC
- Implement six sigma approach for various industrial applications

BVFT (213)

Paper: Fabric Sourcing and Marketing (Th.)

Subject Outcome:

- Students will learn about market segmentation, sampling, distribution channels etc.
- Students came to know about how to do market survey and source the best fabric.

BVFT (214)

Paper: Export Management (Th.)

Subject Outcome:

- The student is able to examine the concepts like product planning, branding decisions, packaging, labeling, marking, Export pricing strategies and various International Commercial Terms in export marketing.

BVFT (215)

Paper: Pattern Making, Draping & Grading Techniques (Pr.)

Subject Outcome:

- Students will be able to apply the learned techniques of draping to develop a product.
- Students will be able to apply the technique effectively for a desired fit in a garment
- Through grading process, students will be able to develop pattern for different sizes.

BVFT (216)

Paper: Garment Construction (Pr.)

Subject Outcome:

- Students will be able to create basic garments for adults.
- Students will be able to create new designs with basic garments and use them in making designer costumes.

BVFT (217)**Paper: CAD- II (Pr.)****Subject Outcome:**

- Students will be able to perform complex design analysis in short time.
- Students will be able to learn different software's for designing.
- Students will be able to develop and conceptualize their designs and creations.

BVFT (218)**Paper: Product Development (Pr.)****Subject Outcome:**

- Students will understand the concept of costume designing.
- Students will be able to prepare different props & costumes.

BVFT (219)**Paper: Internship (Pr.)****Subject Outcome:**

- Students explore career alternatives prior to graduation. Integrate theory and practice. Assess interests and abilities in their field of study.

BM- I**Paper: Business Management (Th.)****Subject Outcome:**

- Use business terms and concepts when communicating.
- Analyze data to verify accuracy of conclusions.
- Explain the financial concepts used in making business decisions.

IM- I**Paper: International Marketing (Th.)****Subject Outcome:**

- Have developed an understanding of major issues related to international marketing
- Have developed skills in researching and analyzing trends in global markets and in modern marketing practice
- Be able to assess an organization's ability to enter and compete in international markets.

V SEMESTER**BVFT (301)****Paper: History of Indian Costumes (Th.)****Subject Outcomes:**

- Students will develop understanding about ancient and contemporary costumes of India.
- Students will learn about fabrics, techniques and drapes of different eras and will be able to introduce to today's fashion industry in a more creative way.

BVFT (302)**Paper: Line Development (Pr.)**

Subject Outcomes:

- Students conduct market survey of product present in the market and came to know about the new trends.
- Students make their own and new product with help of creative ideas and using surface ornamentation techniques, printing, painting etc. to make the attractive product.

BVFT (303)**Paper: Lab. Advanced Pattern Development- I (Pr.)****Subject Outcomes:**

- Students will be able to apply the learned techniques of draping to develop a product.
- Students will be able to apply the technique effectively for a desired fit in a garment.
- Through grading process, students will be able to develop pattern for different sizes.

BVFT (304)**Paper: Commercial Garment Construction- I (Pr.)****Subject Outcomes:**

- Student will be able to create garments using different fashion components
- Understanding various draping techniques to create a garment
- Student will be able to understand the importance of collection based on any theme.

BVFT (305)**Paper: Marketing & Merchandising (Pr.)****Subject Outcomes:**

- Students will be able to know about different kinds of marketing and merchandising techniques.
- Students will develop knowledge of various national and international stores and there marketing techniques
- Students will be able to add marketing/selling in creative products.
- Students will be able to understand various selling techniques.

BVFT (306)**Paper: CAD- III (Pr.)****Subject Outcomes:**

- Students will be able to perform complex design analysis in short time.
- Students will be able to learn different software's for designing.
- Students will be able to develop and conceptualize their designs and creations.

BVHR**Paper: Human Rights (Th.)****Subject Outcomes:**

- Identify, contextualize and use information about the human rights situation in a given country
- critically appraise source material, including cases from human rights committees and tribunals and reports and summary records from treaty bodies
- Analyze a country's situation or an international situation in terms of human rights and formulate human rights-based initiatives and policies

- Promote human rights through legal as well as non-legal means

BVCOM- 3

Paper: Communication Skills (Th.+ Pr.)

Subject Outcomes:

- Write effectively using field-specific terminology and conventions in a variety of forms for appropriate professional audiences.
- Speak and listen effectively in both formal and informal professional settings
- Be able to communicate a concept visually using technology, or graphic displays

B- I

Paper: Boutique- I (Pr.)

Subject Outcomes:

- Students able to make patterns for different dresses.
- Construct garments with the help of patterns and draping techniques.
- Make garments on a particular theme.
- Able to know the new techniques and technologies of constructing garments.

(SEMESTER-VI)

BVFT (311)

Paper: Clothing Aspects (Th.)

Subject Outcomes:

- Student will get basic insight of psychological aspects of clothing and fashion.
- Students will develop understanding regarding the fashion movement and consumer behavior.
- Student will be able to develop an understanding of International and national fashion brands.

BVFT (312)

Paper: History Of World Costumes (Th.)

Subject Outcomes:

- Student will be able to develop fashion Garments inspired by different eras
- Students will be able to understand the past and create designs for present and future fashion industry
- Students will be able to develop a sense of appreciation of art.

BVFT (313)

Paper: CAD- IV (Pr.)

Subject Outcomes:

- Students will be able to perform complex design analysis in short time on software.
- Students will be able to learn different software's for designing.
- Students will be able to develop and conceptualize their designs and creations using different tools and methods.

BVFT (314)**Paper: Lab. Advanced Pattern Development- II (Pr.)****Subject Outcomes:**

- Students will be able to apply the learned techniques of draping to develop a product.
- Students will be able to apply the technique effectively for a desired fit in a garment.
- Through grading process, students will be able to develop pattern for different sizes.

BVFT (315)**Paper: Commercial Garment Construction- I (Pr.)****Subject Outcomes:**

- Student will be able to create garments using different fashion components
- Understanding various draping techniques to create a garment
- Student will be able to understand the importance of collection based on any theme.
- Students construct garments of adult men and women and mould the measurements according to the design needed.

BVFT (316)**Paper: Lab. Portfolio Making (Pr.)****Subject Outcomes:**

- Students will be able to prepare their portfolio in digital as well as other modes of presentation.
- Students work will be best showcased and will be able to discuss and explain their work professionally.
- Students make survey and research about different trends across the world and came to know about different varieties of fabric.

BVFT (317)**Paper: Inplant Training (Pr.)****Subject Outcomes:**

- Students able to acquire comprehensive learning where they can enhance their employability skills and become job ready along with real corporate exposure.
- Enhance students' knowledge in one particular technology.
- Increase self-confidence of students and helps in finding their own proficiency
- Cultivate student's leadership ability and responsibility to perform or execute the given task.
- Provide learners hands on practice within a real job situation.

BVCT**Paper: Communication Technologies****Subject Outcomes:**

- Demonstrate critical and innovative thinking.
- Display competence in oral, written, and visual communication.
- Apply communication theories.
- Show an understanding of opportunities in the field of communication.
- Use current technology related to the communication field.

EN- I**Paper: Entrepreneurship (Th.)****Subject Outcomes:**

- Understand the nature of entrepreneurship
- Understand the function of the entrepreneur in the successful, commercial application of innovations
- Confirm an entrepreneurial business idea
- Identify personal attributes that enable best use of entrepreneurial opportunities
- Explore entrepreneurial leadership and management style.

B- II**Paper: Boutique- II (Pr.)****Subject Outcomes:**

- Students able to make patterns for different dresses.
- Construct garments with the help of patterns and draping techniques.
- Make garments on a particular theme.
- Able to know the new techniques and technologies of constructing garments.
- Students learn how to design fashionable and trendy outfits.

B.SC FASHION DESIGNING**PROGRAM SPECIFIC OUTCOME**

- Adapt their artistic abilities to support their future design careers.
- Assess, propose, and apply various techniques related to drafting, draping, and constructing of garments.
- Develop a systematic, critical approach to problem solving at all levels of the design process.
- Relate the design process to the appropriate manufacturing process.
- Demonstrate professionalism by managing time to meet deadlines with quality work and effectively collaborating in teams.
- Research and relate fashion design to a broader socio economic, historical, and environmental context.
- Articulate design ideas verbally, visually, and digitally.
- Forecasting about the style and designs that can be implemented in various textile materials.
- Perform textile material analysis using different tools and methods are learned.
- Demonstrate and understand to enhance the person's personality through clothing.
- Entrepreneur can follow the apparel quality standards and the sales can improved through visual merchandising.
- Understand the flow process of garment industry from designing to export the procedures.
- Be able to adopt fashion to our daily life.
- Be able to know about various textile materials where the style and designs suits the particular material.
- Able to know about the tools that works specific functions on textile material.

- Be able to analyze every single person's personality that suits their clothing.
- Entrepreneur can gain knowledge and how to unique their business from others.
- Be able to begin a garment industry.

COURSE OUTCOME

(SEMESTER-I)

Paper: BASIC OF DESIGN & ILLUSTRATION (TH.)

SUBJECT CODE: 101

- Students get to learn about different structures like body proportions etc.
- Students learn about design visuals.
- They get to learn about principle & elements of design.
- They learn about different art mediums.

Paper: BASIC OF DESIGN & ILLUSTRATION (PR.)

SUBJECT CODE: 101

- Students are accredited with skills of drawing and usage of various art mediums.
- Competent to develop a good design through application of elements of design.
- Students are able to create compositions using various color schemes.
- They acquire the ability to perform visual research for application of elements in context of fashion.
- Students develop an approach towards ideation.
- Students learn to draw fashion figures by understanding body proportions.
- They able to drape the desired idea of their design onto the fashion figure.
- They able to enhance their rendering skills using different colour mediums.

Paper: BASIC OF SEWING (TH.)

SUBJECT CODE: 102

- Students gain basic understanding of garments, machines and their use in apparel and fashion industry.
- Students able to know about the different size charts and will be able to take measurements of the person.
- Students develop an understanding of how different constructional tools help to make a perfect garment.
- Students able to describe their garments in a more professional manner, by using the correct terminology.

Paper: BASIC OF SEWING (PR.)

SUBJECT CODE: 102

- Basic stitching and creative skill developed which will help them to construct their garments
- Students able to use different stitches and seams as per the requirement of the garment.
- Correct placement and attachment of placket and zippers.
- They able to convert fullness of garment with different techniques like dart, pleats etc.

Paper: TRADITIONAL TEXTILE (TH.)

SUBJECT CODE: 103

- Students able to differentiate between embroidery works of different states.
- Students able to use different technique in their collections.
- Students able to understand the problem, issues and other important conditions of craft men working on traditional textiles of different regions of India.

Paper: TRADITIONAL TEXTILE (PR.)

SUBJECT CODE: 103

- Students able to explore and bring into practice their ideas through embroidery techniques.
- Students able to create innovative designs by combining number of stitches and by using creative raw material.
- Students able to develop utility articles with the help of basic embroidery stitches.
- Students able to use the different techniques like fabric painting, texture printing etc. for developing different samples.
- Exploring and applying the old and new ideas of designing in different sector.

Paper: BASIC OF COMPUTER (TH.)

SUBJECT CODE: 104

- Students acquainted with the basic knowledge computer fundamentals.
- Students get the understanding related to different soft wares of fashion.
- Students get to know about internet surfing and will get fundamental knowledge of computer networking.

Paper: BASIC OF COMPUTER (PR.)

SUBJECT CODE: 104

- Understanding the concept of input and output devices of Computers and how it works and recognize the basic terminology used in computer programming.

- Write, compile and debug programs in C language and use different data types for writing the programs.
- Design programs connecting decision structures, loops and functions.
- Explain the difference between call by value and call by address.
- Understand the dynamic behavior of memory by the use of pointers.
- Use different data structures and create / manipulate basic data files and developing applications for real world problems.

Paper: ENGLISH

SUBJECT CODE: 105

- Students should be familiar with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.
- Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.
- Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society, both now and in the past.
- Students should be able to write analytically in a variety of formats, including essays, research papers, reflective writing, and critical reviews of secondary sources.
- Students should be able to ethically gather, understand, evaluate and synthesize information from a variety of written and electronic sources.
- Students should be proficient in oral communication and writing.

(SEMESTER-II)

Paper: TEXTILE CHEMISTRY-1 (TH.)

SUBJECT CODE: 106

- Students get to learn textile.
- They learn the difference between dyeing & printing.
- Students gain practical understanding of different textile materials (Fiber, yarn, fabric).
- Students develop understanding regarding the identification and testing parameters of textiles.
- Students able to develop basic as well as creative textiles.
- Students able to care for their garments and developed textile material.

Paper: TEXTILE CHEMISTRY-1 (PR.)

SUBJECT CODE: 106

- They able to compare the chemical structures of textile fibres.
- Categorizes textile fibres.
- Distinguishes natural and artificial fibers.
- Relates textile fibres that operations into a fiber.
- They able to use the structural properties of textile fibers to make different characteristics of fiber.
- Analyses how to make water-repelling fibres from water-loving fibres.
- Distinguishes the diversity of functional groups.
- They able to plan which type of dye can be dyed textile fibers according to the chemical structure of them.
- Compares the dyes according to chemical structure.

Paper: CONCEPT OF FASHION (TH.)

SUBJECT CODE: 107

- Students get basic insight of psychological aspects of clothing and fashion.
- Students develop understanding regarding the fashion movement and consumer behavior.
- Student able to develop an understanding of International and national fashion brands.
- Students are able to identify a trend (through trend research forecast) and recognize its movement in local markets as affected by global market.
- Ability to create theme relevant boards which are essential to the design process.
- Skilled in hand art to express ideas on sheets through mind mapping and visual research.
- Students can perform independent researches of small scale and apply them in design project.

Paper: FABRIC CONSTRUCTION (TH.)

SUBJECT CODE: 108

- Students develop understanding regarding fibers and their use in different sectors.
- Students develop understanding about yarns and their creative use.
- With the acquired knowledge students will be able to identify different kinds of fabrics – composition, weave etc.
- To make informed choices while selecting fabrics for creating garments or other related products.

Paper: FABRIC CONSTRUCTION (PR.)

SUBJECT CODE: 108

- Students learn different macramé techniques.

- They learn different weaving techniques through ribbon samples
- Students learn different weaving techniques through different looms.

Paper: GARMENT CONSTRUCTION (TH.)

SUBJECT CODE: 109

- Students acquaint with various garments components by providing them the practical skills.
- They gain knowledge about stitching components of garments.
- They gain knowledge of various finishing techniques related to stitching.
- They gain knowledge about how to complete a garment with different styles.

Paper: GARMENT CONSTRUCTION (PR.)

SUBJECT CODE: 109

- Students gain the understanding regarding different garment components and their construction.
- Students able stitch sleeves, necklines and other parts of garments.
- Students able to construct complete garment.

Paper: ENGLISH

SUBJECT CODE: 110

- Educate students in both the artistry and utility of the English language through the study of literature and other contemporary forms of culture.
- Provide students with the critical faculties necessary in an academic environment, on the job, and in an increasingly complex, interdependent world.
- Graduate students who are capable of performing research, analysis, and criticism of literary and cultural texts from different historical periods and genres.
- Assist students in the development of intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning.

(SEMESTER-III)

Paper: NEEDLE CRAFT (PR.)

SUBJECT CODE: 201

- Subject Outcomes: Students will be able to explore and bring into practice their ideas through embroidery techniques.

- Student will be able to understand the application of different embroidery techniques to create 2D and 3D effects.
- Students will be able to create innovative designs by the use of bead work, patch work, quilting, sequins work etc.

Paper: PATTERN MAKING-1 (TH.)

SUBJECT CODE: 202

- Students learn about pattern making terms, Commercial paper pattern, style reading, fitting, etc

Paper: PATTERN MAKING-1 (PR.)

SUBJECT CODE: 202

- Developed the skills will help students to use basic patternmaking principles to create design variations.
- Students will be able to apply patternmaking principles to create design variations and construct garments
- Exploring the knowledge related to different fashion components students will be able to create variety of patterns regard to sleeve and collars.

Paper: COMUPTER (PR.)

SUBJECT CODE: 203

- Students able to perform complex design analysis in short time.
- Students able to learn different software's for designing.
- Students able to develop and conceptualize their designs and creations in 3D view.
- Students able to illustrate design on coral software.

Paper: KNITTING TECHNOLOGY (TH.)

SUBJECT CODE: 204

- Students able to learn knitting, Types of knitting, Classification of Knitting, about knitting Machines, etc.
- Students learn Comparison between Weaving and Knitting.

Paper: KNITTING TECHNOLOGY (PR.)

SUBJECT CODE: 204

- Students learn different stitches by hand and Machine Knitting

Paper: SANSKRIT

SUBJECT CODE: 204

- Advanced command of the Sanskrit language through advanced text reading
- Practice of the textual analysis of texts in Sanskrit

(SEMESTER IV)

Paper: TEXTILE CHEMISTRY-II (TH.)

SUBJECT CODE: 206

- Explain the principles and mechanisms of singeing, desizing and scouring.
- Describe the various methods involved in bleaching, mercerization and heat setting of textile materials.
- Distinguish the various dye class and their application to different fibres types.
- Explain the working principles of various types of dyeing machineries.
- Understand the wet processing of protein fibers.

Paper: TEXTILE CHEMISTRY-II (PR.)

SUBJECT CODE: 206

- Perform the pretreatment of grey fabric.
- Get hands on experience in dyeing of natural fibers with reactive, direct and acid dyes.
- Students understand about different printing techniques and finishes.

Paper: FASHION DESIGN & ILLUSTRATION (PR.)

SUBJECT CODE: 207

- Students will gain knowledge about different themes required in the field of fashion.
- They will be able to draw different clothing lines based on selected/ particular themes
- Students will develop an approach through ideation
- They will be able to conceptualize their ideas and amalgamation of different accessories with the garments.
- They create stylized figures and innovative fabric textures that enhance their capability as an illustrator.
- They undertake independent design projects that make them responsible for developing their designing sensibilities in given resources

Paper: HISTORY OF INDIAN COSTUMES (TH.)

SUBJECT CODE: 208

- Students will develop understanding about ancient and contemporary costumes of India.
- Students will learn about fabrics, techniques and drapes of different eras and will be able to introduce to today's fashion industry in a more creative way.

Paper: PATTERN MAKING (PR.)

SUBJECT CODE: 209

- Students will be able to develop pattern for adults.
- Students will get to know about the importance of darts and their uses.
- Students will be able to develop commercial paper pattern to meet industry standards.
- Students will be able to apply the learned techniques of draping to develop a product.
- Students will be able to apply the technique effectively for a desired fit in a garment
- Through grading process, students will be able to develop pattern for different sizes.

Paper: GARMENT CONSTRUCTION (PR.)

SUBJECT CODE: 210

- Students Construct different type of Garments with their Pattern.

Paper: SANSKRIT

SUBJECT CODE: 211

- Advanced command of the Sanskrit language through advanced text reading.
- Practice of the textual analysis of texts in Sanskrit.

(SEMESTER-V)

Paper: HISTORY OF WORLD COSTUMES (TH.)

SUBJECT CODE: 301

- Student will be able to develop fashion Garments inspired by different eras.
- Students will be able to understand the past and create designs for present and future fashion industry.
- Students will be able to develop a sense of appreciation of art.
- Students will be able to look at art as source of inspiration.

Paper: APPAREL MANUFACTURING TECHNOLOGY (TH.)

SUBJECT CODE: 302

- Students will gain insight about fashion industry.
- Students will develop comprehensive understanding of the fashion industry, its markets, and the particular role of the fashion product designer and developer within the industry.
- Students will understand the importance of labels, it making as well as its connectivity with consumers.
- Students will be able to understand working of various department of fashion industry.

Paper: PATTERN & MARKER MAKING ON COMPUTER (PR.)**SUBJECT CODE: 303**

- To familiarize students with pattern making software.
- To apply the knowledge of pattern making software for making patterns and grading.
- Students will be able to develop and create patterns for mass and niche market.
- Students can explore their creativity by learning the concept of pattern making

Paper: PATTERN MAKING (PR.)**SUBJECT CODE: 304**

- Students will be able to develop pattern for adults.
- Students will develop the capability and skills of creating the patterns for designer wear with dart manipulation techniques.
- Students will get to know about the importance of darts and their uses.
- Students will be able to develop commercial paper pattern.
- Students will be able to apply the learned techniques of draping to develop a product.
- Students will be able to apply the technique effectively for a desired fit in a garment through grading process, students will be able to develop pattern for different sizes

Paper: PROJECT (PR.)**SUBJECT CODE: 305**

- Students will discuss their work in the form of research paper, review paper, seminar or article in any appropriate magazine.

(SEMESTER VI)

Paper: MARKETING AND MERCHANDISING (TH.)

SUBJECT CODE: 306

- Developed understanding about market and retail help them to develop their career in the same.
- Understanding the documentation and regulations help students in developing and marketing their products.
- Students understand connectivity of brands and fashion houses.
- Students understand usage of digital marketing.
- Students able to retail products using techniques learned.
- Students able to develop a product line.

Paper: MARKETING AND MERCHANDISING (PR.)**SUBJECT CODE: 307**

- Developed understanding about market and retail help them to develop their career in the same.
- Understanding the documentation and regulations help students in developing and marketing their products.
- Students understand connectivity of brands and fashion houses.
- Understanding towards the branding help students to make their place in existing fashion industry.

Paper: LINE DEVELOPMENT (PR.)**SUBJECT CODE: 308**

- Students familiar with the steps involved in identifying and selecting a good theme to use in a study or to develop line in fashion.
- Students able to identify a research problem and develop same for their study.

Paper: GARMENT CONSTRUCTION (PR.)**SUBJECT CODE: 309**

- Student will be able to create garments using different fashion components.
- Understanding various draping techniques to create a garment.
- Students will be able to prepare different props, costumes.

Paper: INTERNSHIP**SUBJECT CODE: 310**

- Students take on job training from their own interested field.
- Students will develop comprehensive understanding of the fashion industry.

- Students will understand the importance of labels, its making as well as its connectivity with Consumers.
- Students will be able to understand working of various department of fashion industry.

ADD ON FASHION DESIGNING

COURSE OUTCOMES

Students will:

- Adapt their artistic abilities to support their future design careers.
- Assess, propose, and apply various techniques related to drafting, draping, and constructing of garments.
- Develop a systematic, critical approach to problem solving at all levels of the design process.
- Relate the design process to the appropriate manufacturing process.
- Demonstrate professionalism by managing time to meet deadlines with quality work and effectively collaborating in teams.
- Articulate design ideas verbally, visually, and digitally.
- Impart knowledge regarding embroidery stitches like straight, running, back, chain, blanket, lazy daisy, satin, long and short, French knot, bullion, spider web or more.
- Illustrate the various body postures and rendering techniques also learn.

COSMETOLOGY ADD ON COURSE

OUTCOMES

This course will provide students with the skills and knowledge to perform a variety of beauty services that cover all phases of the beauty culture such as threading, waxing, facial, bleaching, manicuring, pedicuring, nails beautification, shampooing, spa, blow dryer, curls, crimping, highlighting, hair styling, make-up application, temporary and permanent hair waving, hair straightening, and various skin and scalp treatments. Cosmetologists will also have strong human relations skills and the ability to communicate with people.

1. Perform hair care services for all types of hair including hair analysis, hair cutting, hairstyling, hair coloring and lightening, permanent waving and chemical relaxing.
2. Perform natural nail services including manicuring and pedicuring.
3. Perform basic skin care services including skin analysis, facials, makeup application and superfluous hair removal.
4. Demonstrate customer service skills, self-growth and personal development.
5. Perform salon business such as front desk operations, dispensary inventory and loss prevention, resume building and interviewing skills, self marketing and the basic knowledge of starting one's own salon business.

6. Different types of workshops are also organized like nails, hairs & makeup through which students get to learn a lot.

* Theoretical work is also there so students can gain more knowledge.

ADD ON FOOD PROCESSING

COURSE OUTCOMES

This course deals with the techniques and principles involved in processing and preserving the food substances. The course is an important one and job orienting in nature that opens many career scopes after its completion. Course Outcomes Upon completion of this course, the student will be able to:-

- Apply the principles and methods involved in the processing of different foods and discuss the processing of different food groups like.
- Compare various millet processing techniques.
- Discuss pulse processing and preservation techniques.
- Identify oil seed processing and preservation.
- Explain spice processing and preservation techniques
- Appreciate scientific principles and techniques of food processing and preservation.
- Acquire skills to establish food service outlet
- Formulate environmental friendly and nutritious food products.
- Develop analytical skills to be employed in industries.
- 5 Competent to take up careers in academics, researches, health care, processing and preservation industries
- Develop skill to analyze food quality.
- Derive strategies to promote healthy living.
- Assess adulterants in food products.
- Design safe packaging materials
- Students also learn different types of cooking methods.
- With them they also prepare and learn various dishes.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Hindi

Course Outcome: Hindi

B.A.-I

- मध्यकालीन भक्त कवियों का समाज व साहित्य की उन्नति में जो अतुलनीय योगदान था छात्रगण उसे समझने में सक्षम हुए।
- छात्राएं काव्यशास्त्र की मूलभूत विचारधारा को समझने व काव्य के विभिन्न तत्वों से अवगत हुईं।
- ऐतिहासिक नाटक ध्रुवस्वामिनी के माध्यम से छात्र नारी जीवन की विभिन्न समस्याओं व तत्कालीन राजनीतिक परिस्थितियों से अवगत हुए।
- छात्राएं व्यावहारिक हिन्दी का ज्ञान व भक्तिकाल को हिन्दी साहित्य का स्वर्णयुग क्यों कहा जाता है, जानने में सक्षम हुईं।

B.A.-II

- छात्राओं को आधुनिक हिन्दी कविता में चित्रित राष्ट्रीय, सामाजिक, सांस्कृतिक सरोकारों से परिचित करवाना एवम् आधुनिक गद्य विधाओं के उद्भव और विकास की जानकारी प्रदान करना।
- हिन्दी कंप्यूटिंग और अनुवाद की तकनीकी जानकारी।
- आधुनिक कहानियों में वर्णित तत्कालीन लोक-समाज, संस्कृति विषयक संदर्भों का चित्रण। पारिभाषिक शब्दावली का स्वरूप, महत्व, गुण एवम् सक्रिय विविध संप्रदायों की जानकारी।
- रीतिकालीन काव्य की पृष्ठभूमि, नामकरण, विशिष्टताओं एवम् उपलब्धियों का वर्णन एवम् विश्लेषण।

B.A.-III

- विद्यार्थियों को स्वतंत्रता के बाद के हिन्दी कविता आंदोलनों से परिचित करवाना एवं समकालीन कविता के माध्यम से आज के संदर्भों से अवगत करवाना।
- आधुनिक हिन्दी कविता के विभिन्न आंदोलनों के माध्यमों से समाज के उतार-चढ़ावों का परिचय देना।
- हिन्दी निंबध एवं निबंधकारों के लेखन के माध्यम से ललित, व्यंग्यात्मक, संस्मरणात्मक, यात्रावृत्तात्मक निंबधों के विषय में जानकारी देना।
- लोकतंत्र में पत्रकारिता एवं स्वतंत्र प्रैस के महत्व एवं आवश्यकता को दिखाना और विद्यार्थियों को पत्रकारिता के अंतर्गत उपयोगी तकनीकों से भी अवगत करवाना।

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Sanskrit

Course Outcome: Sanskrit

B.A.-I(Semester-I)

- हितोप्रदेश के चार परिच्छेदों से अषगत करवाना तथा इसमें वर्णित नीति कथाओं द्वारा जीवनोपयोगी तथ्यों को समझना।
- लिखितमपि ललोटप्रोज्ञुतं कः समर्थ, सर्वशून्या दरिद्रता। इत्यादि सूक्तियों का जीवन में कितनी अधिक महत्ता है। यह छात्राओं का समझना।
- कवि भर्तृहरि द्वारा नीतिशतक में वर्णित सामाजिक तथा राजनीतिक बुराईयों को दूर कर किस प्रकार राजा को विद्वानों का सम्मान करना चाहिए। तथा लोक व्यवहर व जीवन में सत्य का जो मार्ग बताया गया है छात्राओं द्वारा उसे जीवन में अपनाने का प्रयास।

B.A.-I(Semester-II)

- श्रीमद्भगवत् गीता के द्वितीय अध्याय के अनुसार 'आत्मा की अमरता एवं निष्काम कर्मयोग को छात्राओं द्वारा समझने का प्रयास। 'स्थितप्रज्ञ' जैसे जटिल विषयों को भी समझने का निरन्तर प्रयास।
- नीतिशतक की नितियों द्वारा हठी एवं दुग्ग्रही मनुष्य को समझना कितना कठिन है तथा विद्या का मानवजीवन में महत्व आदि विषयों को समझना।

B.A.-II(Semester-III)

- महाकवि भास द्वारा रचित पञ्चराश्रम् नाटक के आधार पर नाटक के क्षेत्र कवि की नाट्य प्रतिभा को समझने का छात्राओं द्वारा प्रयास। अज्ञातवास के समय पाण्डवों का वेश बदल कर राजा विराट के पास रहना तथा राजा विराट की मद्द करना करना आदि महाभारत के कथानक को अधिक गहराई से जानना।
- नाटक में प्रयुक्त पारिभाषिक शब्दों की जानकारी लेना जैसे, नान्दी भरतवाक्यम्, विष्कम्भक आदि।
- छोटे छोटे वाक्यों द्वारा संस्कृत-पत्र लेखन की प्रणाली को जानना। माहेश्वर सूत्रों को समझना।

B.A.-II(Semester-IV)

- महाकाव्य रघुवंश के आधार पर महाकवि कालिदास की काव्य प्रतिभा की जानकारी।

B.A.-III(Semester-V)

- 'अभिज्ञान शाकुन्तलम्' में वर्णित पिता काव्य का अपनी पुत्री को दिए गए उपदेश से छात्राओं का यर्थायथा से अवगत होना।
- 'गान्धर्व विवाह' जैसे कार्यों से उत्पन्न होने वाली समस्याओं को समझना।
- महाकवि कालिदास की काव्य प्रतिभा

B.A.-III(Semester-VI)

- पुरुवंशी राजा दुष्यन्त की विजय तथा इन्द्र के प्रति कृतज्ञता की छात्राओं को जानकारी।
- संस्कृत में निबन्ध लेखन की कला को समझने का प्रयास।
- वाल्मीकि, व्यास, भवभूमि, मातृहरि आदि कवियों का परिचय।

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Music (Instrument)

Specific programme outcomes of subject Music (I)

Course Outcomes

B.A. I

- The Students have knowledge about the all definitions. i.e Sangeet,Svar,Saplak,Raj,that etc.
- The Students have done the ragas and talas prescribed in their syllabus.
- They will explain in rich history of music (Vadic Period Smoothely)
- They have potential to describe different type of instruments

B.A. II

- The Students have knowledge to explain the Ragas and Talas.
- They have Potential to describe the various theoretical aspects of Indian Classical Music
- They are able to describe the historical trends of Indian Classical Music.

B.A.III

- The students are able to explain the notation of Ragas and Talas prescribed in their syllabus.
- The students have potential to describe the Roll of Music in different aspects.
- The Students have knowledge to elaborate the Hindustan Music in detail and also the contribution of renowned Musicians of Hindustan Music.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Music(Vocal)

Specific programme outcomes of Subject Music(V)

Course Outcomes

B.A. I

- The student will understand the basic technologies of Indian music.
- She studies about the theoretical aspects of ragas.
- The student learns about the music in the vedic period.
- Students learn to practical compositions according to the notation system.

B.A. II

- The student studies about the musical terms of Hindustani music.
- She learns to write the practical compositions according to the Notation system.
- She studies the works on Indian music by medival period.
- The students study about the composition forms of Hindustani music.

B.A. III

- The student is able to give a practical demonstration of ragas for a period.
- The student is able to demonstrate various aspects of ragas and differentiate.
- The students studies about the musical terms of Hindustani music.
- Learn about the life & contribution of the composers of Hindustani music.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Political Science

Specific programme outcomes of subject Political Science

- Political Science is the study of the political world in a comparative sense, including the behaviour, organizations, institutions and philosophical foundations of political life from the level of individuals to the international setting in both contemporary and historical contexts. The programme makes students understand and analyse the operation of power politics at state, national, regional and global levels.
- The students shall acquire the capacity to observe the politics through various perspectives. The programme gives to the students' career options in higher studies in fields related to public policy, international politics, gender studies, development studies, and law.
- The programme prepares the students to undertake research projects/surveys.
- Formulate socially relevant research proposals and presentations.
- The programme opens opportunities to undergo various competitive exams of administrative services, law, and public policy.

Course Outcomes

B.A. I(Semester -I)

- Understand the making of Indian constitution along with the debates of constituent assembly.
- Comprehend the functioning of Legislature, Executive & Judiciary.

B.A. I(Semester -II)

- Develop a deeper understanding of Centre – State relations. Understand the working of election commission, electoral process and voting- behaviour.
- Analyse the role of Caste, Religion, and Region in Indian Politics and understanding of the Party Systems and Pressure Groups in India.

B.A. II(Semester -III)

- Develop a comparative understanding of various Indian social reformers. Analyse the social and political thought of Raja Ram Mohan Roy, Swami Vivekananda and Swami Dayananda.
- Comprehend the evolution of Economic Theory of Naroji. Develop a capacity to analyze the political ideas of Gokhle, Tilak, Lalalajpat Roy and Arbindo Ghosh.

B.A. II(Semester -IV)

- The course analyses the Gandhian movements and Ambedkar's view on social justice and the depressed classes. This course gives a transparent idea to the students about Radical Humanism of M.N.Roy.
- Analyse the socialistic views of Rammanohar Lohia and views on total revolution of JP Narayan. The course describes the different views of Nehru, Subhas Chandra Bose and Bhagat Singh.

B.A. III(Semester -V)

- Comprehend the meaning and evolution of Comparative Politics along with various traditional approaches to study the same.
- Develop an understanding of the concept of constitutionalism along with various forms of government.

B.A.III (Semester –VI)

- Comprehend the process of evolution and making of American and British Constitution.
- Critically analyse the relation between Union Legislature, Executive and judiciary in USA and UK. Develop a deeper understanding of the Party Systems, Pressure Groups and Bureaucracy of USA and UK.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Health & Physical Education

B.A Health and Physical Education

Course Outcomes

(Semester-I)

Paper-PE 21

- After completion of this syllabus students will learn the importance of physical activities, physical fitness.
- Students get knowledge of health, hygiene and yoga for leading healthy lifestyle.
- Course will enable the students to know the basic knowledge of first-aid, anatomy and physiology of cells, bones and joints.
- Students get experience of playing kho-kho, learn its rules and regulation and identification of human bones.

(Semester-II)

Paper-PE 22

- Students are enabled to understand the subject of matter of first aid, its aim, objectives and application in common injuries.
- Students learn about the historical aspect of physical education: Pre and post independence of India, State and National sports policy.
- Gain knowledge about meaning, importance, components and principles of physical fitness.
- Students study the concept of bone and joints in human body.

(Semester-III)

Paper-PE 23

- They learn how to organize and administrate various types of tournaments.
- Course enables the students to know the role of motivation and socialization in sports. Get knowledge about doping and its side effects and role of bio-mechanics and its applications in the field of sports.
- *Students will have experience of doing pranayamas, playing volleyball and get the knowledge of slings and bandages during injuries.

(Semester-VI)

Paper-PE 24

- Student learn meaning, type and significance of physiological aspect of warming up and cooling down.
- Students understand the concept of sports psychology, laws and learning curve.
- Students learn about the major sports events like Asian games, Common Wealth game, Ancient Olympics Games and Modern Olympic games.\
- Student be acquainted with the respiratory system and role of exercise on respiratory system.

(Semester-V)

Paper-PE 25

- They learn how to organize and administrate various type of tournament.
- Course enables the students to know the role of motivation and socialization in sports. Get knowledge about doping and its side effects and roll of bio-mechanics and its applications in the field of sports.
- Students will have experience of doing pranayamas, playing volleyball and get the knowledge of slings and bandages during injuries.

(Semester-VI)

Paper-PE 26

- Student understand the concept of motivation and socialization of sports persons.
- Students get acquainted with the role of sports training and its types meaning of doping and its effect on health.
- Student learn about the sports Biomechanics and role of Newton's laws and levels in sports.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Economics

Course Outcomes of Economics

B.A. I(Semester-I)

Paper: Microeconomics-I

- Students will learn about definition, nature, , law of demand, elasticity of demand: concept, types, measurement, determinants and importance.
- Gain the understanding of the Concept of Utility, Cardinal Utility Analysis, Law of Equi-Marginal Utility, Law of Diminishing Marginal Utility, Derivation of Demand Curve, Ordinal Utility Analysis , Indifference Curves Analysis, Consumer Equilibrium, Price, Income and Substitution Effects, Consumer Surplus.

B.A. I(Semester-II)

Paper: Microeconomics-II

- Students will be aware about Market Structures- Concepts , Perfect Competition: Characteristics and Assumptions, Price Determination Under Perfect Competition,Equilibrium of the firm in the short period and the long period.
- Students will be able to understand the Monopoly: Characteristics, Equilibrium of theMonopoly Firm in Short period and Long period, Concept of Supply Curve under Monopolym, Price Discrimination.

B.A. II(Semester-III)

Paper: Macroeconomics-I

- Students will learn from about Nature and Scope of Macro Economics, Difference between Micro and Macro Economics, Importance of Macro Economics, Concepts, Measurement and limitations of National Income Statistics, Circular flow of Income inTwo, Three and Four Sector Economy.
- Students will learn the Say's law of Market, Classical Theory of Income and Employment, Keynesian Theory of Income and Employment, Principle of EffectiveDemand, Comparison between Classical and Keynesian Theory.

B.A. II(Semester-IV)

Paper: Macroeconomics-II

- Students will be able to learn about Keynesian Multiplier: Concepts, Relation between Multiplier, MPC and MPS, Comparative Static and Dynamic Process., Working of Multiplier in UDC'S, Acceleration Principle and Concept of Super Multiplier.
- Studetns will gain the understanding of The Demand for Money: Concepts, Functions and Significance, Quantity Theory of Money -Fisher's Approach and Cambridge Approach, Keynesian Liquidity Theory of Money, Supply of Money: Meaning and Determinants, High Powered Money and Money Multipliers

B.A. III(Semester-V)

Paper: Indian Economy-I

- Students will be able to learn about Capitalist, Socialist & Mixed economy, Developed and Developing Economy –Concepts, Basic Characteristics of Indian Economy as a Developing Economy, Comparison of Indian Economy with Developed Economies, Major Issues of Development in India
- Students will know about Theory of Demographic Transition, Size and Growth of Population, Features of Indian Population, Causes of Growing Population.- High Birth Rate and Decreasing Death Rate, Problems of Over Population, Measures for PopulationControl, Population Policy 2005 onward

B.A. III(Semester-VI)

Paper: Indian Economy-II

- Students will learn about the Role of Industrialization, Industrial Policy – 1991onwards, New Economic Reforms – Concepts i) Liberalization ii) Privatization, iii) Globalization, Small and Large Scale Industry – Growth and Problems, Growth of Knowledge Based Industry – IT, Software Consultancy
- Studemts will be able to understand Meaning and Classification of Labour, Characteristics of Industrial Labour, Industrial Disputes Causes, Measures for Settlement,Social Security Measures in India.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Psychology

Specific programme outcomes of Subject Psychology

Course Outcomes

B.A. I

- The Course instills in a student the knowledge of human behavioral sciences, principles of psychology & theories which can be applied in any work.
- It seeks to understand human mind and behavior and the processes of thinking and feeling.
- It develops an understanding of the concept of individual differences with the goal to promote self-reflection and understanding of self and others.
- familiarize students with the psychological research, experiments, psychological testing & different statistical techniques used in quantitative and qualitative research.

B.A. II

- Develop an understanding of the nuances of the social word as well as different perspectives on relation between individual and society.
- Introduce students to the realm of social influence and behavior, i.e. introducing interpersonal awareness, attraction social communication etc.
- It equip the learners with an understanding of the process of human growth & development across different like spans in different domains.
- Inculcate sensitivity to socio-cultural context of human development.

B.A.III

- Provide an overview about the concept of abnormality & the clinical picture and dynamics of various psychological disorders.
- Students to informations of psychopathology and dispel myths regarding it.
- It help students understand various social problems & gain knowledge about intervention strategies.
- Develop appreciation of the neuobiological basis of psychological function & dysfunction.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of English

B.A. COURSE OUTCOME (English)

Program Specific Outcome

- The curriculum of the UG English has been designed with UGC regulations in mind. It intends to help students comprehend and appreciate the unique beauty of the English language.
- To help students identify the defining characteristics of poetry, fiction and drama.
- To help students interpret texts with attention to ambiguity, complexity and aesthetic value.
- To explore a variety of reading strategies to foster comprehension and construct relevant and meaningful connections to the text.
- To enhance the reading and writing skills of students.

B.A. I

(Semester-I & II)

- Thorough grounding in vocabulary, grammar and speaking and writing skills.
- A holistic overview and comprehension of prose pieces drawn from various cultural and social contexts.
- to help students understand and practice the exact pronunciation of words to sharpen the learners critical thinking skills.

B.A. II

(Semester-III & IV)

- A Holistic comprehension and analysis of world poetry in English of various ages in the realm of literature in English.
- The sub-genre of literature, drama with a special reference to one act plays of modern era in literature in English comprehended extensively.
- A detailed study and a critical understanding of the fundamentals of the skills of English language.
- The acquisition of extensive knowledge of the fields of poetry, drama language skills, encouraging the students to become seasoned budding scholars.

B.A. III

(Semester-V & VI)

- Understanding of social, political scenario of India in colonial era with reference to classical novel ‘Kantha Pura’ by raja Rao, a brilliant mouthpiece of Indian English fiction.
- A comprehensive study of sentence structure, word stress and intonation and story writing.

- Demonstrate vivid picture of sixteenth century England mainly focused on social scenario with reference to the merchant of venue drama by famous dramatist villain Shakespeare.
- Students develop pragmatic skills and soft skills by learning multiple grammatical concepts.

M.A. English (Program Specific Outcome)

- This post graduate degree helps students to hone the understanding about finer aspects of English Literature and language.
- The historical growth of English literature from 16th century to present times is traced by interpreting and analyzing various literary texts.
- The study of different creative styles – prose, poetry, drama, critical theories – enables the learners to inculcate an evaluative prospective about arts.
- The significance of language (diction, intonation, phonetics etc.) for literature is understood by tracing the history of English language along with literature.
- The wide oeuvre from British, American, Commonwealth, Feminist and Indian literature in English develops a sound understanding about life along with academic pursuit.

Course Outcome:

Literature in English:

- 1550-1660: to acquaint the learners with the iconic literacy texts from the Elizabethan era with specific focus on epic poetry and drama.
- 1660-1798: to familiarize the students with the shifting trends in social values effected by the evolving political ideologies on the restoration era.
- 1798-1914: to inform the students about the impact of political stability on literature in the phase of romanticism. The gradual shifts in the Victorian age impacted by the industrial revolution also an objective of learning.
- 1914-2000: To help the students to understand radically changing social, political and economic situations during and after the world wars as reflected in literature.
- Study of Genre: Fiction: To develop an analytical and critical perspective on the structure, plot, theme and characterization by different writers of fiction.
- Critical Theory: To help the student to understand different critical theories and methods of applying them to understand literature.
- American Literature: to familiarize the students with the themes and techniques characteristic of American Writing.
- Indian Writing in English: To inform the students about the contribution of Indian Writers to English writers.
- English Language: To educate the students about the evolution & patterns governing English Language.
- Feminism: To expose the learners to the trends that marked the placing of women from the periphery of patriarchal society to the Centre of an informed and aware society.

KVA DAV COLLEGE FOR WOMEN, KARNAL



Department of Geography

B.A. COURSE OUTCOMES:

- PAPER 101** **Acquiring Knowledge of Geography of India:**
- Student will know about their own country's land formation, climate and natural vegetation, economic resources of India.
 - They will understand the social distribution of population of their country.
 - Furthermore, they can develop an idea about regionalisation of India.
- PAPER 103** **Acquiring Knowledge of Physical Geography:**
- Student will have a general understanding about the geomorphological and geotechnical processes and formation.
 - They will be able to correlate the knowledge of physical geography with the human geography.
- PAPER 102 and 104** **Acquiring Practical Knowledge of Maps, Scales and Representing Physical Features:**
- Develop an idea about scale and draw different types of maps and scales.
 - Student will also learn about methods of relief representation and there will be enhancement of skills of relief representation.
- PAPER 201** **Acquiring Knowledge of Physical Geography:**
- Provides knowledge about the basis of climatology and oceanography.
 - It also focusses on enrichment of knowledge about atmospheric and humidity, augmentation of knowledge about weather disturbances and familiarization with the oceanic floor and circulation.
- PAPER 203** **Acquiring Knowledge of Human Geography:**
- They will be able to acquire the fundamental knowledge of Human Geography and will correlate it with their practical life.
 - Apart from this, it will enhance the knowledge about distribution of races and tribes in the world and familiarization with different languages of the world and their geographical distribution.
- PAPER 202 and 204** **Acquiring Knowledge of Representation of Climatic Data & Map Projections:**
- They will be capable of measurement and representation of climatic data.
 - Students will be able to develop skills to read and interpret the weather maps and acquire skills of chain and tape survey.
 - Acquire knowledge about different types of map projection.
- PAPER 301** **Acquiring Knowledge of Economic Geography:**
- Understanding of fundamental concepts of Economic Geography, acquaintance of knowledge about resources and their conservation.
 - They will get to know about the distribution patterns of different types of crops, minerals and energy resources. Apart from this, there will be acquaintance with global industries, transport, communication and trade.

- PAPER 303** **Acquiring basic Remote Sensing, GIS and Quantitative methods:**
- Acquaintance with fundamentals of Remote Sensing and GIS.
 - They will be capable to interpret aerial photographs and enhance the skills to extract information from imageries.
 - They will understand the applications of Remote Sensing and GIS.
 - Students will learn about the basics of statistics, methods of central tendencies and dispersion.
- PAPER 302 and 304** **Acquiring Knowledge of Distribution Maps, Diagrams, Remote Sensing and Field Survey:**
- It aims to give knowledge about different types of thematic maps along with skill acquisition for construction of these maps.
 - It will enable students to understand different techniques of image interpretation and satellite imagery.
 - It will also make student confident in handling field situations.

M.Sc. GEOGRAPHY

COURSE OUTCOMES:

- GEOG-101** **Acquiring Knowledge about Elements, Processes, Types of Climates and Climate Change:**
- Student will be able to sharpen their understanding about different climatic systems found in the world.
 - It shall develop scientific understanding about climates and their characteristics.
- GEOG-102** **Acquiring Knowledge about their own country:**
- Students will become aware about country's diverse landscapes.
 - They will acquire knowledge about the economy and valuable resources.
 - This will also enhance their understanding about the unity in diversity of India.
- GEOG-103** **Acquiring Knowledge about dynamic aspects of Economic Geography:**
- It will enable the students to understand the spatial organization of economies of the world in relation to human activities, location theories of various activities, transport functions, trends and processes of globalization.
- GEOG-104** **Acquiring Knowledge about the Use of Statistical Tools and Techniques in Geography:**
 This will equip students with statistical tools for summarizing, analysing and finding spatial pattern from the geographical and other time series data.
- GEOG-105** **Acquiring Training in Latest Techniques in the Field of Cartography:**
- Students will have a better acquaintance about the representation of statistical data in the form of diagrams and maps.

- They will develop the skill of map making and interpretation of geographical reality.

GEOG-201 Acquiring Knowledge of Geomorphological Processes and Patterns:
Through this, students shall get to know about formation of the earth's surface features, the role played by the humans in changing the landscape and the significance of landforms in shaping the physical environment in an area.

GEOG-202 Acquiring Knowledge of Population Geography:

- The student shall learn about the population data sources and various theories, models and measures of population dynamics and international community efforts to improve quality of human resource.

GEOG-203 Acquiring Knowledge About the Processes, Pattern and Practice of Regional Development in India:

- Students shall develop understanding about the regional development processes, models adopted for development, regional disparities, challenges and strategies to overcome the disparities.

GEOG-204 Acquiring Knowledge About Different Aspects of Agriculture Geography:

- Students shall get to know about the spatial organization of agricultural activities in the world and India. Their knowledge about the origin, location, distribution of the agricultural activities shall be enriched.
- They would also get the knowledge about the modern agriculture, its dynamics and impact of climate change and economic liberalization on agricultural pattern and processes.

GEOG-205 Acquiring Knowledge About Morphometric Tools and Its Applications:

- It will provide students an opportunity to practice the use of tools and methods applied in morphometric analysis.

GEOG-301 Acquiring Knowledge About Various Aspects of Ecosystem and Legal Provisions for Its Protection:

- The students will get exposed to the concept of ecosystem, its various processes, biomes, anthropogenic interventions and consequential impacts and world community's efforts to address such problems.

GEOG-302(A) Introduction To Various Methods and Ways of Collection of Socio-Economic Data from The Field:

- Students shall learn the technique of collection of socio-economic data, processing and interpretation of acquired information and preparation of project report.

GEOG-302(B) Acquaint Students in Handling Field Situations:

- The writing of the project report shall train the students in analysis and interpretation of socio-economic data obtained from the field.

- GEOG-303(i) Acquiring Knowledge About Basics of Urban Geography and Its Various Aspects:**
- The students shall be acquainted with various urban concepts, urban economic base, urban functions, urban core periphery interaction and various theories and models.
- GEOG-304 (i) Acquiring Knowledge About Various Conceptual Framework of Geo-Political Issues:**
- The students shall be groomed to grasp the conceptual framework of geo-political issues and role and status India in contemporary geo-political situation.
- GEOG-305 (A) Exposure To Students Regarding Use of Remote Sensing Technology in Collecting Geographical Data:**
- The course will equip the students with state of art concepts and methodologies of remote sensing technology.
- GEOG-305 (B) Acquiring Knowledge to Understand and Analyse Various Aerial Photographs and Satellite Imageries:**
- It shall equip students with handling instruments, tools and techniques of aerial photo interpretation and satellite imageries.
- GEOG-401 Acquiring Knowledge About the History, Philosophy and Methodology of Geography:**
- It will appraise the students about the development of geography as a scientific discipline. It would help them in assessing the positive aspects and shortcomings of the discipline.
- GEOG-402 Acquiring Basic Knowledge of Hydrology and Oceanography:**
- It will acquaint the students with the basic concepts of hydrology and oceanography such as hydrologic cycle, water balance and movement of oceanic water, salinity distribution etc.
- GEOG-403(i) Acquiring Knowledge About the Regional Structure of India with A Focus on Haryana:**
- It will enhance the knowledge of the students regarding the regional diversities of India and they also get to know about the physical, economic and socio-cultural diversities in the state of Haryana.
- GEOG-404 (v) Acquiring Knowledge About Various Aspects of Urban Settlements and Contemporary Urban Issues and Policy Framework:**
- Students should be acquainted with the evolution, processes and pattern of urbanization in India, its contemporary urban issues and urban policy.
- GEOG-405 Acquiring Knowledge About the Various Aspects and Use of GIS:**

- (A) • The students shall acquire the skills in managing spatial and non-spatial data electronically and get acquaintance to concepts related to GPS.

GEOG-405 Training To Students About Digital Storage, Manipulation and Analysis of Data and Its Presentation Using GIS Software:

- (B) • It will equip the students with the techniques and methodologies of Geographical Information System, Geographical Positioning Systems in preparing the maps and presentation of information in GIS environment.

KVA DAV COLLEGE FOR WOMEN,KARNAL



Department of Punjabi

B.A syllabus Out-comes

Subject Punjabi

B.A I
1. ਗੈਰਵਸਾਲੀ ਪੰਜਾਬੀ ਸਾਹਿਤਿਕ ਵਿਰਸੇ ਦੀ ਜਾਣਕਾਰੀ । 2. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਪਿਛੋਕੜ ਬਾਰੇ ਜਾਣਕਾਰੀ । 3. 1850 ਤੋਂ ਪਹਿਲਾਂ ਅਤੇ ਬਾਅਦ ਦੇ ਇਤਿਹਾਸਕ ਸਾਹਿਤਿਕ ਬਦਲਾਵਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ । 4. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੀਆਂ ਆਧੁਨਿਕ ਸਾਹਿਤ ਵੰਨਰੀਆਂ ਨਾਲ ਜਾਣ-ਪਛਾਣ
B.A II
1. 850 ਤੋਂ ਲੈ ਕੇ 1850 ਤਕ ਇਤਿਹਾਸਕ ਉਤਾਰ-ਚੜਾਅ ਬਾਰੇ ਜਾਣਕਾਰੀ । 2. ਮੱਧਕਾਲੀ ਸਮੰ (1100-1850) ਤਕ ਹੋਏ ਸਾਹਿਤਿਕ ਰਚਨਾਵਾਂ ਬਾਰੇ ਜਾਣਕਾਰੀ । 3. ਮੱਧਕਾਲ ਦੀਆਂ ਧਾਰਮਿਕ ਪ੍ਰਵਿਰਤੀਆਂ ਬਾਰੇ ਜਾਣਕਾਰੀ । 4. ਪੰਜਾਬੀ ਸਾਹਿਤ ਦੇ ਵਿਸ਼ੇ ਬਾਰੇ ਜਾਣਕਾਰੀ ।
B.AIII
1. ਗੈਰਵਸਾਲੀ ਸਾਹਿਤ ਰਚਨਾ ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਦੀ ਬਾਣੀ ਦਾ ਅਧਿਐਨ । 2. ਪੰਜਾਬੀ ਸਾਹਿਤ ਇਤਿਹਾਸ ਦੀ ਜਾਣਕਾਰੀ । 3. ਅਮੀਰ ਭਾਰਤੀ ਡਗਤੀ ਪਰੰਪਰਾ ਦੀ ਜਾਣਕਾਰੀ । 4. ਮੱਧਕਾਲੀ ਸਮਾਜਕ, ਰਾਜਨੈਤਿਕ, ਧਾਰਮਿਕ ਪ੍ਰਸ਼ਾਸ਼ਤੀਆਂ ਦੀ ਜਾਣਕਾਰੀ ।