

NM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA	
COURSES AND THEIR OUTCOMES	
DEPARTMENT OF TELUGU	
SEMESTER-1: PAPER 1 (Sahiti Manjeera)- 4 CREDITS	
CO1	Students can enjoy all the essays and improves literary skills
CO2	Students can learn all the grammar skills
CO3	Differentiate the methods of old and modern poetry thoughts.
CO4	Understand the culture of old society and comparison with modern trends.
SEMESTER-2: PAPER 2 (Sahiti Manjeera)- 4 CREDITS	
CO1	Students will be able to improve comprehensive skills as well as advanced grammar skills
CO2	Students can understand the values of literature
CO3	Differentiate the methods of old and modern poetry thoughts.
CO4	Understand the culture of old society and comparison with modern trends
SEMESTER-3: PAPER 3 (Sahiti Kinnera) - 4 CREDITS	
CO1	The anthology contains selected literary pieces offering glimpses of life and world from different
CO2	Students will be able to make use of grammar skills when they face competitive exams
CO3	Differentiate the methods of old and modern poetry thoughts.
CO4	Understand the culture of old society and comparison with modern trends
SEMESTER-4: PAPER 4(Sahiti Kinnera)- 4 CREDITS	
CO1	Students will be able to improve human values by following the given anthology.
CO2	Students can improve prosody and grammar skills
CO3	Differentiate the methods of old and modern poetry thoughts.
CO4	Understand the culture of old society and comparison with modern trends.

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COURSES AND THEIR OUTCOMES	
DEPARTMENT OF ENGLISH	
SEMESTER-1: PAPER 1- 4 CREDITS	
CO1	Read, understand, interpret a variety of written texts
CO2	Undertake guided and extended writing using appropriate vocabulary and correct grammar
CO3	Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation
CO4	Become employable with requisite professional skills, ethics and values.
SEMESTER-2: PAPER 2- 4 CREDITS	
CO1	Read, understand, interpret a variety of written texts
CO2	Undertake guided and extended writing using appropriate vocabulary and correct grammar
CO3	Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation
CO4	Become employable with requisite professional skills, ethics and values.
SEMESTER-3: PAPER 3- 3 CREDITS	
CO1	Read, understand, interpret a variety of written texts
CO2	Undertake guided and extended writing using appropriate vocabulary and correct grammar
CO3	Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation
CO4	Become employable with requisite professional skills, ethics and values.
SEMESTER-4: PAPER 4- 3 CREDITS	
CO1	Read, understand, interpret a variety of written texts
CO2	Undertake guided and extended writing using appropriate vocabulary and correct grammar
CO3	Listen with comprehension and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation
CO4	Become employable with requisite professional skills, ethics and values.

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA

COURSES AND THEIR OUTCOMES

DEPARTMENT OF MATHEMATICS

SEMESTER-1: COURSE(DIFFERENTIAL AND INTEGRAL CALCULUS)-5 CREDITS

CO1	To find maxima and minima, critical points and inflection points of Function of two variables.
CO2	To able to evaluate integrals of rational functions by partial fractions.
CO3	Understand Sub tangent and Subnormal
CO4	Determine solutions to angle of intersection of two curves
CO5	Understand the basic knowledge of Circle, radius and Centre of Curvature
CO6	Calculate the length of an arc of a curve when whose equations are given in parametric and polar form.
CO7	Equate the area of surface of revolution

SEMESTER-2: COURSE(DIFFERENTIAL EQUATIONS)-5 CREDITS

CO1	The main aim of this course is to introduce the students to the techniques of solving differential equations and to train to apply their skills in solving some of the problems of engineering and science.
CO2	After learning the course the students will be equipped with the various tools to solve few types of differential equations that arise in several branches of science.
CO3	Students will be able to solve Differential Equations of first order and first degree.
CO4	Students can find integrating factors to make certain kinds of Differential Equations exact and thereby solve the equations.
CO5	Students will be able to solve Differential Equations first order but not of first degree.
CO6	Students can formulate mathematical models in the form of ordinary differential equations to suggest possible solutions of the day to day problems like Growth and Decay, Dynamics of Tumour Growth, Radioactivity and Carbon Dating, Compound Interest and Orthogonal Trajectories arising in physical, chemical and biological disciplines.
CO7	Students will be able to solve Higher order Linear Differential Equations
CO8	Students can form and solve Partial Differential Equations

SEMESTER-3: COURSE(REAL ANALYSIS) - 5 CREDITS

CO1	The course is aimed at exposing the students to the foundations of analysis which will be useful in understanding various physical phenomena
CO2	After the completion of the course students will be in a position to appreciate beauty and applicability of the course
CO3	Students can recognize bounded, convergent, divergent, Cauchy and monotonic sequences and can calculate their limit superior, limit inferior and the limits of convergent sequences.
CO4	Students can apply the ratio, root, alternating series and limit comparison tests for convergence and absolute convergence of an infinite series of real numbers and able to find the sum of infinite terms of some convergent series.
CO5	Students can identify Continuous and Uniformly Continuous Functions
CO6	Students can understand the properties of Continuous Functions
CO7	Students can find the limits of functions
CO8	Students can understand Basic Properties of the Derivatives
CO9	Students can understand the Mean Value Theorem, L'Hospital Rule and Taylor's Theorem and their applications.
CO10	Students can understand the concept of Riemann Integration.
CO11	Students can understand the Properties of Riemann Integral.
CO12	Students can understand the applications of the fundamental theorems of integration.

SEMESTER-4: COURSE(ABSTRACT ALGEBRA) -5 CREDITS	
CO1	The course is aimed at exposing the students to learn some basic algebraic structures like groups, rings etc.
CO2	On successful completion of the course students will be able to recognize algebraic structures that arise in matrix algebra, linear algebra and will be able to apply the skills learnt in understanding various such subjects.
CO3	Students can understand the concept of algebraic structures Groups, Subgroups and identify Groups, Subgroups.
CO4	Link the fundamental concepts of groups and symmetries of geometrical objects.
CO5	Students can Classify Subgroups and Cyclic Groups
CO6	Students can understand Permutation Groups and Properties of Permutations
CO7	Students can understand the notions of cosets, normal subgroups, and factor groups.
CO8	Students can analyze consequences of Lagrange's theorem.
CO9	Learn about structure preserving maps between groups and their consequences.
CO10	Students can understand the concepts of Rings, Integral Domains, Ideals, Factor Rings, Prime Ideals, Maximal Ideals and Ring Homomorphisms
CO11	Students will learn important applications of groups like check digit systems which is applied in bank notes serial numbers.
CO12	Students can able to understand Modular arithmetic, which is vital in cryptography.
SEMESTER-5: COURSE(LINEAR ALGEBRA)- 4 CREDITS	
CO1	Students can understand the concepts of vector spaces, subspaces, bases, dimension and their properties, Coordinate Systems which play key role in digitalisation.
CO2	Students can find the solution space of homogeneous equations using Null space
CO3	Students can map Vector Spaces through order preserving linear transformations.
CO4	Students can find the rank of matrices, which has many applications in solving system of equations
CO5	Students can understand the relation between Coordinates when basis are changed.
CO6	Students can find Eigen values and Eigenvectors of matrices, which has many applications
CO7	Students can understand the Diagonalization process, which reduces huge computing tasks and has applications in real time calculations.
CO8	Students can learn properties of inner product spaces and determine orthogonality in inner product spaces.
CO9	Students can realize the power of matrices and their role in digitalization.
SEMESTER-5: COURSE(ANALYTICAL SOLID GEOMETRY)-4 CREDITS	
CO1	Students can find centre and radius of sphere and circles
CO2	Students can understand family of spheres passing through a circle, tangent planes and normal lines to a sphere
CO3	Students can obtain equation of cone, enveloping cone, cylinder and prove their results
CO4	Students can find equation of tangent plane, reciprocal cone of given cone
CO5	Students can Identify different conicoids and sketch them
CO6	Students can understand relationship between different coordinate systems and plot the curve in spherical, cylindrical, polar coordinates
CO7	Students can find the area of triangles, quadrilaterals and circles and shapes based on these
SEMESTER-6: COURSE(NUMERICAL ANALYSIS) -4 CREDITS	
CO1	Students will be able to find the solutions of all algebraic and transcendental equations in one variable with desired accuracy using various methods.
CO2	Students will be able to convert the data in to polynomials using various methods.
CO3	Students will be able to interpolate the data within the given intervals.
CO4	Students will be able to understand various methods of Numerical Differentiation
CO5	Students will be able to understand various methods of Numerical Integration
CO6	Students can apply various numerical methods to get results in numerical form which are useful in real life problems.

SEMESTER-6,COURSE(VECTOR CALCULUS),4 CREDITS	
CO1	Concepts like gradient, divergence, curl and their physical relevance will be taught
CO1	Students can realize the way vector calculus is used to addresses some of the problems of physics
CO2	Students can evaluate Line integrals
CO3	Students can evaluate Surface integrals
CO4	Students can evaluate Volume integrals
CO5	Students can find Gradient of a scalar field
CO6	Students can find Divergence of a vector field
CO7	Students can find curl of a vector field
CO8	Students can understand the concepts of rotational and irrotational vectors, which have importance in meteorological centers.
SKILL ENHANCEMENT COURSE(THEORY OF EQUATIONS) -2 CREDITS	
CO1	Students can use various tools to solve quadratic, cubic, biquadratic and quintic equations.
CO2	Students can able to identify the number of possible positive, negative roots of a polynomial equation using Descartes Rule of Signs.
CO3	Students can learn the relation between roots and coefficients of a polynomial equation
CO4	Students can understand the symmetric functions of roots
SKILL ENHANCEMENT COURSE (INTEGRAL TRANSFORMS) - 2 CREDITS	
CO1	In this course, Students learn various methods to find the Laplace transform of a function.
CO2	Students will learn various methods to find inverse Laplace transforms.
CO3	Students will get to know the application of Laplace transform in solving ordinary and partial differential equations.

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COURSES AND THEIR OUTCOMES

DEPARTMENT OF PHYSICS

SEMESTER-1: Course name - MECHANICS - 5 CREDITS

CO1	Students will learn gradient of scalar field, divergence & curl of vector field, vector integrations and their conversions.
CO2	Students get good knowledge about laws of motion and variable mass system which mostly appears in physical world like motion of rocket.
CO3	Students study the rigid body dynamics and get comparative idea between linear & rotational motions. Students understand the working principle of Gyroscope which serves as 3D compass and get the idea of precision of equinoxes.
CO4	Students study the central forces which helps to understand the motion of planets and satellites. Students study coriolis force.
CO5	Understand the negative result of Michelson Morley experiment, Galilean and Lorentz transformation. Study relativistic effects such as length contraction and time dilation and understand twins paradox.
CO6	Students are able to find out acceleration due to gravity in a place and to use error analysis in finding a quantity.
CO7	Students are able to understand various properties of liquids i.e. surface tension, refractive index, viscosity
CO8	Students will be able to investigate Young's modulus and rigidity modulus and calculate moment of inertia.

SEMESTER-2: Course name - WAVES and OSCILLATIONS - 5 CREDITS

CO1	Students learn how to derive the wave equations of different oscillators and their solutions. Understand the principle of superposition of waves, so thus describe the formation of standing waves and Lissajus figures
CO2	Students study the propagation of transverse waves in strings and energy transport.
CO3	Students understand the oscillations of simple, compound pendulums and bifilar suspension through experiments.
CO4	Students study the longitudinal vibrations in bars in different vibrating modes and study the vibrations of tuning fork.

SEMESTER-3: Course name - THERMODYNAMICS - 5 CREDITS

CO1	Learn the basic aspects of kinetic theory of gases, Maxwell-Boltzmann distribution law, equipartition of energies, mean free path of molecular collisions, viscosity, thermal conductivity and diffusion.
CO2	Students learn the laws of Thermodynamics & absolute scale of temperature and come to know entropy change in reversible & irreversible processes.
CO3	Students learn thermodynamic potentials, Maxwell's thermodynamic relations, real gas equations, Van der Waal equation of state, the Joule-Thompson effect. Thompson effect.
CO4	Students learn the methods to produce low temperatures, principle of refrigeration, working principle of pressure cooker (Clausius-Clayperon's equation).
CO5	Students know about black bodies and radiation laws of black body radiation. Students know why hot objects appear in different colors and about high temperature measuring devices & solar constant measuring devices.
CO6	Understand the concepts of micro state, macro state, ensemble, phase space, thermodynamic probability.
CO7	Understand the three different distribution laws e.g. Maxwell-Boltzmann distribution, Bose-Einstein distribution and Fermi-Dirac distribution laws of particles and their derivation & applications.

CO8	Students will be able to calculate thermal conductivity of a bad conductor, Stefan's constant, heating efficiency of electrical kettle through experiments.
SEMESTER-4: Course name - OPTICS -5 CREDITS	
Students will be able to	
CO1	Understand the concept of coherence, temporal & spatial coherence. Understand Interference by division of amplitude & division of wave front.
CO2	Understand the measurement of wavelength of light using Biprism, Lloyd's mirror, Newton's rings, Wedge shaped film and Michelson Interferometer experiments. Know the reason for colors of thin films like soap bubbles. Understand the measurement of diameter of thin wires.
CO3	Know the distinction between Fresnel and Fraunhofer diffraction. Know the limit of resolution, resolving power of grating, dispersive of prism and measurement of λ of light using above devices.
CO4	understand different methods of Polarization, Optical rotation, Bobinet's compensator, Laurent's half shade polarimeter.
CO5	understand the concept of monochromatic aberrations, spherical aberration, minimization of aberrations.
CO6	understand the principles, types and applications of Optical fibers.
SEMESTER-5: Course name - ELECTROMAGNETISM - 5 CREDITS	
Students will be able to	
CO1	learn Coulomb's law, Gauss' law in electrostatics and apply it to systems of point charges as well as line, surface and volume distributions of charges.
CO2	Explain and differentiate the vector (electric fields, Coulomb's law) and scalar (electric potential, electric potential energy) formalisms of electrostatics.
CO3	Learn the concept of magnetic field B, magnetic flux, Biot-Savart's law, Ampere laws and applications of these laws. Solve the problems of determination of B due to magnetic dipoles and electric currents.
CO4	learn the concepts of Faraday's laws of induction, Lenz's law, self and mutual Induction, modification of Ampere's law, displacement current, Maxwell equations. Unit
CO5	understand polarization of EM waves, Brewster's angle, description of linear, circular and elliptical polarization
CO6	understand Thevenin's, Norton's, Superposition and Maximum power transfer theorems by doing experiments. Determine a small resistance by Carey Foster's bridge
SEMESTER-5: Course name - SOLID STATE PHYSICS - 5 CREDITS	
Students will be able to	
CO1	understand difference between amorphous and crystalline materials. Understand the topics Unit Cell, Miller Indices, types of lattices, reciprocal lattice, Brillouin Zones and diffraction of X-rays by Crystals
CO2	understand the lattice vibrations of linear mono atomic and diatomic chains. Understand Dulong and Petit's Law, Einstein and Debye theories of specific heat.
CO3	know the difference among Dia-, Para-, Ferri- and Ferromagnetic Materials. Understand Curie's law, Weiss's law, Hysteresis and Energy Loss.
CO4	understand the polarization of dielectrics, local field at an atom, Clausius-Mosotti equation.
CO5	Understand the band theory of solids and to differentiate insulators, conductors and semiconductors. Understand hall effect, conductivity measurement by four probe method.
CO6	understand laser fundamentals, three & four level lasers, Ruby laser and He-Ne laser.

CO7	understand the Superconductivity of materials, Type-I and Type-II Superconductors, London's equation and penetration depth, isotope effect, idea of BCS theory, D.C and A.C Josephson effects.
SEMESTER-6: Course name - MODERN PHYSICS - 5 CREDITS	
Students will be able to	
CO1	know the Inadequacy of classical physics and modification of atomic models. Understand the concepts of Photoelectric effect, Compton effect, deBroglie matter waves and Heisenberg Uncertainty Principle
CO2	learn the basic properties of nucleus, nuclear models: Liquid Drop model - semi-empirical mass formula and binding energy, Nuclear Shell Model and magic numbers
CO3	understand the stability of the nucleus, Law of radioactive decay; Mean life and half-life; Alpha decay; Beta decay, Gamma ray emission, Fission and fusion, Classification of Elementary Particles
SEMESTER-6: Course name - BASIC ELECTRONICS - 5 CREDITS	
Students will be able to	
CO1	know about Passive & Active Elements, Power sources and T to π Transformations.
CO2	understand and demonstrate Superposition theorem, Thevenin's Theorem, Norton's theorem. Reciprocity Theorem and Maximum power transfer theorem
CO3	know about Two-port Networks–Z-parameters, Y-parameters, h-parameters and ABCD-parameters
CO4	understand band theory of solids, intrinsic semiconductors, extrinsic semi-conductors (p-type & n-type), p-n junction diode, rectifier circuit, zener diode and voltage regulator circuit.
CO5	understand the working principle of Bipolar Junction Transistor, CB, CE and CC configurations, R-C coupled amplifier circuit, Concepts of Oscillators and phase shift oscillator circuit.
CO6	understand Binary, Decimal and Hexadecimal number systems. Convert numbers from one system to another.
CO7	describe and demonstrate the circuits of OR, AND, NOT, NOR, NAND and EX-OR gates. Understand and verify De Morgan's Laws.
CO8	understand working principle of Generators and Transformers and A.C. & D.C. Response of electrical components
SKILL ENHANCEMENT COURSE : ELECTRICAL CIRCUITS & NETWORK SKILLS -2 CREDITS	
Students will be able to	
CO1	know the basic electricity principles: Voltage, Current, Resistance, and Power, Series & parallel combinations of circuit elements, AC Electricity and DC Electricity
CO2	know drawing symbols, blueprints, reading Schematics, ladder diagrams, electrical Schematics.
CO3	know about electrical protection devices: Relays, fuses and disconnect switches, circuit breakers, overload devices, grounding and isolating.
SKILL ENHANCEMENT COURSE : RENEWABLE ENERGY & ENERGY HARVESTING-2 CREDITS	
Students will be able to	
CO1	know the difference between conventional (non renewable) & non-conventional (renewable) energy sources. Know the alternate sources of energy. Limitations of renewable and non renewable energy sources.
CO2	get detailed idea about solar energy, wind energy, ocean energy, geothermal energy, hydro energy.

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COURSES AND THEIR OUTCOMES

CHEMISTRY

SEMESTER-I, PAPER 1, 4 CREDITS

The students will learn the following

CO 1	Understand the concept of nature of chemical bond.
CO 2	Overview of P block elements. Inculcate industrial applications of carbides, silicones, acidity and reactivity of boron compounds
CO 3	Detail understanding of various compounds of elements of p-block and theoretical knowledge to perform semi micro analysis i.e Identification of inorganic salts
CO 4	Understand the concept of stereochemistry. Understand different types of reaction mechanism. These topics provide excellent understanding of basic knowledge of organic chemistry in future of course.
CO 5	Understand alkanes, alkenes, alkynes, Understand the aromaticity of organic compounds.
CO 6	These topics give a foundation to cater the needs of quantum mechanics future of course and use full to learn behavior of real gases, liquification phenomenon, viscosity of liquids etc.
CO 7	Understand the crystal structures of various solids. Understand the concepts of Real gases and solutions (miscible , immiscible & partially miscible liquids)
CO 8	Inculcates the practical knowledge of identification and confirm the given unknown salt mixture

SEMESTER-II, PAPER 2, 4 CREDITS

The students will learn the following

CO 1	Understand reactivity and structures of oxides, oxy acids, structures of inter halogen compound. zero group elements, d -block elements
CO 2	Understand the structure and chemical bonding and behaviour in aryl ,alkyl halides,alcohols, phenols and carbonyl compounds..
CO 3	Understand the theories and laws of electrochemistry, electrolytical cells, electrochemical cells applications batteries industry. Conductometric titrations, emf etc.
CO 4	Volumetric analysis, and gravimetric analysis. estimation of carbonate, bicarbonate, copper etc.

SEMESTER-III, PAPER 3, 4CREDITS

The students will learn the following

CO 1	Understand the chemistry of f-block elements, complex compounds, metal carbonys and organometallic compounds and their applications.
CO 2	Understand the chemistry of carboxylic acids and their derivatives , active methylene compounds and nitro compounds . industrial and research importance. Importance of carbanions -I
CO 3	Understand the thermodynamics of chemical reactions, phase rule.
CO 4	Laboratory synthesis of some organic compounds.

SEMESTER-IV, PAPER 4, 4 CREDITS

The students will learn the following

CO 1	Student able to understand the reaction mechanism of inorganic complexes, inert and labile nature ,bio inorganic chemistry Student able to understand the reaction mechanism of inorganic complexes, inert and labile nature ,bio inorganic chemistry i.e importance of micro and macro nutrients in human. Theories of bonding in metals.
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CO 2	Student able to understand the the chemistry and reactions of carbohydrates, amino acids and Hetero cyclic compounds. Their importance in medical and biological fields. Importance of carbanions -II
CO 3	Understand the concepts of kinetics and photochemistry (reaction dynamics), colloids and surface chemistry.
CO 4	Functional group analysis.
SEMESTER-V, PAPER 5, 3 CREDITS	
The students will learn the following	
CO 1	Understand the CFT, magnetic properties, colour properties, applications of complex compounds
CO 2	Understand the chemistry amines and heterocyclic compounds and their importance medical fields.
CO 3	By the end of this course, Students will be able to: Understand the thermodynamics of chemical reactions.Understand the concept of chemical kinetics
SEMESTER-V, PAPER 6, 3 CREDITS	
The students will learn the following	
CO 1	Understand the spectroscopic techniques to elucidation of the given compound. Gains the knowledge of I.R, U.V and ELECTRONIC SPECTRAL TECHNIQUES
CO 2	Students are able to Preparation of and checking purity through T.L.C ,of few organic compounds
SEMESTER-VI, PAPER 7, 3 CREDITS	
The students will learn the following	
CO 1	Student able to understand the reaction mechanism of inorganic complexes, inert and labile nature ,bio inorganic chemistry i.e importance of micro and macro nutrients in human
CO 2	Student able to understand the chemistry and reactions of carbohydrates and amino acids. Their importance in medical and biological fields
CO 3	Student able to understand the thermo chemical reactions and thermodynamic parameters, spontaneous and non spontaneous, equilibrium, Cp and Cv, thermodynamically carried processes such as entropy etc.,
CO 4	Students are able to identify and confirm the given organic compounds and able to test the purity samples.
SEMESTER-VI, PAPER 8, 3 CREDITS	
The students will learn the following	
CO 1	Understand the various types of diseases and various terms involved in medicinal chemistry. nomenclature of drugs and therapeutic activity of drugs. absorption , distribution, metabolism and elimination of drugs
CO 2	Understand the chemistry of enzymes and their action, drug action –receptor theory , drug function with an example
CO 3	Understand the synthesis of drugs and about the drugs to treat metabolic disorders. And those drugs which acting on nervous system
CO 4	Understand about molecular messenger and health promoting drugs in detail.
CO 5	Students are able to perform practicals of various physical chemistry experiments and gain the sound knowledge of their significance.

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COURSES AND THEIR OUTCOMES	
DEPARTMENT OF BOTANY	
OLD CBCS(2016 TO 2019)	
SEMESTER-I, PAPER 1(Microbial diversity & lower plants), CREDITS-4+1 =5	
CO 1	Understand the fundamental concepts related to Bacteria, viruses, algae, fungi
CO 2	Examine the general characteristics of bacteria and their cell, reproduction/ recombination.
CO 3	Analyze the general structure and replication of viruses.
CO 4	Develop critical understanding of plant diseases and their remediation.
SEMESTER-II, PAPER 2(Bryophytes, Pteridophytes, Gymnosperms, Paleobotany) CREDITS-4+1 =5	
CO 1	Develop critical understanding on morphology, reproduction of Bryophytes, Pteridophytes& Gymnosperms
CO 2	Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Bryophytes,Pteridophytes& Gymnosperms
CO 3	Develop understanding fossils, Fossilization & Types of fossils.
SEMESTER-III, PAPER 3(Plant Taxonomy & Medicinal Botany), CREDITS -4+1=5	
CO 1	Students can able to understand the systematic position of different plant species in surrounding environment
CO 2	The students develop knowledge about plant identification and nomenclature.
CO 3	Students can able to know the technique of making herbarium.
CO 4	They can understand the medicinal values of different medicinal plants and can apply the knowledge in their real life
SEMESTER-IV, PAPER 4 (Plant Anatomy & Embryology) CREDITS -4+1=5	
CO 1	Understand the fundamental concepts of plant anatomy and embryology
CO 2	Analyze and recognize the different organs of plant and secondary growth
CO 3	Evaluate the structural organization of flower and the process of pollination, fertilization & Development of embryo.
SEMESTER-V, PAPER 5(DSC)(Cell Biology & Genetics) CREDITS- 3+1=4	
CO 1	Understand the importance, evolution and diversity of cells.
CO 2	Able to describe the organization, structure and functions of cell organelles.
CO 3	Understand the biochemical pathways associated with the cellular organelles.
CO 4	Perceive over all mechanism of cell growth and cell cycle and division
CO 5	Understand the sequential events that occur during mitosis and meiosis
SEMESTER-VI(DSE-I), PAPER 6 (Ecology & Biodiversity) CREDITS-3+1=4	
CO 1	Comprehend the basic concepts of plant ecology.
CO 2	Understanding the concepts of biotic and abiotic components.
CO 3	Assess the adaptation of plants in 4 relation to light, temperature, edaphic factors
CO 4	Analyze the characteristics of different plant communities.
CO 5	Develop understanding of the concept and scope of Biodiversity
CO 6	Identify the causes and implications of loss of biodiversity.
CO 7	Utilize various strategies for the conservation of biodiversity

SEMESTER-VI, PAPER 7(DSC) (Plant Physiology) CREDITS-3+1=4	
CO 1	Understand Water relation of plants with respect to various physiological processes
CO 2	Explain chemical properties and deficiency symptoms in plants
CO 3	Understand the mechanism of various metabolic processes in plants.
CO 4	Explain the significance of Photosynthesis and respiration
CO 5	Acquire basic knowledge about growth and development in plants
CO 6	Assess dormancy and germination in plants
SEMESTER-VI, PAPER 8(DSE) (Tissue Culture & Biotechnology) CREDITS-3+1=4(DSE)	
CO 1	Develop their competency on different types of plant tissue culture Understand the basic concepts and fundamentals of plant biotechnology
CO 2	Analyze the enzymes and vectors used for genetic manipulations
CO 3	Examine gene cloning and evaluate different methods of gene transfer
CO 4	Critically analyze the major concerns and applications of transgenic plants
BOTANY NEW CBCS (FROM 2019)	
SEMESTER-I, PAPER 1(Microbial diversity & lower plants), CREDITS-4+1 =5	
CO 1	Understand the fundamental concepts related to Bacteria, viruses, algae, fungi, Bryophytes and Pteridophytes.
CO 2	Examine the general characteristics of bacteria and their cell, reproduction/ recombination.
CO 3	Analyze the general structure and replication of viruses.
CO 4	Develop critical understanding of plant diseases and their remediation.
CO 5	Develop critical understanding on morphology, reproduction of Bryophytes and Pteridophytes.
CO 6	Demonstrate proficiency in the experimental techniques and methods of appropriate analysis of Bryophytes and Pteridophytes
SEMESTER-II, PAPER 2(Gymnosperms, Plant Taxonomy & Ecology) CREDITS-4+1 =5	
CO 1	Develop critical morphology, reproduction and economic importance of Gymnosperms.
CO 2	The students develop knowledge about plant identification and nomenclature.
CO 3	Students can able to understand the systematic position of different plant species in surrounding environment
CO 4	Students can able to know the technique of making herbarium.
CO 5	Develop critical thinking about Ecosystem, population & Community Ecology.
SEMESTER-III, PAPER 3 (Plant Anatomy & Embryology) CREDITS -4+1=5	
CO 1	Understand the fundamental concepts of plant anatomy and embryology
CO 2	Analyze and recognize the different organs of plant and secondary growth
CO 3	Evaluate the structural organization of flower and the process of pollination, fertilization & Development of embryo.
SEMESTER-IV, PAPER 4(DSC)(Cell Biology , Genetics& Plant physiology) CREDITS- 3+1=4	
CO 1	Understand the importance, evolution and diversity of cells.
CO 2	Able to describe the organization, structure and functions of cell organelles.
CO 3	Understand the biochemical pathways associated with the cellular organelles.
CO 4	Perceive over all mechanism of cell growth and cell cycle and division
CO 5	Understand the sequential events that occur during mitosis and meiosis
CO 6	Understand Water relation of plants with respect to various physiological processes
CO 7	Explain chemical properties and deficiency symptoms in plants
CO 8	Understand the mechanism of various metabolic processes in plants.
CO 9	Explain the significance of Photosynthesis and respiration
CO 10	Acquire basic knowledge about growth and development in plants
CO 11	Assess dormancy and germination in plants

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COURSES AND THEIR OUTCOMES

DEPARTMENT OF ZOOLOGY

SEMESTER-I, PAPER 1 (ANIMAL DIVERSITY - INVERTEBRATES) 4 CREDITS

CO 1	The student will be able to understand classify and identify the diversity of Invertebrates.
CO 2	The student understands the importance of classification of animals and classifies them effectively using the six levels of classification.
CO 3	Categorize the diversity found in the invertebrate groups of animals like Arthropoda, Mollusca and Echinodermata.
CO 4	Describe the morphology, habit and habitat, systematic position and various systems in Invertebrate species.

SEMESTER-II, PAPER 2 (ANIMAL DIVERSITY - VERTEBRATES) 4 CREDITS

CO 1	The student will be able to understand classify and identify the diversity of Invertebrates.
CO 2	The student understands the importance of classification of animals and classifies them effectively using the six levels of classification.
CO 3	Categorize the diversity found in the vertebrate groups of animals like reptiles, birds and mammals.
CO 4	Explain various adaptations in avian group as well as migration and flight in birds.

SEMESTER-III, PAPER 3 (ANIMAL PHYSIOLOGY & ANIMAL BEHAVIOUR)

CO 1	Knowledge of basic terms in physiology.
CO 2	Understood about the composition of food and mechanism of digestion absorption and assimilation.
CO 3	The student will be able to understand the physiological processes in mammals.
CO 4	Explain the anatomy of various systems.
CO 5	Illustrate the reproductive cycles with hormonal control.
CO 6	Gain knowledge of working of kidney.
CO 7	The Student will be expected to gain a comprehensive understanding of the behavior of animals.

SEMESTER-IV, PAPER 4 (CELL BIOLOGY, GENETICS AND DEVELOPMENTAL BIOLOGY) 4 CREDITS

CO 1	Understood the structure of cells and cell organelles in relation to the functional.
CO 2	Described the composition of prokaryotic and eukaryotic cells.
CO 3	Understood the structure and functions of chromosome; mitotic and meiotic cell divisions and their significance.
CO 4	Explain DNA structure.
CO 5	Paraphrase the Central dogma of molecular biology.
CO 6	Illustrate the mechanism of replication, transcription and translation.
CO 7	Justify the post transcriptional and post translational modifications.
CO 8	Mendelian and non mendelian inheritance
CO 9	Concept behind genetic disorder, gene mutations- various causes associated with inborn errors of metabolism
CO 10	Identify the developmental stages
CO 11	Understood the process of development of animals.

SEMESTER-V, PAPER 5 (PHYSIOLOGY AND BIOCHEMISTRY) 3 CREDITS	
CO 1	Knowledge of basic terms in physiology.
CO 2	Understood about the composition of food and mechanism of digestion absorption and assimilation.
CO 3	The student will be able to understand the physiological processes in mammals.
CO 4	Explain the anatomy of various systems.
CO 5	Illustrate the reproductive cycles with hormonal control.
CO 6	Gain knowledge of working of kidney.
CO 7	Knowledge of basic terms in biochemistry.
CO 8	The student will be able to explain the structure, functions and reactions of the various biomolecules.
CO 9	Attained the knowledge of macromolecule such as carbohydrates, protein and fat, their types and significance.
CO 10	Described the enzymes, mechanism of enzyme action and factors affecting the enzyme activity
SEMESTER-V, PAPER 6 (APPLIED ZOOLOGY) 3 CREDITS	
CO 1	Gain knowledge to define the concepts of the applied subjects like Aquaculture, Apiculture ,Sericulture, Vermiculture, Poultry and Animal Husbandary.
CO 2	The student will be able to identify, freshwater, marine water fishes.
CO 3	Gain knowledge to explain the tools and techniques used in aquaculture
CO 4	The student will be able to describe the fish species commonly used in fishery business.
CO 5	Identify different species and casts of honeybees and species of silkworm.
CO 6	Explain the tools and techniques used in apiculture and sericulture.
CO 7	The student will be able to explain the important pests of apiculture and sericulture.
CO 8	Describe the economic importance of honeybee and silkworm.
CO 9	To satisfy the need for food of the growing population.
CO 10	To do proper management of the domestic animals.
CO 11	To develop high yielding breeds of animals.
CO 12	To increase the standard of living of formers.
SEMESTER-VI, PAPER 7 (IMMUNOLOGY AND ANIMAL BIOTECHNOLOGY) 3 CREDITS	
CO 1	The students will be able to identify the cellular and molecular basis of immune responsiveness.
CO 2	The students will be able to describe immunological response and how it is triggered and regulated.
CO 3	Developing DNA - based diagnostics and genetically engineered vaccines for animals,Studying animal genomics and its varied applications
CO 4	Scope and Importance of Biotechnology.
CO 5	The concept of recombinant DNA technology.
CO 6	Briefing the methods and tools associated with recombinant DNA technology.
CO 7	The concept of Genetically modified organisms.
SEMESTER-VI, PAPER 8 (AQUATIC BIOLOGY) 3 CREDITS	
CO 1	Demonstrate the effect of pollutants on freshwater bodies
CO 2	Identify the aquatic adaptations in deep sea organisms
CO 3	Illustrate the physicochemical properties of water.
CO 4	To study different nutrient cycles
CO 5	Gain knowledge of different types of Freshwater ecosystem (lakes, wetlands, streams and rivers)
CO 6	To know the Causes of pollution of Agricultural, Industrial, Sewage, Thermal and Oil spills

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA

COURSES AND THEIR OUTCOMES

DEPARTMENT OF COMPUTER SCIENCE

Semester-I, Paper-1 (Programming in C) – 5 Credits

CO-1	It will help you understand how a computer works and established.
CO-2	Explains the concepts of C Tokens (Like operators and Data types)
CO-3	Develops basic understanding of computers, the concept of algorithms and code
CO-4	Understanding a functional hierarchical code organization
CO-5	Ability to work with textual information, characters and strings
CO-6	Ability to work with arrays of complex objects.
CO-7	Understanding a concept of object thinking within the framework of functional model.
CO-8	Ability to handle possible errors during program execution
CO-9	Ability to work with structure and unions.

Semester-II, Paper-2 (Programming in C++) – 5 Credits

CO-1	To understand how C++ improves C with object-oriented features.
CO-2	To learn how to write inline functions for efficiency and performance.
CO-3	To learn the syntax and semantics of the C++ programming language.
CO-4	To learn how to design C++ classes for code reuse.
CO-5	To learn how to implement copy constructors and class member functions.
CO-6	To understand the concept of data abstraction and encapsulation.
CO-7	To learn how to overload functions and operators in C++.
CO-8	To learn how containment and inheritance promote code reuse in C++.
CO-9	To learn how inheritance and virtual functions implement dynamic binding with polymorphism.
CO-10	To learn how to design and implement generic classes with C++ templates.
CO-11	To learn how to use exception handling in C++ programs.

Semester-III, Paper-3 (Data Structures) – 4 Credits

CO1	Ability to analyze basic concepts in types of data structures
CO2	Ability to describe stack,queue and linked list operation.
CO3	Understand the usage and applications of different data structures.
CO4	Ability to have knowledge of tree and graphs concepts.
CO5	To understand the concepts of different tree structures and traveling techniques.
CO6	Ability to summarize searching and sorting techniques
CO7	Identify the need of different Hashing Techniques.
CO8	Explain priority queues with example.

Semester-IV, Paper-4 (DataBase Management System) – 4 Credits

CO1	Describe the fundamentals of File processing and database processing system.
CO2	Explain the various data model and its application.
CO3	Design ER diagrams for new databases.
CO4	Explain the fundamental concepts of SQL programs.
CO5	Describe the concepts of function, procedure, package, trigger and exception handling.
CO6	Explain the various normal forms and its role in DBMS.
CO7	Ability to identify various normal forms with relational tables.
CO8	Understand the Transactions and their proprieties(ACID).
CO9	Understand recovery techniques used to recover from crashes.

SEMESTER –V PAPER-5 (Programming in JAVA) 3 CREDITS	
CO 1	Gain knowledge to define the concepts of the programming to cover software design, implementation using java.
CO 2	The student will be able to use an integrated development environment to write compile,run simple object oriented java programs.
CO 3	Explain the process of developing the code.
CO 4	Understand the data types, arrays, primary components in java.
CO5	Gain the knowledge on packages and input and output files.
CO 6	Explain the process of threading and multithreading.
CO 7	To understand the Abstract window toolkit and swings to create different forms of buttons, checkboxes, layouts etc.
CO 8	Identify the connection of database by using JDBC.
Semester-V, Paper-6 (Operating Systems) – 3 Credits	
CO-1	To understand design issues related to Process management andvarious related algorithms.
CO-2	Explain the concept of a process and the process control block (PCB) in a typical OS.
CO-3	Understand theprocess managementpolicies andscheduling ofprocesses by CPU.
CO-4	Evaluate the requirement forprocesssynchronization andcoordination handledby operating system.
CO-5	To understand design issues related to Memory management andvarious related algorithms.
CO-6	Explain the difference between a process and a thread.
CO-7	Identify use andevaluate the storagemanagement policieswithrespect todifferent storage managementtechnologies.
CO-8	Identify the need to create the specia lpurpose operating system.
Semester –VI Paper-7 (Web Technologies) - 3 Credits	
CO 1	Describe HTML and XHTML.
CO 2	Use different types of tags for tables, frames,forms.
CO 3	Describe the navigation using Anchor tag.
CO 4	Learn cascading style sheets and design issues.
CO 5	Understand the java scripts for performing validations on forms.
CO 6	The concept of apply all the tags to create web pages .
Semester-VI, Paper-8 (Computer Networks) – 3 Credits	
CO 1	Describe the functions of each layer in OSI and TCP/IP model
CO 2	Understand different types of networks, various topologies and application of networks.
CO 3	Explain the functions of Application layer and Presentation layer paradigms andProtocols.
CO 4	Describe the Session layer design issues and Transport layer services.
CO 5	Understand the concept of networking models, protocols, functionality of each layer.
CO 6	Explain the types of transmission media with real time applications.
CO 7	Understand types of addresses, data communication.
CO-8	Learn basic networking hardware and tools.

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA**COURSES AND THEIR OUTCOMES****DEPARTMENT OF COMMERCE****SEMESTER-I, Financial Accounting – I, Business Organization and Management, 10 CREDITS**

CO 1	Students will be able to acquire conceptual knowledge of basics of accounting and preparation of final accounts of sole trader
CO 2	To acquaint the students with the basics of commerce and business concepts and functions, form of business organization and functions of management

SEMESTER-II, Financial Accounting -II, Business Laws, 10 CREDITS

CO 1	To acquire accounting knowledge of bills of exchange and other business accounting methods.
CO 2	To understand basics of contract act. Sales of goods act. IPRs and legal provisions applicable for establishment, management and winding up of companies in india.

SEMESTER-III, ALL PAPER 3, 20 CREDITS

CO 1	To provide a basic understanding of the Insurance Mechanism
CO 2	Identify the relationship between Insurers and their Customers and the importance of Insurance Contacts.
CO 3	Give an overview of major Life Insurance and General Insurance Products
CO 4	To acquire accounting knowledge of partnership firms and joint stock companies
CO 5	To provide the knowledge of various accounting concepts
CO 6	To impart the knowledge about accounting methods, procedures and techniques.
CO 7	To acquaint students with practical approach to accounts writing by using software package and by learning various accounts
CO 8	To inculcate analytical and computational ability among the students
CO 9	To acquire the conceptual and legal knowledge about Income Tax provisions relating to computation of Income from different heads with reference to an Individual Assesse.
CO 10	Students will be versed in the fundamental concepts of Auditing and different aspects of tax.
CO 11	Students can understand Income Tax system properly, and can get the knowledge of different tax provisions.
CO 12	To give knowledge about preparation of Audit report, Submission of Income Tax Return, Advance Tax, and Tax deducted at Source, Tax Collection Authorities under the Income Tax Act, 1961.
CO 13	To have exposure to the entrepreneurial culture, development and business ethics to set up and manage small units.
CO 14	To develop entrepreneurial awareness among students.
CO 15	To motivate students to make their mind set for thinking entrepreneurship as career

SEMESTER-IV, ALL PAPERS, 20 CREDITS

CO 1	To make the student understand Life Insurance Market in India.
CO 2	To discuss the issues related to risk management in view of life insurance.
CO 3	To acquire the knowledge of AS-14 and preparation of accounts of banking and insurance companies.
CO 4	This course aims to enlighten the students on the accounting procedures followed by the Companies.
CO 5	Student's skills about accounting standards will be developed.
CO 6	To make aware the students about the valuation of shares.
CO 7	To impart knowledge about holding company accounts, amalgamation, absorption and reconstruction of company.
CO 8	To inculcate analytical and computational ability among the students.
CO 9	to acquire the conceptual and legal knowledge about Income Tax provisions relating to computation of Income from different heads with reference to an Individual Assessee.
CO 10	To acquire knowledge and techniques of Financial Statements Analysis

SEMESTER-V, ALL PAPERS, 30 CREDITS	
CO 1	To give an overview of major General Insurance Products.
CO 2	To provide an overview of Indian Economy.
CO 3	To make the student acquaint with the latest developments in the economy.
CO 4	To make the students acquire the knowledge of cost accounting methods.
CO 5	To understand Basic Cost concepts, Elements of cost and cost sheet.
CO 6	Providing knowledge about difference between financial accounting and cost accounting.
CO 7	Ascertainment of Material and Labor Cost.
CO 8	Student's Capability to apply theoretical knowledge in practical situation will be increased.
CO 9	To make the students acquire the basic conceptual knowledge of different laws relating to Business.
CO 10	To impart students with the knowledge of fundamentals of Company Law and provisions of the Companies Act of 2013.
CO 11	To apprise the students of new concepts involving in company law regime.
CO 12	To acquaint the students with the duties and responsibilities of Key Managerial Personnel.
CO 13	The student will well verse in basic provisions regarding legal frame work governing the business world.
CO 14	To know the students with the basic concepts, terms & provisions of Mercantile and Business Laws.
CO 15	To develop the awareness among the students regarding these laws affecting trade business, and commerce.
CO 16	To acquire the knowledge of the working of the Indian Banking system.
CO 17	To familiar the students with the fundamentals of banking and thorough knowledge of banking operations.
CO 18	To build up the capability of students for knowing banking concepts and operations.
CO 19	To make the students aware of banking business and practices.
CO 20	To make understandable to the students regarding the new concepts introduced in the banking system.
CO 21	To acquire basic knowledge in the computerized accounting systems and its applications in the area of business.
CO 22	To become familiar with various business documents and acquire practical knowledge, which improve over all skill and talent.
CO 23	Students will be versed in the fundamental concepts of Auditing.
CO 24	To give knowledge about preparation of Audit report
CO 25	To make the student acquire the knowledge of provisions and application of Indian Accounting Standards
SEMESTER-VI, ALL PAPER, 39 CREDITS	
CO 1	To equip the students with the knowledge regarding Insurance Business Regulations
CO 2	To equipment the students with the knowledge regarding Basics of Indian Economy.
CO 3	To understand the legal provisions applicable for establishment- management and winding up of companies in India.
CO 4	To understand the meaning and elements of auditing and gain the knowledge of execution of audit.
CO 5	To equipment the students with the knowledge regarding Theory and Practice of GST.
CO 6	To understand about filling of Banking vouchers, insurance documents and registration of businesses.
CO 7	To familiarize with various Financial Institutions and Markets.
CO 8	Enable the students with Financial Markets and its various segments.
CO 9	To give the students and understanding of the operations and developments in financial markets in India.
CO 10	To gain knowledge of AS-19 & 21 and format accounts.
CO 11	To acquire conceptual and application knowledge of ecommerce.
CO 12	To know about the Management Information System

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA

COURSES AND THEIR OUTCOMES

DEPARTMENT OF ECONOMICS

Semester-I, Paper-1 (Micro Economics) – 5 Credits

CO-1	Students will be able to recognize, apply and analyze concepts and theories in micro economics
CO-2	Student will develop an ability to attempt questions in competitive examinations
CO-3	Students will be able to understand the concepts of consumer behavior like cardinal utility and ordinal utility analysis
CO-4	Students will be able to understand the Application of Indifference curve analysis in deriving demand curves, price effect, income effect and substitution effect
CO-5	Students will be able to understand the Theory of production- iso-quants, laws of returns to scale, law of variable proportion Traditional and modern theory of cost
CO-6	Students will be able to understand the decision making process in different market situations such as perfect competition, monopolistic competition, monopoly and oligopoly markets

Semester-II, Paper-2 (Macro Economics) – 5 Credits

After successful completion of this paper a student will be able to understand

CO-1	Concepts and methods of National income accounting
CO-2	Theories of aggregate income and employment-classical and Keynes analysis
CO-3	Theories of consumption function and investment spending
CO-4	Rate of interest- Classical, Keynesian and IS-LM Model
CO-5	Money- functions- theories of money
CO-6	Inflation and trade cycles

Semester-III, Paper-3 (Quantitative Methods for Economic Analysis) – 5 Credits

After successful completion of this paper a student will be able to understand

CO1	Basic concepts of mathematics
CO2	Basic concepts of statistics
CO3	Census methods and sampling method
CO4	Measures of central tendency
CO5	Measures of dispersion
CO6	Correlation and simple regression
CO7	Index numbers.
CO8	Time series analysis
CO9	Students will be able to recognize, apply and analyze concepts and theories of statistics in research

Semester-IV, Paper-4 (Public Finance and International Economics) – 5 Credits

This paper will enable the students to learn

CO1	Role and significance of public finance including market economy.
CO2	Public revenue – tax and non-tax revenue, theories of taxation etc.
CO3	Pattern and trend of Public expenditure.
CO4	Public debt – sources, methods of debt redemption, debt management policy.
CO5	Fiscal federalism, India's finance commission
CO6	Budget- concepts and deficits
CO7	Fiscal crisis and fiscal sector reforms in India
CO8	International trade- Trade theories
CO9	Tariffs and quotas
CO10	Balance of payments

SEMESTER –V PAPER-5 (Indian Economy) 5 CREDITS

The basic objective of the course is to acquaint learners with some basic ideas relating to Indian economy. The outlines are

CO 1	Indian Economy at the time of independence.
CO 2	Changes in the composition of national income
CO 3	Natural Resource base: land, water, forest, mineral and metal Resources
CO 4	Population: size, growth and composition
CO5	Importance and role of agriculture.
CO 6	Trends in agricultural Productivity, land reforms, green revolution, agricultural finance, agricultural marketing, agricultural price policy and food security in India.
CO 7	Role and importance of industrialization, industrial policy resolutions
CO 8	NITI Aayog, GATT and WTO
CO 9	Student will be able to attempt questions in competitive examinations

Semester-V, Paper-6 (Economics of Development and Planning) – 5 Credits

This paper will provide concepts on development Economics such as

CO-1	Development- concepts and measurement-GDP and PCI, PQLI, HDI, HPI etc.
CO-2	Obstacles to development, Indian economy as a developing economy, occupational pattern etc.
CO-3	Different concepts of poverty and unemployment with reference to developing countries
CO-4	Theories of Economic growth – Classical, Harrod-Domar, Solow, endogenous growth, etc.
CO-5	Theories of persistence of underdevelopment- vicious circle of poverty, Myrdal’s cumulative causation, Rostow’s stages of growth, balanced and unbalanced growth strategy, Lewis theory of unlimited labour supply

Semester –VI Paper-7 (Telangana Economy) - 5 Credits

The basic objective of the course is to acquaint learners with some basic ideas relating to Telangana economy. The outlines are

CO 1	State and district domestic product in Telangana
CO 2	Trends in population growth in Telangana
CO 3	The structure of agriculture and allied sectors in Telangana
CO 4	The structure of industrial development in Telangana
CO 5	The structure of tertiary sector in Telangana
CO 6	Student will be able to attempt questions in competitive examinations of TSPSC

Semester-VI, Paper-8 (Economics of Rural Development) – 5 Credits

The basic objective of the course is to acquaint learners with some basic ideas relating to rural development.

CO 1	Nature, scope, importance and objectives of rural development
CO 2	Measurement of rural development
CO 3	Some paradigms of rural development
CO 4	Determinants of rural development
CO 5	Approaches to rural development

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA	
COURSES AND THEIR OUTCOMES	
DEPARTMENT OF HISTORY	
SEMESTER-I, PAPER 1(From Earliest Times to c.700 CE) 5 CREDITS	
CO 1	It provides a base for understanding the Indian history
CO 2	Helps the student to understand the history of early India from the prehistoric times to the age of the Mauryas
CO 3	Emphasizes on the factors and forces behind the rise, growth and spread of civilization and culture of India along with the dynastic history.
CO 4	To help the students to understand the contribution of Early Indians to polity, philosophy, literature, art, religion and science and technology
SEMESTER-II, PAPER 2, History of India(700-1526 CE), 5 CREDITS	
CO 1	Students will come to know consequences of the foreign invasions, particularly on the polity, society, economy and art and architecture.
CO 2	Students can acquire the knowledge on Arab Conquest, foundation of Delhi Sultanate and Growth of Education and Literature – and the decline of Delhi Sultanate
SEMESTER-III, PAPER 3, History of India (1526-1857 CE), 5 CREDITS	
It provides the knowledge to understand the following	
CO 1	Establishment of Mughal Dynasty
CO 2	Rise of Regional Powers - Marathas, Sikhs
CO 3	Rise of Princely States –Hyderabad – Avad - Junagarh – Mysore – Kashmir
CO 4	Advent of European Powers
CO 5	Decline of Rural Cottage Industries and Urban Handi crafts
CO 6	1857 Revolt – Nature, Causes and Results
SEMESTER-IV, PAPER 4, History of India (1858-1964 CE), 5 CREDITS	
It provides the knowledge to understand the following	
CO 1	Queen's Proclamation
CO 2	Socio-Religious Reform Movements
CO 3	Factors for the Rise of Nationalism
CO 4	Revolutionary Movement
CO 5	Emergence of Communal Politics
CO 6	Jawaharlal Nehru and His Policies
SEMESTER-V, PAPER 5, History of the Modern World (From 1453 CE to 1815 CE), 5 CREDITS	
It provides the knowledge to understand the following	
CO 1	Decline of Medieval Socio-Political, Religious, Economic conditions
CO 2	Rise of Capitalism
SEMESTER-V, PAPER 6, History and Culture of Telangana (From earliest times to 1724 CE), 5 CREDITS	
It provides the knowledge to understand the following	
CO 1	Pre-History of Telangana
CO 2	Brief Political Survey of Satavahanas, Ikshvakus, Vishnukundins, Medieval Telangana from Kakatiyas to Qutb Shahis

SEMESTER-VI, PAPER 7, History of the Modern World (From 1815to1950 CE), 5 CREDITS	
CO 1	To understand the contemporary world in the light of its background History
CO 2	To become conversant with political history of Modern World
CO 3	To provide knowledge about the main developments in the Contemporary World (To understand to important development in 20th century World.)
CO 4	To gain knowledge about world concepts
CO 5	To enable students to understand the economic transition in World during the 20th Century and create awareness about the principles, forces, processes and problems of the recent times
CO 6	To impart the students with growth of various political movements that shaped the modern world
CO 7	To bring to light the rise and growth of nationalism as a movement in different parts of the world
SEMESTER-VI, PAPER 8, History and Culture of Telangana (1724 - 2014 CE) 5 CREDITS	
CO 1	Foundation of Asaf Jahi Dynasty
CO 2	Political Developments in Hyderabad State 1900 to1942
CO 3	Anti-Nizam and Anti-Feudal Movements
CO 4	December 2009 Declaration and the Formation of Telangana State,June 2014

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA

COURSES AND THEIR OUTCOMES

DEPARTMENT OF POLITICAL SCIENCE

SEMESTER-I, PAPER 1(Understanding political theory) 5 CREDITS

CO 1	Understanding What is Political Theory, Evolution, Nature , Significance. Debates on Political Theory, a) Normative b)Empirical
CO 2	Raising questions, what is Political?
CO 3	Analyzing the State: Theories of origin of the state- Divine, Social Contract, Evolutionary theories
CO 4	Understanding the Power ,Authority, and Authoritative allocation of Values.
CO 5	Understanding the Sovereign state and Challenges.
CO 6	The student understand the Political Values and Theoretical Perspective;
	Liberty :- A) Liberal B) Marxist C) Feminist
	Equality :- A) Liberal B) Marxist C) Feminist
CO 7	Justice :- A) Liberal B) Marxist C) Feminist
	The student receive the different Political Ideologies; just like, Liberalism, Nationalism, Multiculturalism.
CO 8	Understanding the Political Institutions and Functions; Legislature, Executive and Judiciary
CO 9	Analyzing the Political Parties, Pressure Groups, Media

SEMESTER-II, PAPER 2(Western Political Thought) 5 CREDITS

CO 1	Understanding main features of Greek Political thought and Plato's concepts of Justice and Communism and Aristotle's theory of state and Classification of constitutions
CO 2	Expose to the political thoughts of Father of Politics Aristotle & Plato.
CO 3	Analyzing the main features of Medieval Political thought in Europe.
CO 4	Able to differentiate between the style and features of various Political Thinkers.
CO 5	Understanding the Machiavelli Ideology.
CO 6	Discuss the social contract theory regarding the origin of state.
CO 7	Analyzing Hobbes as the Founder of Science of materialistic politics and Locke as the Founder of liberalism and Property and consent and Rousseau's General will.
CO 8	Assessing Hegel's theory of civil society and state
CO 9	Describing Bentham's Utilitarianism and Revisiting Utilitarianism by J. S. Mill.
CO 10	Describing Marxist theory of the State

SEMESTER-III, PAPER 3, Indian Political Thought , 5 CREDITS

CO 1	Analysing Kautilya's theory of Dandaneti, Saptanga and theory of Diplomacy.
CO 2	Understanding Modern Indian Thought and analyzing the contribution of
CO 3	Raja Rammohan Roy to Indian liberalism.
CO 4	Discussing Jayaprakash Narayan's theory of party less Democracy.
CO 5	Analyzing B. R.Ambedkar's views on Democratic Government and Constitutionalism.
CO 6	Understanding Socialist Ideas of Jawaharlal Nehru

SEMESTER-IV, PAPER 4 (Indian Government and Politics) 5 CREDITS

CO 1	Understanding Constitutional Development in India, brief overview of Nationalist Movement
CO 2	Evolution of Indian Constitution -1909 Act, 1919 Act, 1935Act. Philosophical Foundations of the Indian Constitution – Liberal, Gandhian, Socialist
CO 3	Examining Union Government – Executive; Legislature; Judiciary.
CO 4	Evaluating State Government - Executive; Legislature; Judiciary.
CO 5	Evaluating the Union- State Relations: Legislative, Administrative, Financial. Recent trends in Union - State Relations
CO 6	Understanding the Electoral Politics in India.

CO 7	Understanding the Political Parties a) National: INC, BJP, CPM, BSP, Regional: DMK, Alkali Dal, TDP, TRS. Analyzing the Recent Trends in Party System
CO 8	Analyzing the Election Commission & Electoral Reforms, Issues in Indian Politics
SEMESTER-V, PAPER 5 (Indian Political Thought) 5 CREDITS	
CO 1	Analysing Ancient Indian Political Thought- Sources and Features
CO 2	Understanding the Manu's Philosophy - Varna dharma and Dandaneeti
CO 3	Evaluating Kautilya's Saptanga Theory, Statecraft, Mandala Theory
CO 4	The student understanding Gautama Buddha Ideology - Social and Political Ideas, Dhamma and Sangha
CO 5	Analyzing of Modern Indian Political Thought; Raja Ram Mohan Roy ,Swamy Dayananda Saraswathi and Mahatma Jyothi Rao Phule.
CO 6	Tracing the evolution of Indian Political Thought from ancient India to Modern India.
CO 7	Describing the movements against caste and untouchability, Ambedkar's views on Social Justice and the Depressed classes.
CO 8	Understanding the idea of R.M.Lohia on Democracy and Socialism.
CO 9	Grasping the thought of Jayprakash Narayan on Total Revolution.
SEMESTER-V, PAPER 6 (International Relations) 5 CREDITS	
CO 1	Define the avenues of International Relations.
CO 2	Achieve Competence in Diplomacy at International Level.
CO 3	Describe the terms Human Rights, Terrorism and Environmentalism.
CO 4	Define Security, Diplomacy, Disarmament and Human Rights.
CO 5	Analyzing the history of International Relation through the causes and phases of Colonialism.
CO 6	Knowing the impact of First World War and Second World War and its causes and consequences
CO 7	Criticizing the various ideology which lead to the destruction of world.
CO 8	Academic discipline Studying the role of Diplomacy, Propaganda, and Military capabilities in the making of foreign policy
CO 9	Describing the Cold War phases and understanding the post Cold War.
CO 10	Analyzing the regional organization: EU, ASEAN, APEC, SAARC, NAFTA and NAM
SEMESTER-VI, PAPER 7 (Western Political Thought) 5 CREDITS	
CO 1	Understanding main features of Greek Political thought and Plato's concepts of Justice and Communism and Aristotle's theory of state and Classification of constitutions.
CO 2	Expose to the political thoughts of Father of Politics Aristotle & Plato.
CO 3	Analyzing the main features of Medieval Political thought in Europe.
CO 4	Able to differentiate between the style and features of various Political Thinkers
CO 5	Describing Main features of Renaissance thought and then Indian Political Contributions of Machiavelli
CO 6	Discuss the social contract theory regarding the origin of state.
CO 7	Analyzing Hobbes as the Founder of Science of materialistic politics and Locke as the Founder of liberalism and Property and consent and Rousseau's General will.
CO 8	Assessing Hegel's theory of civil society and state.
CO 9	Describing Bentham's Utilitarianism and Revisiting Utilitarianism by J. S. Mill.
CO 10	Describing Marxist theory of the State

SEMESTER-VI, PAPER 8 (Contemporary International Relations) 5 CREDITS	
CO 1	Understanding International Political Economy
CO 2	Define the Neo Colonialism: North South Dialogue, South – South Cooperation
CO 3	Understanding IBRD, IMF, World Trade Organization (WTO) and MNSs
CO 4	Describing International Security.
CO 5	Analyzing the Arms Race, Arms Control, Disarmament- Issues in Nuclear Politics.
CO 6	Emerging Areas in International Relations- A.Environment. B.Human Rights. C.Terrorism.
CO 7	Understanding the Foreign Policy. A. India’s Foreign Policy- Determinants and Features, Issues, Recent Trends. B. Non- Alignment: Evaluation, Relevance and Recent Trends
CO 8	Comparative study in the India’s Bilateral Relations A.India and U.S.A. B.India and Russia

KNM GOVERNMENT DEGREE COLLEGE, MIRYALGUDA

COURSES AND THEIR OUTCOMES

DEPARTMENT OF PUBLIC ADMINISTRATION

SEMESTER-I, PAPER 1(Basics of public administration) 5 CREDITS

CO 1	To Understand meaning nature, scope and importance of public administration.
CO 2	To understand the Origin and evolution of public administration
CO 3	To Understand Public relation with other social sciences
CO 4	To understand the oriental approach
CO 5	To Understand the Classical theories of public administration
CO 6	To understand the human relations theories by various thinkers
CO 7	To understand Socio- psychological approaches by various thinkers
CO 8	To Understand the comparative public administration and development administration
CO 9	To understand the scientific management approach

SEMESTER-II, PAPER 2(Development Dynamics and Emerging trends) 5 CREDITS

CO 1	To understand administration in various societies.
CO 2	To understand public choice approach, New public management of public administration
CO 3	Understand the Concepts like public Policy, New public Management of public administration
CO 4	Understanding the concepts LPG and Good Governance

SEMESTER-III, PAPER 3, 5 CREDITS

CO 1	To understand the historical evolution of the Indian Administration and the constitutional framework.
CO 2	Analyze the role of President, Prime minister, Council of ministers , Central Secretariat
CO 3	To understand Centre-state administrative relations, and all India services
CO 4	To understand the role of UPSC, Election commission, Comptroller and auditor general and NITI Aayog in Indian Administration
CO 5	Understanding the Role of public enterprises in Indian administration

SEMESTER-IV, PAPER 4 (State Administration and Emerging) 5 CREDITS

CO 1	To understand Administrative history of state
CO 2	To understand the role of Governor, Chief minister, Council of Ministers, GAD
CO 3	understanding District Administration and Democratic decentralization
CO 4	Understand the Centre state agencies of police administration and its reforms.
CO 5	Understanding Control over Administration. Transparency, Accountability and Right To Information Act. Legislative and Judicial control over Administration.

SEMESTER-V, PAPER 5 (Human Resource Management) 5 CREDITS

CO 1	Understanding the Nature, Scope, Importance of Human resource Management and Human resource planning
CO 2	Understanding the concepts of office Management, Compensation Management
CO 3	Understand Human resource development, training, performance appraisal and Total quality Management.
CO 4	Understand Employee Grievances, Voluntary retirement, Outsourcing and Consultancies and Skill development.

SEMESTER-V, PAPER 6 (508/A Rural Local Governance) 5 CREDITS	
CO 1	Understanding the evolution of local organizations and democratic decentralization. Recommndations of BalwanthRaiMehtha and AshokMehtha
CO 2	Understanding the 73rd amendment act and role of Panchayats
CO 3	Understanding the structure of panchayat Raj and its finances
CO 4	Understanding and analyzing the rural development programs, role of Cooperatives for rural development.
CO 5	Understand Basic services welfare measures in rural areas, and State control over Rural Local Government
SEMESTER-VI, PAPER 7 (Financial and Material Resource Management) 5 CREDITS	
CO 1	Understanding the Meaning, Nature, Scope and Importance of Financial Management
CO 2	Understanding the concepts, principles, preparation, Enactment of Budget
CO 3	Understand the structure of Finance ministry and functioning of different parliamentary Committees.
CO 4	Understanding the Concepts of material management, procurement, inventory Storage.
SEMESTER-VI, PAPER 8 (608/A:Urban local governance) 5 CREDITS	
CO 1	Understanding the evolution of Unban Local bodies with reference to 74th amendment act.
CO 2	Understanding and analyzing the rural development Strategies, issues and Finances.
CO 3	Understanding the urban development authorities and the services and welfare measures in Urban areas
CO 4	Understanding District Planning committee and Special Agencies for urban development.
CO 5	Understand , Voluntary agencies in rural development and Elimination of poverty Initiatives in Rural and Urban Areas