

COURSE OUTCOMES			
SI No	Course Name	CO Number	Course Outcome
English			
1	English Portal	CO1	To improve the intensive and extensive reading skills of the students, to give understanding of various world literatures, to give knowledge of various cultures.
		CO2	To acquire the knowledge of language skills, poetic diction, vocabulary and learn to appreciate poetry.
		CO3	To read and appreciate the prescribed literary selections for pleasure, and to analyse and interpret the given short stories for narrative technique and moral behind them.
		CO4	To help students identify the elements of one-act play and make students enjoy the plays of Shakespeare.
		CO5	To apply the acquired knowledge of grammar and vocabulary to the real time situations through practice of conversation, essay writing and exercises.
2	A Spectrum of English Language	CO1	To generate interest among students to read short argumentative prose peices and enhance their listening, reading and writing skills. To enhance the judgmental and argumentative abilities of the students.
		CO2	To Understand and appreciate the musical quality given by meter, rhyme and rhythm in poetry and the idiomatic expressions through poetry section.
		CO3	To draw the interest of students towards reading short stories thus making them improve their knowledge of vocabulary and enable them to analyse the themes and moral behind the story.
		CO4	To analyze and interpret the socio cultural aspects and demonstrate the understanding of the one-act play through role play.
		CO5	To acquire knowledge of sentence structure, grammar, and vocabulary and practice writing dialogues and short paragraphs.
3	English for Cognitive and Communication Skills	CO1	To improve silent and loud reading skills of the students, to improve comprehension abilities of the students and enrich active and passive vocabulary of the students.
		CO2	To enable students to appreciate rhyme, rhythm and style of the poems and train emotions, feelings and imagination of the students.
		CO3	To enable students to read and comprehend the content of short stories, identify various narrative styles and analyse the characters of the story.
		CO4	To make students aware of Literature in translation and elements of drama.
		CO5	To acquire the knowledge of sentences structure and practice conversion of sentences. To make students write reports and improve their skills of writing paragraphs.
4	Skill Pro -1	CO1	To improve the knowledge of vocabulary of the students by discussing word classification, prefixes and suffixes, analogy, one word substitutions, synonyms, antonyms, words often confused, phrasal verbs, idioms and phrases.
		CO2	To acquire the knowledge of grammar by studying Verbs and their types and tenses in detail. To give the knowledge of subject-verb agreement to help students write grammatically correct sentences.
		CO3	To enhance students' knowledge of grammar by teaching articles, prepositions and tenses and make students use them correctly in their regular life.
		CO4	To improve the listening skills of the students by making them aware of importance of listening, types of listening, barriers of listening and strategies to develop listening abilities.
		CO5	To improve the reading skills of students by teaching them the techniques of skimming and scanning. To improve loud and silent reading skills of the students.
5	Communication and Soft Skills -1	CO1	To improve pronunciations of students by giving them the knowledge of phonetics and IPA symbols.
		CO2	To improve pronunciations and speaking skills of the students by making them aware of syllables, word stress and intonation.
		CO3	To improve speaking skills of students by making them practice speaking dialogues, teaching them the etiquette to speak in Interviews, methods in improving their presentation skills and speaking in front of public.
		CO4	To improve speaking skills of students through role plays, debates and group discussions.
		CO5	To enhance the writing skills of students by imparting them the knowledge of writing correct spellings, usage of punctuations and making them to analyse and write information interpreted using bar charts, pie diagrams, maps and flow charts.
6	Communication and Soft Skills - 2	CO1	To improve soft skills of students by teaching them positive attitude, body language, SWOC analysis, emotional intelligence and netiquette.
		CO2	To help students write good paragraphs by teaching them the features of a good paragraph, its structure so that they will be able to write any given topic with lucidity.
		CO3	To improve the writing and note making skills of students by teaching them paraphrasing and summarising.
		CO4	To improve formal and informal communication abilities of the students by teaching them formats of letter writing and e-correspondance.
		CO5	To make students job ready by teaching them the formats and help them to prepare Resume and Curriculum Vitae.

Telugu			
7	PRAACHEENA KAVITVAM	C01	To realize the impact of values, culture, and religion on life and literature in the ancient period by going through ancient Telugu literature
		C02	To be able to understand the distinction between the ancient and modern grammar and the value given to stylistics, metre, rhythm, and musical quality
		C03	To be able to understand the difference between the works of different classical poets, their works and their impact on the community.
		C04	To master the basic rules of grammar of the classics and locate the same in the poetry selections.
		C05	To acknowledge the beauty of nature through figures of speech. To receive the rhyme and rhythm by prosody
8	ADUNIKA KAVITVAM	C01	To understand the distinction between the classical and modern styles of writing poetry and the efforts to come out from the clutches of metre, rhyme, rhythm etc. to reach out to the common man.
		C02	To understand the beauty of creative poetry and poetry of imagination with common themes such as the literature of the downtrodden and the oppressed classes
		C03	To have ecological awareness through the description and analysis about characteristics of plant
		C04	To be aware of social evils such as suppression of women, plight of widows, etc. in our traditional society
		C05	To be aware of equality men and women, work distribution, dignity of labour in home, to know how the spoil the traditional arts and employment
9	PRAACHEENA KAVIT	C01	To acquire knowledge of the Alankaras (prosody) in the ancient literary texts
		C02	To understand the use of Alankaras through comparative study of the poetry lessons
		C03	To analyse the literary texts to know how the ancient poetry given prominence to Alankaras and how the texts gave significance to prosody.
		C04	To apply the acquired knowledge of Prosody in analysing the ancient poetry works
		C05	To acknowledge the beauty of nature through figures of speech. and to receive the rhyme, and rhythm by prosody
10	Leadership Education	C01	To gain knowledge on meaning and significance, different theories of organization, management & leadership - trait theory, Blake and Mountain theory and other functions of management.
		C02	To know behavioural concepts, individual behaviours perception, learning, attitude formation and change, theories of motivation and personality development
		C03	To acknowledge the significance of interpersonal behaviour, communication, leadership, influencing relations, transaction analysis.
		C04	To gain overall understanding on group dynamics, roles, morale, conflict, groups, inter-group behaviour, collaboration and conflict management
		C05	To be aware of team building and management, developing team resources, designing team, participation and reinforcement and team building activities.
11	PRAACHEENA KAVITVAM, ALANKARALU, CHANDASSU	C01	To be able to understand and appreciate the beauty of ancient works of art and the use of figures of speech and their beauty
		C02	To understand the use of vocabulary, the archaic words and their application in various meanings
		C03	To be able to write poetry by acquiring the knowledge of the classical prosody its rules and regulations
		C04	To understand the impact of Sanskrit literature on ancient Telugu literature.
		C05	To be aware of prosody, sandhis and samasas etc to understand the use of language skills
12	PRAACHEENA TELUG	C01	To know the existence of Telugu language by inscriptions, legislations and introductions of poetry.
		C02	To enrich knowledge on legends of Telugu literature like Nannaya, Tikkana, Errana and their volumes

		CO3	To acknowledge various genres of Telugu literature
		CO4	To gain the knowledge on the influence of culture on language.
		CO5	To observe the Impact of Industrial Revolution in Andhra and special reference to Cotton Irrigation Policy in Andhra
13	MODERN WORLD HISTORY 1816 TO 1945 AD	CO1	To comparative study of Industrial Revolution before and after in Europe
		CO2	To analyse the Unification Movements in Europe
		CO3	To observe the causes and consequences of Two World wars
		CO4	To acquire Knowledge of UNO and its Functions and special reference to Indo-Pak relations from 1945 to 1971 AD
		CO1	To Observe the Cold War & USSR relations with East European Countries
14	CONTEMPORARY HISTORY OF WORLD 1945 to 2000 AD	CO2	To acquire knowledge about the emergency of III World
		CO3	To understand the conflicts in the Middle East Countries
		CO4	To analyse the end of cold war & study of Globalisation
15	HISTORY AND CULTURE OF MODERN ANDHRA PRADESH FROM 1858 TO 1956 AD	CO1	To appreciate the Socio Religious Movement in Andhra special reference to Kandukuri
		CO2	To observe the Vande Mataram Movement in Andhra special reference to Arts College Incident
		CO3	To make a Comparative study of three phases of Freedom Struggle in Andhra
		CO4	To analyse the separation of Andhra State and Formation of Andhra Pradesh and special reference to Vande Mataram Movement in East Godavari
16	SOUTH INDIAN HISTORY FROM SATAVAHANAS TO 1653 AD	CO1	To Know about the sources of South Indian History and Political conditions from Sangam age to Satavahanas period
		CO2	To make a Comparative study of Art and Architecture and political conditions of South Indian Dynasties
		CO3	To analyse the greatness of Kakathiya Rulers to uplift the Telugu Literature
		CO4	To observe the Golden Age period of Vijayanagara
17	CULTURAL TOURISM IN ANDHRA PRADESH	CO1	To gain Knowledge of Tourism basic Concepts
		CO2	To Compare the types of Tourism
		CO3	To Understand the History and Tourism relationship and development of Tourism in Andhra Pradesh
		CO4	To gain Practical Knowledge about Field Trip - to a Historical place, Tourist spot
18	CONTEMPORARY HISTORY OF ANDHRA PRADESH	CO1	To understand the development of Andhra in various sectors After formation of Andhra Pradesh
		CO2	Analysis the causes and impacts of Communist, Naxalbari, and Dalit Movements
		CO3	To Know about the Early trends towards Bifurcation of Andhra Pradesh
		CO4	To Acquire Knowledge about the Bifurcation of Andhra Pradesh
19	TOURISM IN INDIA	CO1	To Understand the Basics of Tourism in General and Tourism in India in particular
		CO2	To analyse the Socio - Economic significance of Tourism
		CO3	To Observe the General Problems of Tourism
		CO4	To do a Comparative study of To do a Comparative study of Centre and State Government Tourism Policies of Centre and State Governments
20	Tourism and Travel Management	B.Sc., B.A., B.Com	To Understand the significance of Tourism and its impact on Physical Environment
			To Identify the Archaeological & Historical Monuments and the vital role they play in the development of Tourism
			To Acquire Knowledge about different Cultures in India and to explore the opportunities to develop Tourism around these

			To Observe the different sectors of Tourism and to explore the ways and means to make Tourism and Travel management a sustainable growth sector
Economics			
21	Micro Economics-I	C01	To gain knowledge on how households (demand) and business (supply) firms interact in various market structures to determine price and quantity of a good produced.
		C02	To Understand that Economics is about the allocation of scarce resources, that scarcity forces choice, trade-offs exist and that every choice has an opportunity cost.
		C03	To Demonstrate the concepts of Micro Economics using a production possibility frontier diagram.
		C04	To understand how comparative advantage provides the basis for gains through trade.
22	Micro Economics-II	C01	To understand Producers equilibrium with the help of isoquants, expansion path and elasticity of substitution
		C02	To understand Different types of markets and their features
		C03	To identify and list the determinants of the demand and supply for goods in a competitive market and explain how that demand and supply together determine equilibrium price.
		C04	To demonstrate marginal productivity theory of distribution, theory of wages, identify different types of rent, illustrate different theories of interest and profit.
23	Macro Economics-I	C01	To understand the difference between Micro and Macro Economics, importance of macro Economics and Macro Economic variables
		C02	To be able to define and explain the process of calculating national income, identify its components, demonstrate circular flow of income, analyse the various identities with government and international trade
		C03	To Demonstrate the meaning and functions of money, illustrate various versions of quantity theory of money
		C04	To explain the meaning of consumption function, relationship between APC and MPC, consumption and income, concept of multiplier and accelerator, MEC and rate of interest.
24	Macro Economics-II	C01	To analyse different phases of trade cycles, demonstrate various phases of trade cycles, understand the impact of cyclical fluctuations on the growth of business, and lay policies to control trade cycles.
		C02	To Illustrate the meaning of inflation, identify different kinds of inflation, causes and effects of inflation on different sectors of the economy, describe different measures to control it.
		C03	To Identify types of banks, explain the meaning and functions of commercial banks, illustrate how bank create credit, and suggest the instruments to control it
		C04	To Explain economic growth and development, determinants of economic development and measurement of economic development.
25	Indian Economy-I	C01	To develop ideas of the basic characteristics of Indian economy and Andhra Pradesh economy
		C02	To understand the importance of planning undertaken by the government of India, have knowledge on the various objectives, failures and achievements as the foundation of the ongoing planning and economic reforms taken by the government.
		C03	To Understand agriculture as the foundation of economic growth and development, analyse the changing nature of agricultural sector and its contribution to the Indian economy
		C04	To be aware of the economy as a whole, and to understand the basic features of Andhra Pradesh's economy, sources of revenue, how the state government finance its programmes and projects.
26	Indian and Andhra Pradesh Economy	C01	To understand the meaning and Importance of Agriculture

		C02	To Understand the different Industrial policies
		C03	To analyze and comparasion disinvestment and foriegn direct investment
		C04	To assess the recent and achievements in five year plans and NITI Aayog.
27	Public finance	C01	To understand the concepts of public finance and private finance
		C02	To assess the recent trends of sources of public revenue
		C03	To understand The importance of different taxation theories
		C04	To recognise the concepts of public debt and methods of debt redemption, causes and effects of growth of India's public debt.
Political Science			
28	Basic Concepts of Political Science	C01	To Discuss the most important political theorists in the western tradition and the ideas associated with them.
		C02	To Describe basic political and governmental structures, processes, and policies
		C03	To understand what is law, liberty and equality
		C04	To have more idea on various rights and duties and also how to behave in the society
29	Politial Science:Concepts theories and Institutions	C01	To understand the nature and scope of political theory.
		C02	To understand the significance of political theory.
		C03	To acquaint with the theories, approaches, concepts and principles of political theory.
		C04	To appreciate the procedure of different theoretical ideas in political theory.
30	Indian Constitution	C01	To have the knowledge of how governments work
		C02	To learn and acquire in-depth knowledge of their society and how it functions
		C03	To know about the Evolution of Indian constitution, Fundamental Duties & Supreme court functions
		C04	to prepare for competitive exams and useful for civil service aspirants.
31	Indian Political Process	C01	To have an idea on caste system in India
		C02	To know the evolution of modernity in India
		C03	To have overall idea on electoral trends of the loksabha from 1952 to 2004
		C04	To understand the party system and ideology of various parties Ex: INC, BJP, CPM, DMK, TDP etc
32	Indian Politcal Thought	C01	To demonstrate knowledge of key thinkers and concepts
		C02	To understand the nature, methods and significance of political thought.
		C03	To analyse the theory of ancient & medieval political thought of Greek and India.
		C04	To understand the relationship between religion and politics in early modern western political though
33	Principles of Public Administration	C01	To have more idea on classical theory of Henry Foyal, decision making theory of HA Simon
		C02	To be able to know the policy formation
		C03	To have more knowledge on composition and functions of UPSC and APPSC
		C04	To have knowledge on financial amination Ex: Budgetiong, Accounting, auditiong etc
34	Contemporary Global Issues	C01	Students Will be able to conceptualize globalization and it's key terms,debate and process
		C02	Students will be able to employ a multi disciplinary perspective on a global
		C03	Students will be able to use their study abroad experience to inform their understanding of global process
		C04	Students will be able to carry out independent research, connecting to globalization
35	Westren Political Thought	C01	To have an idea on western political philosophy
		C02	To know the ideas various thikers like Plato Aristotle
		C03	To have an idea on Modern Political Thought propounded by Hobbes Locke Rousseau

		C04	To have an idea on theory of JS Mill and Karl Marx
36	International Relations	C01	To understand the evolution, scope and significance of international relations and the rise of sovereign state system
		C02	To analyze the history of international relational through the causes and phases of colonialism.
		C03	To know the impact of first world war and second world war and its causes and consequences
		C04	To criticize the various ideologies which lead to the destruction of world.
37	Indian Foreign Policy	C01	To have a knowledge on Indian foreign policy
		C02	Student is able to understand the role of india in the non- alignment movement
		C03	To know the composition and powers of UNO
		C04	To have more idea on Indo-pak relations and have an idea on SAARC
Mathematics			
38	Differential Equations	C01	To Understand how to differentiate linear and non-linear differential equations.
		C02	To Apply different methods for solving differential equations of first order but not of first degree.
		C03	To find the solution of higher-order linear differential equations with constant coefficients.
		C04	To Use the method of "variation of parameters" to find the solution of higher-order linear differential equations with variable coefficients and solve the Cauchy-Euler equations
39	Solid Geometry	C01	To understand geometrical terminology for angles, triangles, quadrilaterals and circles, measure angles using a protractor, use geometrical results to determine unknown angles.
		C02	To find the areas of triangles, quadrilaterals and circles and shapes based on these
		C03	To Define parallel lines, Recognize and create parallel lines on graphs and with equations, define perpendicular lines, Recognize and create graphs and equations of perpendicular lines
		C04	To recognise line and rotational symmetries and the applications of spheres
40	Group Theory	C01	To be able to assess properties implied by the definitions of groups
		C02	To be able to use various canonical types of groups (including cyclic groups and groups of permutations)
		C03	To be able to analyze and demonstrate examples of subgroups, normal subgroups and quotient groups
		C04	To be able to use the concepts of isomorphism and homomorphism for groups
41	Real Analysis	C01	To Understand the concepts of limits, Continuity, Discontinuity, Uniform Continuity
		C02	To Use the definitions of convergence as they apply to sequences, series, and functions
		C03	To apply the Mean Value Theorem and the Fundamental Theorem of Calculus to problems in the context of real analysis
		C04	To identify Riemann Integral functions
42	Linear Algebra	C01	To recognize the concepts of the terms span, linear independence, basis , dimension and apply these concepts to various vector spaces and subspaces
		C02	To use matrix algebra and the related matrices to linear transformations,
		C03	To be able to Compute and use eigenvectors and eigenvalues
		C04	To Determine and use orthogonality
43	Numerical Analysis-I	C01	To analyze and detect different form of errors and also will be able to solve Algebraic and Transcendental equations using different methods.
		C02	To Interpolate the functions within the range using equally and un equally spaced points
		C03	To understand the Least Squares Method and be able to curve fit data using several types of curves (straight line, second degree parabola, power curve, exponential curve)

		C04	To solve the solution of a linear system of equations using direct or iterative methods. • To solve the selected class of differential equations using Taylor, Picards, Euler's, Runge Kutta, Adams and Milne's method.
44	Ring theory & Vector Calculus	C01	To be able to compute and analyze the vector-valued functions of a real variable and their curves and in turn the geometry of such curves including curvature, torsion and the Frenet-Serre frame and intrinsic geometry
		C02	To gain the ability to compute and analyze integral curves of vector fields and solving differential equations to find such curves
		C03	To be able to compute and analyze the differential ideas of divergence, curl, and the Laplacian along with their physical interpretations, using differential forms or tensors to represent derivative operations
		C04	To acquire the knowledge to compute and analyze the integral ideas of the functions defined including line, surface and volume integrals - both derivation and calculation in rectangular, cylindrical and spherical coordinate systems and understand the proofs of each instance of the fundamental theorem of calculus
45	Advanced Numerical Analysis-II	C01	Will be able to derive numerical methods for approximating the solution of problems of continuous mathematics
		C02	To obtain numerical approximations to the first and second derivatives of certain functions • Calculate a definite integral using an appropriate numerical method
		C03	To implement a variety of numerical algorithms using appropriate technology
		C04	To Compare the viability of different approaches to the numerical solution of problems arising in roots of solution of non-linear equations, interpolation and approximation, numerical differentiation and integration, solution of linear systems
46	INTEGRAL TRANSFORMATION	C01	To find the Laplace transform of a function by definition and by use of a table
		C02	To find the Inverse Laplace transform of a function
		C03	To find the convolution of two functions and the transform of a convolution
		C04	To solve linear differential equations with constant coefficients and unit step input functions using the Laplace transform
			To solve system of simulation equations using the Laplace transform
Physics			
47	MECHANICS & PROPERTIES OF MATTER	C01	To learn about Scalar vector fields, Curl, Divergence, gradient concepts, Line, surface and volume integrals. They would also learn about Stokes, Gauss, Green's theorems and their applications.
		C02	To gain knowledge on motion of variable mass system, Collisions in two and three dimensions, Rutherford scattering problem.
		C03	To understand the concepts of rotational kinematics of rigid body, Moment of inertia tensor, Euler equations, Precision of top, equinoxes and Gyroscope. Students would also learn about types of beams, load analysis in various configurations and mechanics of cantilever.
		C04	To gain understanding on conservative forces, relation between conservative force and potential, equation of motion under central forces, Kepler's laws and Coriolis force. They would also learn about Galilean-Lorentz frames of references, Lorentz transformations, Michelson-Morley experiment, Postulates of special theory of relativity, length contraction, time dilation, addition of masses, mass energy relation and 4 vector notation.
48	WAVES & OSCILLATIONS	C01	To learn about physical properties of Simple Harmonic Motion (SHM), Torsional pendulum, Compound pendulum and their applications, Lissajous figures.

		C02	To be able to solve the differential equations for forced harmonic oscillator and damped harmonic oscillator and compare the results with simple harmonic oscillator. They would also learn about Fourier series analysis of various wave forms.
		C03	To know the gravitational potential due to hollow and solid spheres and circular disks. They would also learn about the basics of seismic waves, seismographs, epicenter, focus determination and applications of seismology.
		C04	To solve the wave equation for vibrating strings and study various parameters like modes, overtones, energy transport, transverse impedance etc. They would also learn about basics of ultrasonics, production detection of ultrasonics, measurement of frequency and velocity of ultrasonics and the applications of ultrasonics.
49	OPTICS	C01	To learn about the matrix methods in optics, matrices for translation, refraction, image formation by spherical surfaces and coaxial optical systems. They would also learn about various monochromatic and chromatic aberrations and their removal techniques.
		C02	To understand the principle of superposition, coherence, Interference by division of wavefront and amplitude, Fresnel's bi-prism, Lloyd's mirror, thin film interference, wedge shaped film interference, Newton's rings, Michelson's interferometer and their applications to sodium D lines and thickness of thin film.
		C03	Students would learn about Fresnel and Fraunhofer diffraction, Fraunhofer diffraction due to circular aperture, single slit, double slit, N-slit, grating. They would also learn about Fresnel's half period zones, zone plate, phase reversal zone plates, comparison of zone plate & convex lens, interference & diffraction.
		C04	To learn about methods of polarization, Brewster's law, Malus law, Nicol prism, Quarter wave plate, half wave plate, Babinet's compensator and optical activity analysis by Laurent's half shade polarimeter. They would also learn about principles of LASER, Einstein coefficients, He-Ne laser, Ruby laser, applications of laser, Principles of optical fiber communication, classification of optical fibers, applications of optical fibers, principles of holography, limitations of Gabor's hologram and applications of holography.
50	THERMODYNAMICS	C01	To learn about Maxwell's distribution law, Tooth wheel experiment, viscosity of gases, thermal conductivity and diffusion of gases.
		C02	To learn about reversible, irreversible processes, Carnot's theorem, Carnot's engine, Kelvin's scale, entropy, disorder, T-S diagram and other applications of entropy.
		C03	To understand thermodynamic potentials, Maxwell equations, Clausius-Clayperon's equation, C_p/C_v , C_p-C_v for perfect gas, J-K effect, J-K coefficient for perfect and Vanderwall gases. They would also learn about Joule Thomson cooling, liquefaction of helium, Adiabatic demagnetization, principle of refrigeration, airconditioning, effects of CFC gases, applications of low temperature physics.
		C04	To learn about Wein's law, Rayleigh-jeans law, Planck's theory of radiation, various types of pyrometers, determination of solar constant and effective temperature of temperature. To learn about concepts of ensembles, M-B, B-E, F-D statistics comparison, Applications of FD statistics to white dwarfs and Neutron stars.
51	ELECTRICITY & ELECTROMAGNETISM	C01	To understand the concepts of electric field and electric potential due to point charge, solid sphere, cylinder. These concepts will enhance the student towards the problems come across in the real life.
		C02	To learn about the concept of capacitance. Various types of capacitors. How can we store energy in the electric capacitor and the applications of capacitors in various applications.
		C03	To learn about the concepts of Hall effect, using this we can find the charge particles in the given material. Also to learn about the particle accelerators like cyclotron, synchrotron and cyclo synchrotron and their working principles.
		C04	To be able to learn about the concepts of Biot Savart's law, Faraday's law and its applications. Students are also able to learn the network theorems like Thevenin's theorem - Norton's theorem for circuit analysis.

52	Modern Physics, Quantum Mechanics	C01	To be learn about the concepts of atomic models and their drawbacks.students would also learn about Stern & Gerlach experiment Vector atom model, this model gives the exitance of spin of an electron.Study of fine spectra and Zeeman effect on various elements.
		C02	To learn about the concepts of molecular spectra like rotational spectra,vibrational spectra.students would also learn raman spectra and its applications like determination of structure of the given molecule
		C03	To understand the importance of Quantum mechanics,study the basic concepts invloved in the origin of quantam mechancis like uncertainty principle,debrogli matter waves,photo electric effect ,Students also study the Davison and Germer experiment,it conforms the particle nature of the electron.
		C04	To be able to learn about the importance of Heisenberg's uncertainty principle for position and momentum. To be able to learn Schrodinger time independent and time dependent wave equations. To understand the significance of Wave function properties, Basic postulates of quantum mechanics
53	Varying and Alternating currents	C01	To learn about LR, CR growth and decay analysis, LCR resonance circuit power factor and Q-factor, Basics of AC, DC single and three phase motors.
		C02	To gain knowledge on displacement current, Maxwell's equations in differential form, Maxwell equations for plane electromagnetic waves, Poynting vector, Hertz's experiment.
		C03	To learn about PN junction diode formation, continuity equation , zener diode, rectifiers, transistor CB, CE, CC configurations, h parameters, negative feedback, Barkhausen criteria and principle of phase-shift oscillator.
		C04	To learn about various number systems and conversions among them, Basic logic gates, TTL, universal logic gates, Demorgan laws, half adder, full adder and parallel adder circuits.
54	Nuclear Physics	C01	To learn about basic properties of nucleus, dipole & quadrupole moments, binding energy, nuclear forces and nuclear models.
		C02	To learn about alpha, beta gamma decays, .
		C03	To learn about types of nuclear reactions,nuclear reaction kinetics, compound nucleus and direct nuclear reactions
		C04	To learn about various nuclear detectors, elementary particle interactions and conservation laws.
55	Solid state physics	C01	To learn about fundamentals of crystallography, crystal systems, Miller indices, SC, BCC, FCC and diamond structures.
		C02	To have knowledge about Bragg's law, laue, powder diffraction techniques, quantum well, wire, dot concepts, nano particles, clusters, semiconductor nanoparticles, carbon naontubes.
		C03	To learn about types of bnonding in solids, Medelung constant, Born coefficient, Born-haber cycle.
		C04	To learn about properties of superconductors, classification of superconductors, BCS theory and applications of superconductors.
56	PROPERTIES & CHARACTERISATION OF MATERIALS	C01	To learn about anharmonic crystal interactions, thermal expansion, thermal conductivity, resistivity, lattice vacancies, color centers and F-centers.
		C02	To learn about theories of dia, para, ferromagnetisms, antiferro, ferrimagnetism and applications.
		C03	To learn about dielectric properties, losses,polarization and hysteresis curves, classification of di-electric materials and Clausius-Mosotti relation.
		C04	To gain knowledge on various electric, magnetic charactrizatoin techniques and fundamentals of optical spectroscopy.
57	Renewable energy	C01	Students will be able to know definition, units of energy, power, forms of energy, conservation of energy, energy flow diagram to the earth, fossil fuels, conventional energy sources and understand role of energy in economic development and social transformation.

		C02	Understand environmental degradation due to different types of pollution and effect of pollution due to thermal power station, nuclear power generation etc.
		C03	Students are able to know energy resources available and consumption pattern in India and also understand the use of renewable energy sources with respect to Indian and global energy scenario.
		C04	Understand the present and future need of renewable energies such as solar energy, wind energy, ocean energy, hydrogen energy and bio-energy and their applications in various sectors.
58	Energy storage devices	C01	To gain knowledge on the need of energy storage, different modes of energy storage such as electrochemical energy storage systems, magnetic and electric energy storage systems.
		C02	Understand definition & types of fuel cells, differences between batteries & fuel cells and their applications.
		C03	students will gain practical knowledge on energy storage devices and able to apply them in future challenges.
59	Wind, Hydro & Ocean energies	C01	Understand wind generation & distribution, wind energy conservation principles & their applications involved in design of wind turbine, grid connecting process, utilisation.
		C02	students will be able to comprehend an overview on designing, working and utilisation of micro, mini and small hydro systems.
		C03	To gain knowledge on the basic principles involved in the generation of electricity from ocean thermal, tidal & wave energy systems and also understand their applications, advantages and disadvantages.
60	Solar Thermal and photovoltaic aspects	C01	To learn basics of solar radiation, radiative properties and characteristics of materials.
		C02	Understand the classification, design and performance parameters of flat plate collectors(FPC) and concentrating collectors
		C03	To gain a comprehensive knowledge and skills in the designing, working and applications of solar photo voltaic cell, solar cell fabrication.
Chemistry			
61	Inorganic & Organic chemistry	C01	Students are able to describe synthesis, structure, Reactions and applications of some important compounds of Boron, Silicon, Nitrogen and Halogens belong to p-block elements
		C02	To understand the classification of oxides, organo metallic compounds and preparation and applications of alkyls of Li and Mg
		C03	To understand the importance of Structural theory in organic chemistry which provides a strong basic knowledge for the students that helps in the study of different types of organic reactions
		C04	To distinguish acyclic and alicyclic hydrocarbons by studying their preparation and properties
		C05	To understand the concept of resonance of benzene, aromaticity in Benzenoid & non-benzenoid compounds, Electrophilic substitution reactions of benzene and orientation of aromatic substitution.
		C06	Students are able to know the reason behind the acidic nature of carboxylic acids & phenols and the basic nature of aliphatic & aromatic amines.
		C07	To acquire comprehensive knowledge, laboratory skills through qualitative inorganic simple salt and their mixture analysis(laboratory course).
62	Physical & General Chemistry	C01	To understand different states of matter and their behaviour.
		C02	To understand symmetry, laws of symmetry and defects in crystals

		C03	To acquire comprehensive knowledge on the deviation of real gases from ideal behaviour and their liquification by knowing critical phenomena, relationship between critical constants and vander waal's constants, Joule Thompson effect etc.
		C04	To understand the definition, classification and applications of liquid crystals
		C05	To understand the concepts of ideal and non-ideal solutions, Azeotropes, critical solution temperature, applications of Nernst distribution law in various fields and acquire basic skills on fractional and steam distillation.
		C06	Students can apply the phenomena of adsorption in real life and also classify different types of colloids and their uses
		C07	To know a wide variety of applications of organic and inorganic compounds in medical, polymer, paint industries by studying the nature of chemical bonding and complete stereochemistry of carbon compounds.
63	Inorganic & Organic Chemistry	C01	To study the magnetic, catalytic and colour properties of d- & f-block elements, their ability to form complexes and understand their applications in many fields.
		C02	To Various theories studied by the students involved in bonding in metals is very useful in gaining knowledge about thermal and electrical conductance of metals.
		C03	Students are able to classify and draw the structures of metal carbonyls
		C04	To understand classification, nomenclature, preparations, physical & chemical properties of different classes of organic compounds
		C05	To gain knowledge in the determination of Fe(II), Cu(II) ions in unknown samples through titrimetric analysis and also in organic functional group identification through Qualitative analysis
64	Spectroscopy & Physical Chemistry	C01	To understand different spectroscopic techniques to know the structure of given organic compound
		C02	To gain comprehensive knowledge on colligative properties and their experimental determinations of dilute solutions.
		C03	To understand the concept of specific conductance, equivalent conductance, theories of electrolytes, electrode potentials which are very useful to run conductometric titrations and determination of emf of cell through potentiometric titrations.
		C04	To understand Gibb's phase rule and its applications in one component, two component systems and preparation of freezing mixtures in their future applications
		C05	To gain experimental knowledge, skills in determination of CST of phenol-water system, conductometric titrations and IR spectral analysis of some functional groups.
65	Inorganic, Organic and Physical Chemistry	C01	Students can differentiate coordination compounds from simple and double salts by studying theories of bonding, nomenclature, isomerism of coordination compounds.
		C02	To understand spectral, magnetic properties and also stability of metal complexes.

		C03	To know about Nitrogen compounds i.e. Nomenclature, classification, preparations and some special reactions of nitrohydrocarbons & amines and also can identify primary, secondary, tertiary amines and nitrohydrocarbons through Nitrous acid test.
		C04	To study thermodynamics as a branch of science which deals with the quantitative relationships between heat and other forms of energy and also students can understand the study of thermodynamics is based on three generalisations(laws) which are based on human experience
		C05	To understand ligand substitution reactions in metal complexes
		C06	To know the biological significance of some essential elements and also structure and functions of haemoglobin, myoglobin, chlorophyll
		C07	To understand chemical kinetics which deals with the measurement of rates of reactions proceeding under given conditions, hence study of this topic help them to locate favorable conditions to speed up a reaction, there by getting the products in a short time.
		C08	To gain knowledge of the laws of physical chemistry such as chemical equilibrium, law of thermochemistry, distribution law, etc. can be deduced from law of thermodynamics. Moreover, it can predict the feasibility of a process and extent of yield of the product obtain.
		C09	To understand the laws of photochemistry and to know about a number of applications of photochemical process which are useful in daily life such as fluorescence, phosphorescence, photosensitization etc.
		C010	To gain knowledge on carbohydrates which constitutes one of the most important group of natural products. By their study of classification, structural elucidation, properties, and their interconversions are useful to understand about important foodstuffs and other forms of carbohydrates. Amino acids are another important natural products as they are building units of other natural products like enzymes, peptides, proteins etc. their study is necessary to understand structure of various substances present in living organisms.
		C011	Students can understand the significance of heterocyclic compounds in pharmaceutical industries, biological systems by studying their structures, classification, physical and chemical properties.
		C012	Students can analyse organic compounds through qualitative analysis in the laboratory.
		C013	To understand the determination of rate constant for acid catalysed ester hydrolysis, surface tension, viscosity of liquids and adsorption phenomena experimentally.
66	Environmental Chemistry	C01	Students can understand the scope and importance of environment in now a days by studying the adverse affects of air pollution, water pollution and chemical toxicology.
		C02	To gain proper knowledge about ecosystem and biodiversity at national, global and regional level
		C03	Students understand their role in maintaining green environment by acquiring knowledge through environmental studies.
		C04	Students are able to gain comprehensive knowledge through water analysis by determining certain parameters like acidity, alkalinity, hardness etc. in water sample and can assess the quality of it.
67	Organic Spectroscopic Techniques	C01	To acquire fundamental knowledge of spectroscopy.
		C02	To understand the instrumentation and application of spectroscopy through U.V, I.R, N.M.R, for the quantitative and qualitative analysis of organic compounds (molecules) useful in analysis of drugs (pharmacy industry).
		C03	To understand Beer-Lambert's law, Spectrophotometric method which are applicable for the quantitative analysis of Chromium, Manganese, ferrous, nitrite and lead ions in their samples.
		C04	Students are able to draw ESR spectra of some odd electron species by studying basic principles, theory of ESR.
68	Advanced Organic reactions	C01	Students are able to understand the role of light in certain organic reactions and their synthetic applications in many areas through detailed study of organic photochemistry

		C02	To understand the role of protecting groups in complex organic reactions.
		C03	To gain knowledge on some important advanced synthetic organic reactions.
69	Pharmaceutical and Medicinal Chemistry	C01	To know the Terminology in pharmaceutical and medicinal chemistry.
		C02	Students can identify the chemical name, generic name and trade name of some common drugs which are using in daily life.
		C03	To learn the classification, Administration, synthesis and therapeutic activity of some important drugs which are useful in daily life.
		C04	To get aware of HIV-AIDS, some pandemic diseases, regular fevers etc.
		C05	Students are able to get proper knowledge to give atleast first-aid treatment and suggestions to the patients.
		C06	To understand and able to carry the green synthesis of certain drugs in the laboratory.
Botany			
70	MICROBIAL DIVERSITY, ALGAE & FUNGI	C01	To know about viral and bacterial disease symptoms and control measures in plants.
		C02	To know about microbial diseases regarding to various micro organism in man, animals and plants.
		C03	To get a knowledge on economic importance of Algae
		C04	To gain knowledge of fungi as pathogen causing many famines as in the past and to overcome and manage the fungal disease and protect the life forms on the earth.
71	DIVERSITY OF ARCHEGONIATES AND ANATOMY	C01	To Know the structure of non-vascular plants.
		C02	To know about structure and economic importance of mosses
		C03	To get knowledge on distribution and uses of pinus and gnetum plants
		C04	Acquire knowledge on timber yielding plants
72	PLANT TAXONOMY AND EMBRYOLOGY	C01	To acquire knowledge to maintain botanical garden worldwide.
		C02	To acquire the knowledge on origin and evolution of angiosperms which are the most important species in our daily life.
		C03	To know the preparation of plant herbarium techniques.
		C04	To know the pollination and fertilization methods to develop with new genetically combinations leading to new varieties.
73	PLANT PHYSIOLOGY AND METABOLISM	C01	To Know the Process of various metabolic activities in plant body
		C02	To Know the process of photosynthesis and respiration
		C03	to know the importance of phyto hormones
		C04	To know the process of stress physiology
74	CELL BIOLOGY, GENETICS AND PLANT BREEDING	C01	To gain knowledge regarding the unit of life that is cell, types, functions of the various organelles of the cell.
		C02	The know about the DNA Structure and hereditary features.
		C03	To acquire knowledge on mutations in plants
		C04	Acquire knowledge on various methods of plant breeding
75	PLANT ECOLOGY AND PHYTOGEOGRAPHY	C01	To understand the abiotic factors influence vegetation
		C02	To know about various types of pollution and its control measures
		C03	Acquire knowledge on structure and function of different ecosystems.
		C04	To get knowledge on geographical distribution of plants in the world.

76	PLANT TISSUE CULTURE AND BIOTECHNOLOGY APPLICATION	C01	To know the various methods in tissue culture
		C02	To know the applications in biotechnology in various fields.
		C03	To Acquire experimental knowledge on callus formation.
77	PLANT DIVERSITY AND HUMAN WELFARE	C01	To know about types of biodiversity in the world
		C02	Acquire knowledge on conservation of plant biodiversity
		C03	Experimental knowledge on avenue plants
78	ETHNO BOTANY AND MEDICINAL BOTANY	C01	To know the culture and ethonology of ethnic communities
		C02	To know the uses of ethno medicinal plants
		C03	To Know the history of Various Methods in ancient Medicines.
		C04	Acquire knowledge on conservation and cultivation of medicinal plants.
79	PHARMACOGNOCY AND PHYTOCHEMISTRY	C01	Acquire knowledge on drugs preparation from plant products
		C02	To know biochemical nature of plant drugs
		C03	Experimental knowledge on homely prepared drugs
		C04	Acquire the knowledge in phytochemical composition in plants.
Zoology			
80	Animal diversity - Non-chordates	C01	To instill knowledge across different Areas of Invertebrates.
		C02	To be familiarized with the life cycles and mode of reproduction in different invertebrates Animal groups.
		C03	To understand the systemic and functional morphology of various groups of Invertebrates.
		C04	To study their economic importance, affinities and adaptations
81	Animal diversity = chordates	C01	To instill knowledge across different Areas of chordates
		C02	To acquire knowledge on the life cycles and mode of reproduction in different vertebrates
		C03	To understand the systemic and functional morphology of various groups of chordates,
		C04	To study their economic importance, affinities and adaptations
82	Cytology ,Genetics& Evolution	C01	To know the different types of cells
		C02	To be able to Name the cell organelles, List of cell organelles
		C03	To Know MENDAL LAWS The inter-relationship between Organisms in population and communities
		C04	To understand and communicate the major evolutionary innovations in animal groups and describe the functional Significance of associated morphologies and behaviours.
83	Embryology, Physiology, ecology	C01	To study the concepts of Digestion,Respiration and other physiological activities of mammals and Reproduction
		C02	To Know The inter-relationship between Organisms in population and communities
		C03	To study the population dynamics and Population control Propagate and follow environment friendly practices.
		C04	To study the concepts of zoogeography and, zoogeographical importance Of Indian subcontinent.

84	Animal Biotechnology	C01	- To understand various tools and techniques of recombinant DNA technology and able to study various cell culture methods.
		C02	To know various biotechnology applications in agriculture, animal husbandry and industry.
85	Animal Husbandry	C01	To understand poultry principles and management methods in poultry.
		C02	Able to understand breeds of cattle and buffaloes and care and management of dairy animals.
86	Elective VII-A Immunology	C01	To Learn about Immunoglobulins and Types
		C02	To understand the Immunological disorders
		C03	To understand the Innate and acquired immunity
		C04	To learn about oncology
87	Cluster B-1 -Principles of Aquaculture	C01,2,	To gain knowledge, understanding and skills required to apply theoretical AQUACULTURE & To understand the aquaculture systems
		C03,4	To know the principles of fishery management, aquaculture and fish Biology in industry. & Aquaculture in India and world
88	B-2 Aquaculture management	C01,2,	To improve scientific, technical and vocational skills required in the area of employment in the fisheries industry & Aquaculture Management
		C03,4	To improve practical skills such as fish surveying, fish husbandry, identification and treatment of diseases and prevention methods
89	B-3 Post harvest technology	C01	To learn about Handling and principles of fish preservation
		C02	To gain knowledge about Processing of Fish products
		C03	To understand the importance of sanitation and Quality control
		C04	To raise knowledge on Quality assurance and management and certification
Computer Science			
90	Computer Fundamentals & Photoshop	C01	To acquire the basic knowledge on computer hardware and software.
		C02	To learn the concepts and be able to work on Adobe Photoshop applications.
		C03	To get the ability to create and edit photo albums
		C04 & C05	To apply the knowledge gained in the classroom to design and edit Banners and visiting cards etc..
91	Programming in C	C01	To appreciate and understand the working of a digital computer and data types
		C02 & C03	To analyse a given problem and develop an algorithm to solve the problem & To analyse a given problem and develop an algorithm to solve the problem
		C04	To understand the 'C' language arrays and functions
		C05	To apply the knowledge of everything in pointers & File
92	Object Oriented programming using JAVA	C01	To Understand the concept and underlying principles of Object- Oriented Programming
		C02	To Understand how object-oriented concepts are incorporated into the Java programming language
		C03	To become familiar with the fundamentals and acquire programming skills in the Java language.
		C04 & C05	To learn complete knowledge of Java programming
93	Data Structures	C01	To acquire the knowledge of arrays, records, linked structures, stacks, queues, trees, and graphs as represented in memory and its applications
		C02	To Write programs that use arrays, records, linked structures, stacks, queues, trees, and graphs
		C03 & C04	To discuss the computational efficiency of the principal algorithms for sorting, searching, and hashing.

		C05	To describe the concept of recursion, give examples of its use, describe how it can be implemented using a stack.
94	Database Management Systems	C01	To gain knowledge on database structure and its design
		C02	To understand different data models used for database design
		C03	To understand database transactions and data recovery
		C04 C05	To apply the knowledge of DML,DDL,DCL commands to manipulate data in the database
95	Software Engineering	C01	to understand what is software engineering and different models of it
		C02	student know how to get a requirement analysis for the designing and development of any software product
		C03	to know how to break the requirement models in software design can be completed
		C04	this will help to know user interface design, so that end user can work more efficiently
96	Web Technologies	C01	To understand the web architecture and web services.
		C02	To practice latest web technologies and tools by conducting experiments.
		C03 & C04	To design static web pages using HTML and Style sheets.
		C05	To study the framework and building blocks of .NET Integrated Development Environment.
Commerce			
97	Fundamentals of Accounting-I	C01	To make the students acquire the conceptual knowledge of accounting and learn the art of recording financial transactions and posting them to ledgers
		C02	To equip the students with the knowledge of preparing subsidiary books and different types of cash books.
		C03	To make the students understand the need for preparing trial balance and learn how to rectify different types of errors.
		C04	To make the learners understand the reasons for differences in Cash Book and Pass Book and learn how to Reconcile those differences.
		C05	To enable the students gain expertise in preparation of final accounts.
98	Business Organisation	C01	To make the students acquire conceptual knowledge of Business, Trade and Commerce and understand the relationship between them.
		C02	To make the students understand the functions of Business and Entrepreneurship and discuss the qualities of an entrepreneur.
		C03	To gain insight into the different forms of business organisation.
		C04	To acquire knowledge on the functioning of joint stock companies, private companies and public limited companies.
		C05	To acquire knowledge on the process of incorporating a company.
99	Business Economics-I	C01	To make the students acquire knowledge on Nature and Scope of Business Economics, understand the Concepts of Micro and Macro Economics and Analyse the differences between Macro and Micro Economics.
		C02	To make the students get a complete understanding on Determinants of Demand, Law of Demand, Demand Curve and Exceptions to the Law of Demand.
		C03	To acquire knowledge on the different types of elasticity of demand and understand their role in business decision making.
		C04	To equip the students with knowledge of cost and revenue concepts.
		C05	To understand the use of Break Even Analysis in Product and Financial Decision Making.
100	Fundamentals of Accounting-II	C01	To enable the students gain expertise in calculating depreciation under different methods.
		C02	To acquire knowledge on the Concepts of Provisions and Reserves, understand the difference between the two and learn the Accounting Treatment with reference to them.
		C03	To acquire conceptual knowledge on Bills of Exchange.
		C04	To make the students gain expertise on the preparation of consignment accounts.
		C05	To enlighten the students on the features of Joint Venture, make them understand the differences between Joint Venture and Consignment and discuss
101	Business Environment	C01	To understand the Macro and Micro dimensions of Business Environment and discuss Business Environment from Indian and Global Perspective.

		C02	To discuss the need and factors influencing balanced Regional Development.
		C03	To gain knowledge on different types of Plans and Functions of Niti Aayog.
		C04	To enable the students understand the Role of Economic Policies in Economic Progress of India.
		C05	To present an Overview on Social, Political and Legal Environment.
102	Business Economics-2	C01	To empower the students with the knowledge of a complete understanding of Production and Cost Concepts.
		C02	To analyse the different market structures and learn the process of identifying the profit-maximizing output under different market structures
		C03	To gain knowledge on the concepts of distribution and learn the theories of distribution.
		C04	To provide an insight into Macro-Economic Concepts of National Income and Economic Systems.
		C05	To comprehend the Role of Structural Reforms on India's International Trade.
103	Corporate Accounting	C01	To enable the students gain expertise in Accounting for Share Capital
		C02	To make the students acquire knowledge on accounting treatment for Convertible and Non-convertible Debentures.
		C03	To enable the students gain expertise in valuation of Goodwill and Shares in different methods.
		C04	To make the students expertize in the preparation of Company final Accounts with Adjustments.
		C05	To provide knowledge on the Provisions of the Companies Act, 2013.
104	Business Statistics	C01	To present an introduction to Statistics and make the students learn to tabulate data and present it graphically using computers.
		C02	Make the students acquire knowledge on characteristics of measures of Central tendency and learn the methods of calculating them.
		C03	To empower the students with the knowledge of measures of dispersion and skewness.
		C04	To make the students understand the meaning and use of correlation and learn the calculation of different types of correlation using computers.
		C05	To Make the students understand the importance of Analysis of Time series and Index Numbers.
105	Banking Theory and Practice	C01	To learn the Functions of Commercial Banks and understand the differences between Central Banking and Commercial Banking.
		C02	To empower the students with the knowledge of different Banking Systems and discuss the Innovations in Banking.
		C03	To understand the Role of Indigenous Banking, Regional Rural Banks, SIDBI NABARD and EXIM Bank in Financial Sector of India.
		C04	To gain knowledge on the types of customers and understand the General Relationship and Special Relationship between Banker and Customer.
		C05	To empower the students with the knowledge of Duties and Responsibilities of collecting Banker and Paying Banker.
106	Accounting for Service Organisations	C01	To make the students understand the Concept of Service Organisations, Types of Service Organisations and discuss the Provisions of Company Act with relevance to Service Organisations.
		C02	To make the students competent enough to prepare Accounts of Electric, electricity Supply Companies.
		C03	To gain an insight into the preparation of Bank Accounts and acquire the ability to prepare them.
		C04	To understand and learn the preparation of Revenue Account, Profit and Loss Account and Balance Sheet of a Life Insurance Company.

		C05	To understand the Principles of General Insurance and Expertise in the preparation of Final Accounts of Fire and Marine Insurance.
107	Business Laws	C01	To make the students understand the Essential Elements of a valid contract and explain the Provisions of Indian Contract Act, 1872.
		C02	To explain and illustrate the Concepts of Offer and Acceptance.
		C03	To make a Study and Analyse the Rules regarding Minor Contract and Contingent Contracts.
		C04	To make a detailed study on The Provisions of Sale of Goods Act, 1930.
		C05	To comprehend Cyber Law, Analyse its contract procedures and learn the Proces of Generating Digital Signature.
108	Income Tax	C01	To present an Overview on Income Tax Law and its Basic Concepts.
		C02	To get an understanding of the differences between Allowances and Perquisites
		C03	To get an in-depth understanding of computation of income from house
		C04	To given an insight into income from Capital Gains and Income from other
		C05	To Empower the learners with the knowledge of computation of total income of an individual.
109	Cost Accounting	C01	To present a clear picture of the differences between Financial Accounting, Cost Accounting and Management Accounting, make them understand the cost concepts and learn the preparation of a cost sheet.
		C02	To make the students understand the need for material control, learn how to apply the techniques of material control in real time business situations and discuss the different methods of pricing issues with their pros and cons.
		C03	To discuss why control of labour cost is essential and how it could be done, make a study on the different methods of remuneration with their merits and demerits.
		C04	To know and understand the different methods of costing and learn to prepare process cost accounts.
		C05	To understand the relevance of Marginal Costing Techniques to Business Units, know the uses of Standard Costing and learn to perform Variance Analysis.
110	Goods and Services Tax Fundamentals	C01	To gain knowledge on the concepts of GST, know the shortcomings and advantages of introducing GST and analyse the process of introducing GST.
		C02	To make a comparative analysis of the different models of GST of different countries.
		C03	To make a study on the taxes and duties coming under the purview of GST and Duties and Taxes outside the purview of GST.
		C04	To provide a detailed explanation of the IGST model, its advantages and illustrate how it works.
		C05	To learn the concept of Input Tax credit and know the cross utilisation of Input Tax Credit between Central GST and State GST.
111	Commercial Geography	C01	To study the structure of the Earth, learn the factors causing Environmental Pollution and the measures to be taken to protect the Earth.
		C02	To present an Overview on Indian Froestry with special reference to Status of Forests in Andhra Pradesh and also discuss the need for Protection of Forests.
		C03	To make a study on Soils, Food and Non-Food Crops of India and discuss the problems of Agriculture in India.
		C04	To present an overview on Indian Minerals and Mining Scenario.
		C05	To make a study on Indian Water Resources and discuss the experiences of India, especially Andhra Pradesh Reference to Interlinking of Rivers.
112	Central Banking	C01	To gain knowledge on the Evolution and Functions of Central Bank and discuss the trends in Central Bank Functions.

		C02	To acquire knowledge on Constitution and Governance of RBI and learn the Provisions of RBI Act.
		C03	To get a clear understanding of the Objectives and Tools and Techniques of Monetary and Credit Policies of RBI.
		C04	To understand the RBI measures taken for controlling inflation and prices in India.
		C05	To present an Overview on the Supervision and Regulation of Banks.
113	Rural and Farm Credit	C01	To know the Objectives, Importance and Classification of Rural Credit.
		C02	To get knowledge on the Institutional and Non-Institutional Agencies involved in Rural Credit.
		C03	To learn the importance of Farm Credit, Principles of Farm Credit, Types of Farm Credit and understand the Problems and Remedial Measures of Farm Credit
		C04	To acquire knowledge on the sources of Farm Credit.
		C05	To get an insight into the Methods of Analysis with reference to Farm Credit.
114	Marketing	C01	To Enlighten the students on the Concepts of Marketing, discuss the four P's of Marketing and study the factors constituting Marketing Environment.
		C02	To enable the learners to analyse the factors influencing the behaviour of a consumer, know the steps involved in buying Decision, Process, discuss the Concept, Advantages of Market Segmentation and also to make a study on the
		C03	To learn the key aspects and elements of Product Management such as the concepts of New Product, Product Mix, Product Line, Branding, Packaging and
		C04	To acquire knowledge on the factors influencing price determination and evaluate the different pricing strategies with their pros and cons.
		C05	To make a study on the Elements of Promotion Mix, know the Role of Distribution Channels and discuss the Concepts of Online Marketing and Global
115	Auditing	C01	To study the Objectives and importance of Auditing and know the Role of Auditor in checking Corporate Frauds.
		C02	To make a study on the different types of Audit based on Ownership and Time.
		C03	To acquire knowledge on the process of commencing a New Audit, Audit Programme and Audit Note Book.
		C04	To understand vouching of cash and trading transactions and know the practical differences between Auditing and Investigation.
		C05	To know the Rights, Duties, Liabilities and Disqualifications of Company Auditor and also acquire knowledge on the key contents of Audit Report.
116	Management Accounting	C01	To comprehend the interface between Financial Accounting and Management Accounting, know the need for Analysis and Interpretation of Financial Statements and Analyse the Tools and Techniques of Interpretation of Financial Statements.
		C02	To have a clear understanding of the classification of Ratios and analyse the
		C03	To acquire knowledge on the Concept of Fund, the need for Preparation of Funds
		C04	To get an in-depth understanding of the preparation of a Cash Flow Statement.
		C05	To gain an insight into the Concept and Benefits of Break-Even Analysis, Study the Techniques of Break-Even Analysis and understand their applicability in real time Business situations.
117	Financial Services	C01	To understand the Role of Financial Services in Indian Economy and learn the Activities of Non-Banking Finance Companies.
		C02	Acquire knowledge on the Scope and Importance of Merchant Banking Services.
		C03	To get a clear understanding of Lease System and Hire Purchase System.
		C04	To acquire knowledge on the need for Credit Rating, Types of Credit Rating and understand the Role of Credit Rating Agencies.
		C05	To acquire knowledge on other Financial Services such as Factoring and Forfeiting, Credit Cards, CDS and NSDL.
118	Marketing of Financial Services	C01	To understand the differences between Goods and Services and learn the Elements of Service.
		C02	To acquire knowledge on the construction of a Service Environment.
		C03	To empower the learners with the knowledge on Pricing and Promotion Strategies of Services.
		C04	To get knowledge on the distributing aspects of Services.

		C05	To acquire knowledge on Retail financial Services.
119	Computer Fundamentals and Photo Shop	C01	To acquire knowledge on the Characteristics, Limitations, Types and Uses of Computers and learn the Basics of Windows.
		C02	To get a complete understanding of the input and output devices of a computer and learn about the different types of Software.
		C03	To understand the Applications of Adobe Photoshop and learn to work on Adobe Photoshop Applications.
		C04	To acquire the ability of working with images
		C05	Acquire knowledge and gain the ability of working with layers and filters.
120	Enterprise Resource Planning	C01	To discuss the Evolution, Benefits and Fundamental Technology of Enterprise Resource Planning and understand the issues to be considered in Planning, Designing and Implementation of Integrated ERP Systems.
		C02	To present an Overview of ERP Software Solutions.
		C03	To acquire knowledge on various Aspects and Elements of ERP Implementation.
		C04	To comprehend the effect of ERP Implementation on Organisations and Industries.
		C05	Acquire knowledge on the Emerging Trends in ERP.
121	Office Automation Tools	C01	To learn the Features and Functions of MS Excel and acquire the ability to work with MS Excel.
		C02	To acquire knowledge on the formatting options available in Excel.
		C03	To acquire the ability of Creating Charts, Working with Functions and Creating Macros.
		C04	To acquire knowledge on Creating Databases, Tables Forms in MS Access
		C05	To learn how to Find, Sort, Display Data, Create Relational Data Bases and Print Reports.
122	Data Base Management System	C01	To understand the difference between Data and Information and Learn Concept, Objectives and Classification of Database Management System.
		C02	To acquire knowledge on File Based System, Database Architecture, understand the Different Data Models used for Database Design and know DBMS Vendors and their Products.
		C03	Get an insight into the Concept and various Aspects and Elements of Entity Relationship Model.
		C04	To understand the Structure of PL/SQL and learn the steps to create a PL/SQL Programme.
		C05	To acquire knowledge on Structured Query Language and get the ability to retrieve Data Using SQL Commands.
123	e-commerce	C01	Empower the students with the knowledge on Electronic Data Interchange and Electronic Payment Modes and make the students understand the Need of e-cash in Today's Business Environment.
		C02	Provide Knowledge on Process of Real Time Gross Settlement System, ATM Net
		C03	To gain knowledge on the methods used for securing E-payments and know the process of Generating a Digital Signature.
		C04	Present an Overview on Mobile Payment Methods.
		C05	To understand the Process of Generating Electronic Invoice and understand the Role of EIPP Providers, Biller Service Providers and Customer Service Providers in E-payment Systems.
Oriya			
124	Prachina Kabita, alankara	C01	To be able to the definition of ancient poem.
		C02	To be able to the comparison study of ancient and modern poem.
		C03	To be able to the ancient poem of style, image and symbolism.
		C04	To be able to the different of the ancient poem i.e., Chautisa, koili, champu etc.
		C05	To be able to the literature alankara, shlesha, pratipa, bhibhabana etc.
125	Prambadh	C01	To be able to the origin of oriya
		C02	To be able to the definition of prambdha, historical, comparison, psychology etc.
		C03	To be able to the oriya prose writers life and achievement in oriya literature.
		C04	To be able to the explain the ancient prose.

		C05	To understand the impact of oriya prose in oriya literature.
126	Drama	C01	To be able to the definition and origin of oriya drama.
		C02	to be liable to the different of folk oriya drama,jatara,lila,suanga.
		C03	To be able to the oriya drama's pancha sandhi,ranga mancha,jabanika.
		C04	To be able to the different kinds of drama social,political, mythological.
		C05	To be able to the modern drama and first oriya drama writer Jagmohan lala.
127	Short story	C01	To be able to the ancient oriya story panchatantra Vishnu sharma,aal maa kahani,suaa sari gapa.
		C02	To be able to the modern story chatura vinod-brajanath bada jena,rudrasudhanidhi - narayan abadruta svami.
		C03	To be able to the definition of oriya short story.
		C04	To be able to the first oriya modern short story rebati.
		C05	To be able to the life and achievement of the short story writer Fakir Mohan Senapati,Godabarisa misra,Surendra mohanty,Akhil Mohan Pattnaik,
128	History of oriya literature	C01	To be able to the ancient sarala juga,juga bibhajana,origin and development of oriya language.
		C02	To be able to the oriya lipi - likhita,moukhika,folk literature.
		C03	To be able to the sarala juga, sarala Mahabharata,bilanka ramayana.
		C04	To be able to the pancha sakha juga Balaram, Jagannath,Achuta,Sisu ananta,jasowanta das.
		C05	To be able to the early bhanja period,Raya rama nanda,Salabega,Makarnda Das
129	Novel	co1	To be able to the Definition of oriya novel
		co2	To be able to the different kinds of novel
		co3	To be able to the character of novel,main gent's and lady character
		co4	To be able to the life history and achievement of the novel writer s
		co5	To be able to the social and familism of oriya novel literature
INFORMATION AND COMMUNICATION TECHNOLOGY			
130	ICT - 1	C01	To understand the basics of computers such as characteristics, applications and classification of computers
		C02	To understand the types of hardware, software and uses of them. students can differentiate real time entities by their own.
		C03	To help the student to understand how to prepare documents, letters and books using an application software such as MS Word
		C04	To understand how to prepare a presentation and how we can make 'teaching a topic' easy using slides and animations through MS POWERPOINT
		C05	To understand the Preparation of Tables, Graphs and calculations using an application software MS EXCEL.
131	ICT - 2	C01	To understand the fundamentals of Internet like types of networks, applications of Internet and Viruses spread through internet
		C02	To understand the Social Networking sites functioning process, frauds in mails and social networks. Hacking
		C03	To understand the components in mail service like user id, passwords, email addresses, message components.
		C04	To understand the search engine optimization techniques and internal process of search engine
		C05	To understand the HTML Language concepts and can make a static website using the language
ENTERPRENEURSHIP			
132	Unit-1 Introduction	co1	Students are able to know the introduction of entrepreneur and entrepreneurship
		co2	To understand different types of entrepreneurs
		co3	To understand the role of Entrepreneurship in Economic development
	Unit-2 Idea Generation	Co1	To gain knowledge about the Ideas in Entrepreneurship
		Co2	Able to know the techniques for generating ideas
		Co3	To understand Opportunity Recognition
	Unit-3 Project Formulation and	Co1	To gain knowledge in the Preparation of Project Report
		Co2	Understand Project Appraisal Techniques
		Co3	Able to describe Financial and market analysis
	Unit-4 Institutions supporting	co1	Able to get supporting from Central level Institutions
		Co2	Able to get supporting from State level Institutions
		Co3	Able to get supporting from Other financial assistance
	Unit-5 Government Policy and T	Co1	Students are able to understand Government Policy for SSIs
		Co2	To understand Tax Incentives and Concessions
		Co3	To gain knowledge about Non-tax Concessions
		Co4	To understand Rehabilitation and Investment Allowances
HUMAN VALUES & PROFESSIONAL ETHICS(HVPE)			
133	HVPE	C01	Students are able to understand the definition, concept, content,process and need of value education and recognize happiness and prosperity as parts of value education
		C02	Understand Harmony in the human being(self), family, society and in the nature.
		C03	Able to know the basics, defects in Ethical Human Conduct, Holistic alternative & universal order and universal human order & Ethical conduct which may bring the behavioural change. positive attitude in them.
		C04	Students will lead a value based life and profession by understanding the concept of professional ethics.
		C05	Students will understand basic principles of HVPE that helps them tell right from wrong and good from bad and also give real and practical guidance to their lives.
ENVIRONMENTAL STUDIES			
134	Environmental studies	C01	Students will understand the multidisciplinary nature of environmental studies and its need for public awareness.

		C02	Able to gain knowledge regarding the use and over exploitation of different natural resources
		C03	Students will understand their role in solid waste management, disaster management, water conservation, rain water harvesting and water shed managements.
		C04	Students can understand the scope and importance of environment in now a days by studying the adverse affects of air pollution,water pollution and chemical toxicology.
		C05	Students will understand the importance of environment protection acts and follow them.
		C06	Students get aware of population explosion- family welfare programme, human rights, value education, women & child welfare and the role of infomation technology in Environment and human health.
HORTICULTURE			
135	Horticulture paper 1	C01	Students will be able to know the importance, limitations and uses of Horticulture and agriculture zones of AP
		C02	To know the importance of fruits and vegetables in human diet
		C03	Students will gain knowledge about climatic factors, disease control measures, micro irrigation and its importance, cultivation of grapes and sedum guava.
		C04	Understand preparation of vermi compost beds and importance of soil and water in Horticulture.
		C05	To get knowledge about balanced diet and its importance in human health'
136	Horticulture paper 2	C01	Understand the importance of phytoharmones such as oxins, zibbarillins, cytokinenes, ethylene in Horticulture.
		C02	Understand vegitative propagation methods and uses in Horticulture, nursery management, transportation.
		C03	To gain knowledge in Seed beds preparation, seedling selection, cultivation of Brazil and tomato.
		C04	To gain scientific knowledge on water management methods in Horticulture crops.
		C05	Students will understand microelements deficiency & control measures of Horticulture crops, Horticulture products storage and transport
137	Olericulture paper 3	C01	Students will understand climatic factors, types of soil, fertilizers, water management, weed control, diseases & pest control methods and developments involved in the cultivation of lady finger, cabbage, cauli flower, cucurbits, climber vegetables, carrot, leafy vegetables, sweet potato, onions, chillis, onion and celeratis
		C02	Students will understand climatic factors, types of soil, fertilizers, water management, weed control, diseases & pest control methods and developments in the cultivation of plantational crops such as coconut and palm oil
		C03	To know about the functions and suggestions of WTO in Marketing, Management and Agreements.
138	Pomology paper 4	C01	Students will understand climatic factors, types of soil, fertilizers, water management, weed control, diseases & pest control methods and developments involved in the cultivation of mango, banana, sweet lemon, sapota, regi berry, nanava, custard apple, amla, pine apple, cashew nut etc
		C02	Students will get ability to cultivate different plantational fruit crops on their own
139	Flory culture and Landscape gardening Paper 5	C01	To gain knowledge about Indian history, economy, exports & imports of flory culture products.
		C02	Able to know the characteristics and importance of Moughal gardens, Japanese gardens, England gardens and their propagation.
		C03	To get the knowledge in the cultivation of annuals such as Aesters, Crysanthamum, Cosmos, Dhaliva, Mari gold.
		C04	To understand the cultivation of shade loving plants such as colious, Anthurium, Begonia etc. and their chracteristics
140	Flory culture and Landscape gardening Paper 6	C01	Students can distinguish different plant cultivations based on their characteristics and cultivate on their own.
		C02	To gain knowledge in the cultivation and characteristics of Orchids, Coleous, Canna Indica, Bulbomus plants and their propagation.
		C03	To gain knowledge in the cultivation of flowering plants such as Rose, Jashmine and their characteristics.
		C04	Students will understand preparation of lawn, soil preparation, lawn types, moving of lawn and pest control of lawn
141	Fruits and Vegetable Technology Paper 7	C01	Students will be able to understand problems after harvesting of fruits and vegetables, spoilage of fruits and vegetables by microbes.
		C02	To gain scientific knowledge in the methods of storage of fruits and vegetables, post harvesting technology and able to prepare Boardo mixture on their own.
		C03	Students will understand the methods of processing and storage of fruits and vegetables.
		C04	To gain knowledge in the process of storage of different types of fruits such as banana, dates, grapes, fig, jack fruit, mango, peech and pears.
		C05	Understand different types of diseases and their methods of control of Ornamental plants.
ANALYTICAL SKILLS			
142	Analytical Skills	C01	Understand how to solve analytical problems in real world scenarios
		C02	Apply the tools to model the problems mathematically,analyze data quantitatively and create the ability to access and communicate mathematical information
		C03	Understand and analyze the basic problems
		C04	Able to think creatively to propose novel ideas in explaining facts or providing new solution to the problems
HISTORY			
143	Ancient Indian History & Culture(Earliest time to 600AD)	C01	Students will be able to understand unity in diversity ,Traces of stone age culture, Origin,extent and salient features of Indus Valley Civilization based on literary & Archeological sources
		C02	To understand Religious reform movements in Vedic Age and also the state of society, polity, economy and culture during the early and later Vedic period.
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		C04	Students will understand transition from Territorial states to emergence of Empires during the period 600-300BC such as Mahajanapadas, Magadhas success, Persian and Macedonian invasions, Mauryan empire etc. and also understand the state, Imperial Administration, economy, Art & architecture, significant and downfall of empires.
		C05	Able to know the conditions during 200BC-300AD. i.e. social, economical, religious & cultural, pattern of Administration, developments, polity, Art & Architecture. <u>Literature in the Age of Kushanas, Satavahanas and Sangam</u> .
		C06	Students will understand the India between 300AD-600AD. i.e. The rise & growth of Art, literature, economic society, Science & Technology of Guptas.
144	Early Medieval Indian History & Culture (600AD-1526AD)	C01	Able to get a comprehensive knowledge on polity, Administration, state of society, economy and culture under Chalukyas of Badami & Eastern Chalukyas of Vengi.
		C02	To understand the Age of Pallavas and their contribution to cultural development, Art & Architecture and also the rise of Chola empire and their contribution to Administration & cultural life.
		C03	To understand the condition of India on the eve of Arab, Turkies, Delhi Sultanate invasions from 1206-1290 AD and also their role on Administration, society, economy, technology, religion, Art & Architecture.
		C04	Students could understand the impact of Islam on Indian society and culture, the emergence of Bhakti & Sufi movements.
145	Late medieval & colonial History of India (1526-1857AD)	C01	To know the emergence, expansion & consolidation of Mughal empire and rise of Marathas & Peshwas and also able to know causes for disintegration of Mughal empire.
		C02	To acquire comprehensive knowledge on the Administration, economy, society and cultural developments under Mughals.
		C03	To understand India under Colonial Hegemony such as European settlements and their policies of expansion and consolidation of British empire.
		C04	To understand the economic policies in British India, Administration of the company, social & cultural policies on humanitarian measures & spread of modern education.
		C05	To know causes, nature & consequences of Peasant & Tribal revolts.
146	Social Reform Movement & Freedom Struggle (1857-1947AD)	C01	Students are able to know social & cultural awakening through Brahma Samaj, Arya Samaj, Ramakrishna Mission, Emancipation of women and how Dr. B.R. Ambedkar, Jyotiba Phule, Narayana Guru fought against Casteism.
		C02	To understand the growth of nationalism, genesis of Freedom movement and their impact on British colonial policies.
		C03	To explain different phases of Freedom Struggle from 1885-1947 through Swadeshi & Boycott movement, Revolutionary movements and the role of Gandhiji's in the national movement to get independent India.
		C04	To make the students understand the growth of communalism, partition of India and the role of Sardar Vallabhai Patel in the integration of princely states into Indian union.
147	Age of Rationalism & Humanism	C01	Students will be able to understand the causes to emerge Feudalism and its consequences.
		C02	To understand characteristic features and effects of which led to transformation from Medieval to Modern world.
		C03	To explain the causes in the emergence of Nation States and their impacts, different Revolutions like American revolution, French revolution and their results.
148	History & Culture of Andhra Desa from 12th to 19th Century AD	C01	Students will be able to understand in detail about the origin of Kakatiyas, their social & economic life, Trade & industries, promotion of literature & culture, Architecture & Sculpture and also decline of their empire.
		C02	To explain the Administration, society & economy of Vijayanagara empire and the contribution of Sri Krishnadevaraya to Andhra culture, development of literature & Architecture and decline of empire.
		C03	To know about Andhra through 16th & 17th centuries AD under Qutbshahis of Golkonda.
		C04	To understand how East India Company dominated over Andhra, three Karnatic wars and their results, occupation of Northern circars, ceded Districts during 18th and 19th centuries AD.
		C05	To explain the impact of company rule on Andhra Administration, land revenue settlements, Education, religion, economy and impact of 1857 Revolt in Andhra.
149	History of Modern Europe	C01	Students will be able to understand the origin, nature and impact of Industrial revolution.
		C02	To know about Unification movements in Italy & Germany and their impact.
		C03	To explain the causes, course and results of communist revolution in Russia and its impact on world order.
		C04	To understand causes for genesis of World wars : I & II and results.
		C05	To explain the structure, Functions and challenges of UNO.