2.6 Students Performance and Learning Outcomes (2023-2024)

2.6.1 Program Outcomes,Program Specific outcomes and Course Outcomes for all Programs Offered by the Institution Stated and Displayed in website of the institution(to provide the weblink)

Department of English

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	To introduce the different forms of literature
2	PO2	To provide learners with the background knowledge of literature
3	PO3	To enable leaners to understand the different genres of writing
4	PO4	To create the ability of critically examining a text
5	PO5	To examine the various themes and methodologies present in literature

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements
1	PO1	To familiarize the students with the emergence and growth of Indian Writing in English in the context of colonial experience.
2	PO2	To help in understanding issues concerning Indian Writing in English such as the representation of culture, identity, history,
3	PO3	To enable leaners to appreciate Nation-Nationalism; Counter Discourse; Subalternity; Identity Movements.
4	PO4	To closely examine the various themes and methodologies existing in Contemporary Indian Writing in English.
5	PO5	To help learners apply the ideas encapsulated in Indian Aesthetics to literary texts

Course Outcome(Cos)

Semester		Course	Title of the Course	Course Outcome	Level
				CO1:Appreciate and analyse and the basic elements of poetry, including meter, rhyme, and theme.	K1
				CO2:Explore the dramatic storytelling including play structure, monologues, dialogue, and scene setting.	K2
		CORE I	Introduction to Literature	CO3:Use library resources to research and develop arguments about literary works.	K1,K2

I			CO4:Work skillfully within a team, respect coworkers, delegate work and contribute to a group project.	K1,K2,K3
			CO5:Gain knowledge of the elements of fiction including narrative structure, character analysis and comparison between different but related texts.	K2
	CORE II	Indian Writing in English	CO1:Appreciate the historical trajectory of various genres of Indian Writing in English from colonial times to till the present	K1,K2
			CO2:Analyze Indian literary texts written in English in terms of colonialism, post colonialism, regionalism, and nationalism	K2
			CO3:Understand the role of English as a medium for political awakening and the use of English in India for creative writing	K1,K2,K3
			CO4:Analyze how the sociological, historical, cultural and political context impacted the texts selected for study	K6
			CO5:Evaluate critically the contributions of major Indian English poets and dramatists	K5,K6
II	CORE III	BRITISH LITERATURE-I	CO1:Demonstrate knowledge of the major social, political, philosophical, and scientific events forming the backdrop for the development of early British Literature.	K1,K2
			CO2:Synthesize, integrate, and connect information by writing essays using techniques of criticism and evaluation.	K1,K2,K3
			CO3:Read and discuss the themes, approaches, styles, and contributions to the development of British literature from the Medieval Period to the end of the	K1,K2,K3
			CO4:Distinguish between the characteristics of British literary movements in discussing and writing about British literature.	K1,K2
			CO5:Write about literature using standard literary terminology and other literary conventions.	K1,K2,K3
	CORE IV	AMERICAN LITERATURE-I	CO1:Analyze and discuss works of American literature from a range of genres (e.g. poetry, nonfiction, slave narrative, captivity narrative, literary fiction,	K1,K2
			CO2:Identify relationships between moments in American history, colonialism, and culture and their representation in works of American	K1,K2,K3
			CO3:Articulate ways that American literature reflects complex historical and cultural experiences.	K1,K2

			CO4:Produce a mix of critical, creative, and/or reflective works about American literature to 1865.	K1,K2,K3
			CO5:Analyze and describe about American literature using standard literary terminology and other literary conventions	K5,K6
III	CORE V	BRITISH LITERATURE-II	Exhibit an understanding of and appreciation for key works in British literature, as evidenced in daily work and course discussions.	K1,K2
			Demonstrate an understanding of periodization, theme, genre, motif, and so on, in British literature.	K6
			Establish an understanding that historical, cultural, spiritual, and ethical issues, among others, shape human experiences and impact motivations.	K5,K6
			Respond to literature on important the mastic considerations having to do with literary and historical milieu, culture, human responsibility, morality, ethics,	K6
			Analyze and express about British literature using standard literary lexicon and other literary conventions.	K1,K2,K3
	CORE VI	CHILDREN'S LITERATURE	CO1:Recognize the various genres of Children's Literature	K1,K2
			CO2:Acquire values through their reading of the works of Children's Literature	K5,K6
			CO3:Appreciate and criticize the similarities and differences in cultural imaginations.	KI
			CO4:Recognize the themes and artistic style employed in Children's Literature	K3
			CO5:Critically evaluate the different approaches to Children's Literature in various countries.	K1,K2
	CORE V	Drama I	Demonstrate an understanding of periodization, theme, genre, motif, and so on, in British literature.	K2,K3
			Produce a mix of critical, creative, and/or reflective works about American literature to 1865.	K2,K3
			Articulate ways that American literature reflects complex historical and cultural experiences.	K1,K2
			Exhibit an understanding of and appreciation for key works in British literature, as evidenced in daily work and course discussions.	K1

IV			Respond to literature on important the mastic considerations having to do with literary and historical milieu, culture, human responsibility, morality, ethics,	K1,K2
	CORE VI	Fiction	Appreciate and analyse and the basic elements of poetry, including meter, rhyme, and theme.	K2
			Gain knowledge of the elements of fiction including narrative structure, character analysis and comparison between different but related texts.	K1,K2
			Explore the dramatic storytelling including play structure, monologues, dialogue, and scene setting.	K2
			Use library resources to research and develop arguments about literary works.	K2
			Work skillfully within a team, respect coworkers, delegate work and contribute to a group project.	K1,K2
V	CORE V	British literature	CO1 : Analyse the principle of communication process and barriers to communication. Verbal and non-verbal communication	K2
			CO2: To demonstrate the language principles	K2
			CO3: To know about the morphology and phonology	K2
			CO4 : Students will be know strong conceptual knowledge in the british literature.	K1,K2
	CORE VI	Shakespeare	CO1:Appreciate the historical trajectory of various genres of Indian Writing in English from colonial times to till the present	K2
			CO2:Analyze Indian literary texts written in English in terms of colonialism, post colonialism, regionalism, and nationalism	K2
			CO3:Understand the role of English as a medium for political awakening and the use of English in India for creative writing	K3
			CO4:Analyze how the sociological, historical, cultural and political context impacted the texts selected for study	K1,K3
			CO5:Evaluate critically the contributions of major Indian English poets and dramatists	K1,K2
			CO1:Analyze and discuss works of American literature from a range of genres (e.g. poetry, nonfiction, slave narrative, captivity narrative, literary fiction,	K1,K3

VI	CORE V	Contemporary literature	CO2:Identify relationships between moments in American history, colonialism, and culture and their representation in works of American	K1,K2,K3
			CO3:Articulate ways that American literature reflects complex historical and cultural experiences.	K1,K2
			CO4:Produce a mix of critical, creative, and/or reflective works about American literature to 1865.	K1,K2
			CO5:Analyze and describe about American literature using standard literary terminology and other literary conventions	K1,K2,K3
	CORE VI	Indian writing in translation	CO1:Recognize the various genres of Children's Literature	K1,K2
			CO2:Acquire values through their reading of the works of Children's Literature	K3
			CO3:Appreciate and criticize the similarities and differences in cultural imaginations.	K4
			CO4:Recognize the themes and artistic style employed in Children's Literature	K5,K6
			CO5:Critically evaluate the different approaches to Children's Literature in various countries.	K1,K2

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Course Outcome(Cos)

Semester	Course	Title of the Course	Course Outcome	Level
I	CORE I	DRAMA	CO1:Appreciate and analyse and the basic elements of poetry, including meter, rhyme, and theme.	K1,K2
			CO2:Explore the dramatic storytelling including play structure, monologues, dialogue, and scene setting.	K2
			CO3:Use library resources to research and develop arguments about literary works.	K2
			CO4:Work skillfully within a team, respect coworkers, delegate work and contribute to a group project.	K1,K2
			CO5:Gain knowledge of the elements of fiction including narrative structure, character analysis and comparison between different but related texts.	K2

	CORE II	FICTION	CO1:Appreciate the historical trajectory of various genres of Indian Writing in English from colonial times to till the present	K2
			CO2:Analyze Indian literary texts written in English in terms of colonialism, post colonialism, regionalism, and nationalism	K2
			CO3:Understand the role of English as a medium for political awakening and the use of English in India for creative writing	K1,K2
			CO4:Analyze how the sociological, historical, cultural and political context impacted the texts selected for study	K3
			CO5:Evaluate critically the contributions of major Indian English poets and dramatists	K2
II	CORE III	Shakespeare Studies	CO1:Demonstrate knowledge of the major social, political, philosophical, and scientific events forming the backdrop for the development of early British Literature.	K2
			CO2:Synthesize, integrate, and connect information by writing essays using techniques of criticism and evaluation.	K3
			CO3:Read and discuss the themes, approaches, styles, and contributions to the development of British literature from the Medieval Period to the end of the	K1,K3
			CO4:Distinguish between the characteristics of British literary movements in discussing and writing about British literature.	K1,K2
			CO5:Write about literature using standard literary terminology and other literary conventions.	K1,K3
	CORE IV	Post Colonial Theory and Literature	CO1:Analyze and discuss works of American literature from a range of genres (e.g. poetry, nonfiction, slave narrative, captivity narrative, literary fiction,	K1,K2,K3
			CO2:Identify relationships between moments in American history, colonialism, and culture and their representation in works of American	K1,K2
			CO3:Articulate ways that American literature reflects complex historical and cultural experiences.	K1,K2
			CO4:Produce a mix of critical, creative, and/or reflective works about American literature to 1865.	K1,K2,K3
			CO5:Analyze and describe about American literature using standard literary terminology and other literary conventions	K1,K2

III	CORE V	TWENTIETH CENTURY BRITISH LITERATURE	CO1: Exhibit an understanding of and appreciation for key works in British literature, as evidenced in daily work and course discussions.	K3
			CO2:Demonstrate an understanding of periodization, theme, genre, motif, and so on, in British literature.	K4
			CO3:Establish an understanding that historical, cultural, spiritual, and ethical issues, among others, shape human experiences and impact motivations.	K5,K6
			CO4:Respond to literature on important the mastic considerations having to do with literary and historical milieu, culture, human responsibility, morality, ethics, and the manner and causes by which humans interact with one another.	K1,K2
			CO5:Analyze and express about British literature using standard literary lexicon and other literary conventions.	K1,K2
	CORE VI	AMERICAN LITERATURE	CO1:Recognize the various genres of Children's Literature	K1,K2,K3
			CO2:Acquire values through their reading of the works of Children's Literature	K1,K2
			CO3:Appreciate and criticize the similarities and differences in cultural imaginations.	K3
			CO4:Recognize the themes and artistic style employed in Children's Literature	K4
			CO5:Critically evaluate the different approaches to Children's Literature in various countries.	K5,K6
IV	CORE V	Indian literature in English	Demonstrate an understanding of periodization, theme, genre, motif, and so on, in British literature.	K1,K2
			Produce a mix of critical, creative, and/or reflective works about American	K4
			Articulate ways that American literature reflects complex historical and cultural experiences.	K5,K6
			Exhibit an understanding of and appreciation for key works in British literature, as evidenced in daily work and course discussions.	K3
			Respond to literature on important the mastic considerations having to do with literary and historical milieu, culture, human responsibility, morality, ethics,	K4

	CORE VI	Contemporary literature	Appreciate and analyse and the basic elements of poetry, including meter,	K5,K6
			Gain knowledge of the elements of fiction including narrative structure,	K1,K2
			Explore the dramatic storytelling including play structure, monologues,	K1,K2,K3
			Use library resources to research and develop arguments about literary works.	K1,K2
			Work skillfully within a team, respect coworkers, delegate work and	K1,K2

Department of Mathematics (UG) - 2023-2024

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	The learner will able to relate the concept underlying standard applications of Mathematics, Physics and Statistics
2	PO2	The learner will have an understanding on basic pure and applied Mathematics and able to formulate the Mathematical arguments
3	PO3	They can be able to illustrate Mathematical concepts effectively by oral, written, computing and graphical means
4	PO4	The learner will make use of the theories of Mathematics and their applications in real world problems
5	PO5	The learners can able to identify the complex physical problem and apply the Mathematical techniques to solve them

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements
1	PO1	Mathematics is the key to success in the field of science and engineering.
2	PO2	Today, the students need a thorough knowledge of fundamental basic principles, methods, results and a clear perception of the
3	PO3	This course is aimed at preparing the students to cope with the latest developments and compete with students from other
4	PO4	Mathematics plays an important role in the context of globalization of Indian economy, modern technology and we find the

Course Outcome(Cos)

Semester		Course	Title of the Course	Course Outcome	Level
I		Core-I	Algebra & Trigonometry	CO1 Student will be able to classify & solve reciprocal equations.	K2
				CO2 Find the sum of binomial,exponential and logarithmic series.	K2
				CO3 Find eigen values,eigen vectors,verify Cayley -Hamilton theorem.	K5
				CO4 Expand the powers & multiples of trigonometric functions.	K3
				CO5 Determine relationship between circular & hyperbolic functions.	K2
		Core-II	Differential Calculus	CO1 Find the nth derivative,form equations involving derivatives & Leibnitz formula	K5
				CO2 Find the partial derivative & total derivative coefficient.	K5
				CO3 Find maxima &minima of functions & use the Lagrange's method.	K2
				CO4 Find the envelope of a given family of curves.	K3

			CO5 Find the evolutes & involutes &find the radius of curvature using polar form.	K5
	Foundation course	Bridge Mathematics	CO1 Prove the binomial theorem & solve the related problems.	K1
			CO2 Find the various sequences & series & solve the related problems.	K5
			CO3 Find the number of permutations & combinations in different cases.	K2
			CO4 Explain various trigonometric ratios & find them for different angles.	K2
			CO5 Find the limit & derivatives of function at a point.	K3
II	Core-III	Analytical Geometry of Three Dimension	CO1 Find Pole,Polar for conics,diameter, for ellipse & hyperbola.	K2
			CO2 Find the Polar equations of straight line & circle,tangent& normal.	K5
			CO3 Explain in detail the system of Planes.	K3
			CO4 Explain in detail the system of Straight lines.	K2
			CO5 Explain in detail the system of Spheres.	K5
	Core-IV	Integral Calculus	CO1 Find the integrals of Algebraic& trignomentric functions.	K5
			CO2 Evaluate double and triple intrgrals problems.	K3
			CO3 Solve multiple integrals & to find the areas of curved surface.	K2
			CO4 Explain beta and gamma functions.	K2
			CO5 Explain Geometric and Physical applications of integral calculus.	K2
III	Core-V	Abstract Algebra	CO1 Explain the fundamental concepts of Algebra.	K2
			CO2 Understand the concept of Homomorphism,Automorphism.	K5
			CO3 Solve problems on ideals,Cayley's theorem & Permutation groups.	K4
			CO4 Demonstrate accurate and efficient use of ring with examples.	K4
			CO5 Solve problems in above related topics.	K2
	Allied - II	Mathematical statistics -I	CO1 Tackle big data and draw inferences form it by applying appropriate statistical techniques.	K2
			CO2Explore the basic ideas about measures of central tendency, dispersion and their applications in other statistical problems.	K5
			CO3 Explain the different types of discrete and continuous distributions and their utilization.	K4
			CO4 Briefly study about Student’s t-distribution, χ2distribution and tests of significance.	K4
			CO5 : Gains knowledge in theory of estimation, methods of finding estimates, confidence intervals and Theory of hypothesis.	K6

	Elective-II	Fuzzy Sets and Fuzzy Logic	CO1 Fuzzy sets.	K5
			CO2 Representation of fuzzy sets.	K2
			CO3 Operations on fuzzy sets.	K2
			CO4 Characteristics of fuzzy logic.	K6
			CO5 Fuzzy propositions.	K2
	Skill Based subject -I	Quantitative Aptitude I	CO1 Recognize,describe & represent numbers &their relationships.	K5
			CO2 Estimate,calculate with competence in solving problems.	K3
			CO3 understand the problem solving techniques on average.	K2
			CO4 Solve problems arise on real world situations.	K4
			CO5 Acquire the knowledge to write competitive exams.	K2
IV	Core-VI	Real Analysis -I	CO1 know the concept countability	K2
			CO2 identify convergent, divergent sequences	K2
			CO3 solve conditional convergence and absolute convergence problems	K2
			CO4 evaluate limit of a function	K2
			CO5 know the concepts of open, closed sets.	K2
	Core-VII	Statics	CO1 Describes about forces, and types of forces	K2
			CO2 know about moment of forces, parallel forces	K5
			CO3 know about the couples and equilbrium	K2
			CO4 reduction of coplanar forces, laws of friction	K4
			CO5 know aboout centre of mass of all particles.	K5
	Allied - II	Mathematical Statistics II	CO1 know about the Statistical Population Census and Sampling Survey	K5
			CO2 Explore about the Test of significance - Large sample test and Exact test	K2
			CO3 Explain the different types of discrete and continuous distributions and their utilization.	K2
			CO4 Briefly study about Test of Hypothesis - Likelihood Ratio Test	K2
			CO5 : Gains knowledge in theory of estimation, methods of finding estimates, confidence intervals and Theory of hypothesis.	K2
	Skill Based subject -II	Quantitative Aptitude II	CO1 Understands Chain rule -Time and work.	K2
			CO2 Time and Distance	K2
			CO3 Problems on Trains.	K5

	subject -II		CO4 Boats and Streams.	K4
			CO5 Understand the concept of ratio & proportion.	K2
V	Core	Abstract Algebra	CO 1 Students able to identify groups and subgroups.	K5
			CO2 to understand homomorphism and isomorphism	K6
			CO3 to do the problems in permutation.	K5
			CO4 to study the basics of rings, ideals and integral domain.	K2
			CO5 to apply Euclidean rings in theorems.	K2
	Core	Real Analysis -I	CO1 know the concept countability	K5
			CO2 identify convergent, divergent sequences	K6
			CO3 solve conditional convergence and absolute convergence problems	K5
			CO4 evaluate limit of a function	K2
			CO5 know the concepts of open, closed sets.	K3
	Core	Complex Analysis -I	CO1 gain knowledge about Complex functions and its nature, limits and Analytic functions.	K2
			CO2 gain knowledge about elementary transformations.	K2
			CO3 gain knowledge about line integrals and techniques for solving problems.	K4
			CO4 gain knowledge about elementary tranmsformation	K3
			CO5 know about Integrals, Cauchy-Goursat's Theorem	K5
	Core-VI	Programming in C language	CO1 Understands C Constants, variables, Data-type, Declaration of variables	K2
			CO2 understands the Operators, expression and input output operations	K2
			CO3 Know the Decision making: branching and looping	K2
			CO4 Know the One - dimensional array, two - dimensional array	K2
			CO5 know the Need for User-defined function, Multi-function program	K5
	Elective	Linear programming	CO1 solve the linear equations	K2
			CO2 solve the transportation problems.	K2
			CO3 solve the assignment problems.	K5
			CO4 know the types of games.	K2
			CO5 analyze the simulution methods.	K2
	core	Linear Algebra	CO1 Understands linear dependence and independence	K2
			CO2 understands the dual products space	K2
			CO3 understand the algebra of linear transformations	K2

			CO4 Know the matrices, canonical forms	K2
			CO5 know the trace and transpose	K2
	core	Real Analysis -II	CO1 Understands the open sets and complete metric spaces	K4
			CO2 understands the compact metric spaces and continuity of inverse functions	K5
			CO3 understand the riemann intergral , their properties and derivatives	K6
			CO4 Know the role's theorem and fundamental and taylor's theorem	K5
			CO5 know the sequence and series of function	K2
VI	core	Complex Analysis -II	CO1 Understands Morera's theorem - Maximum Moduli of functions	K2
			CO2 understands the Taylor's and Laurent's theorem	K2
			CO3 Know the Singularities and Cauchy's Residue theorem	K2
			CO4 Know the Improper integrals involving Trigonometric functions	K2
			CO5 know the Zeros of Analytic functions , Poles and zeros	K2
	Elective	Discrete Mathematics	CO1Understand the process of communicating with others.	K2
			CO2 Formulate and important statements of presented in Boolean algebra	K2
			CO3 Formulate the short proofs using the following methods.	K2
			CO4 Apply the different properties of injections,surjections,indirect proof.	K2
			CO5 Gain an historicalperspective of the development of modern discrete	K2
	Elective	Fuzzy Mathematics	CO1 Understands fuzzy subsets and boolean algebra	K2
			CO2 understands the product and sum of fuzzy sets and cartesian product	K2
			CO3 Know the algebra of fuzzy sets	K2
			CO4 know about the fuzzy subgroups and homomorphic image	K2
			CO5 Know about the fuzzy invariant subgroups and subrings	K2

Department of Mathematics (PG) 2023-2024

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	**PO Number**	**PO Statements**
1	PO1	Promotion of self study
2	PO2	Promotion of thinking
3	PO3	Problem Solving
4	PO4	Understanding Concepts

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements
1	PO1	To enable the students to quantify their experiences in other subjects they study.
2	PO2	To enable the students to study mathematics for themselves.
3	PO3	To provide high quality mathematical education at all levels that will be vital for scientific and technological developments.
4	PO4	To enable the students to learn the basic structures of mathematics through unifying concepts and to motivate these structures

Course Outcome(Cos)

Semster		Course	Title of the Course	Course Outcome	Level
I		Core-I	Algebraic Structures	CO1 Utilize the class equation and Sylow theorems to solve different related problems	K3
				CO2 Use various types of Direct products ,Finite abelian groups, Modules	K3
				CO3 Analyze of Linear Transformations: Canonical forms , Triangular form and Nilpotent transformations.	K4
				CO4 Analyze and demonstrate Jordan form and rational canonical form	K4
				CO5 Use the concepts of Trace and transpose - Hermitian, unitary, normal transformations, real quadratic form	K3
		Core-II	Real analysis- I	CO1 Define Riemann integrable and Riemann sums	K1
				CO2 Prove a theorem about Riemann sums and Riemann integrals	K5
				CO3 Knowledge of some simple techniques for testing the convergence of sequences and series of functions, and confidence in applying them.	K3
				CO4 Recognize the difference between pointwise and uniform convergence of a sequence of functions,	K4
				CO5 Illustrate the convergence properties of power series.	K2
		Core-III	Ordinary differential equations	CO1 Distinguish between linear, nonlinear, partial and ordinary differential equations.	K4
				CO2 State the basic existence theorem for 1st order ODE's and use the theorem to determine a solution interval.	K1
				CO3Recognize and solve a variable separable differential equation.	K4,K5

			CO4 Recognize and solve an exact differential equation.	K4,K5
			CO5 Make a change of variables to reduce a differential equation to a known form.	K6
	Elective-I	Graph Theory and Applications	CO1 Know about the graph and subgraph	K3
			CO2 know abouth the intersection graph and operation on graphs	K1,K3
			CO3 know about the walk , trial and paths	K1
			CO4 know about the connectivity graph and eulerian and hamiltonian graph	K2
			CO5 know about the tree and theorems and simple graph	K1
	Elective-II	Discrete Mathematics	CO1Understand the process of communicating with others.	K2
			CO2 Formulate and important statements of presented in Boolean algebra	K1,K2
			CO3 Formulate the short proofs using the following methods.	K1
			CO4 Apply the different properties of injections,surjections,indirect proof.	K3
			CO5 Gain an historicalperspective of the development of modern discrete	K3
	Core-IV	Advanced Algebra	CO1 Utilize the class equation and Sylow theorems to solve different related problems	K3,K1
			CO2 Use various types of Direct products ,Finite abelian groups, Modules	K3
			CO3 Analyze of Linear Transformations: Canonical forms , Triangular form and Nilpotent transformations.	K2
			CO4 Analyze and demonstrate Jordan form and rational canonical form	K4
			CO5 Use the concepts of Trace and transpose - Hermitian, unitary, normal transformations, real quadratic form	K3
	Core-V	Real analysis- II	CO1 Define Riemann integrable and Riemann sums	K1
			CO2 Prove a theorem about Riemann sums and Riemann integrals	K4
			CO3 Explain Functions with non-zero Jacobian determinants ,The inverse function theorem and The Implicit function theorem.	K2
			CO4 Describe basic topology of Metric spaces, Compact sets Perfect sets,	K1
			CO5Properties of the Lebesgue integral for bounded measurable functions.	K1
			CO1 Define genesis of First Order P.D.E and Prove the Pfaffian Differential Equation.	K2

II	Core-VI	Partial differential equations	CO2 Determine integral surfaces passing through a curve, characteristic curves of second order PDE and compatible systems.	K1,K4
			CO3 Be competent in solving linear PDEs using classical solution methods.	K5
			CO4 Understand partial differential equations of first order (linear and nonlinear), second and higher order.	K2
			CO5Apply the knowledge of PDEs and their solutions in order to understand physical phenomena.	K3
	Elective-III	Mathematical statistics	CO1 Tackle big data and draw inferences form it by applying appropriate statistical techniques.	K2
			CO2Explore the basic ideas about measures of central tendency, dispersion and their applications in other statistical problems.	K5
			CO3 Explain the different types of discrete and continuous distributions and their utilization.	K2
			CO4 Briefly study about Student's t-distribution, χ2distribution and tests of significance.	K3
			CO5 : Gains knowledge in theory of estimation, methods of finding estimates, confidence intervals and Theory of hypothesis.	K5
	Elective-IV	Calculus of Variations & Integral Equations	CO1 Determine extreme values of the given function	K1
			CO2 know the concept of differential & integral equation problems.	K4,K2
			CO3 Gain the knowledge to solve Fredholm-Schmidt theory.	K6
			CO4 Gain the knowledge about Hilbert-schmidt thoery .	K4
			CO5 Evaluate the complex Hilbert space-Orthogonal system.	K4
	Skill based course	Mathematical Documentation using LATEX	CO1 Understand the basic LaTeX document & the e-contents.	K1
			CO2Tells the advantages of LaTeX over other more traditional softwares.	K5
			CO3 Create the type setting equations.	K5
			CO4 Discuss several types of boxes &floats.	K2
			CO5 Prepare the basic documentation.	K5
			CO1 Know the fundamental concepts of complex analysis.	K1
			CO2 Evaluate Complex Integration using Cauchy's theorem.	K2

III	Core-IX	Advanced Complex Analysis	CO3 Evaluate complex contour integrals directly and by the fundamental theorem, apply the Cauchy integral theorem in its various versions, and the Cauchy integral formula.	K5
			CO4 Classify Removable singularities, Zeros and poles.	K2
			CO5 Prove that Cauchy's theorem for a rectangle and disk.	K2
	Core-X	Topology	CO1 Define topological spaces and explain the properties of order topology, product topology, subspace topology, continuous functions.	K1
			CO2 Describe the properties on metric topology, connected spaces and compact space.	K5
			CO3 State and prove Tychonoff theorem, Urysohn Metrization theorem and Baire Spaces theorem	K6
			CO4 Understand how points of space are separated by open sets, Housdroff spaces and their importance.	K1
			CO5 Understand regular and normal spaces and some important theorems in these spaces.	K6
	Core-XI	Research Methodology	CO1 Understand meaning of Research & objectives of Research.	K4
			CO2 Understand Various stages of preparing publishing a research articles & ethical issues.	K4
			CO3 Understand the fundamental of logical reasoning in pure mathematics & modelling aspects of applied mathematics.	K1
			CO4 Understand Different technique of interpretation.	K2,K3
			CO5 Understand Holomorphic functions & the calculus of residues.	K1
	Core-XII	Stochastic Processes	CO1 Working knowledge related to the problems of uncertainty.	K2
			CO2 A basic knowledge for doing research in this area .	K5
			CO3 Classify poisson,Markov & birth & death process.	K5
			CO4 Understand the Markov chains & Markov processes.	K2
			CO5 Understand Renewal process.	K5
	Elective-III	Discrete Mathematics	CO1Understand the process of communicating with others.	K1
			CO2 Formulate and important statements of presented in Boolean algebra	K1,K5
			CO3 Formulate the short proofs using the following methods.	K1,K2

			CO4 Apply the different properties of injections,surjections,indirect proof.	K5
			CO5 Gain an historicalperspective of the development of modern discrete	K2
IV	Core-XIII	Functional analysis	CO1 Define and illustrate Banach Space.	K3
			CO2 State and Prove Hahn Banach theorem and open mapping theorem.	1
			CO3 Define and illustrate Hilbert spaces and orthogonal.	K1,K2
			CO4 Prove Spectral theorem	K1
			CO5 Understand the nature of abstract mathematics and explore the concepts in further details.	K6
	Core-XIV	Fluid dynamics	CO1 Discuss kinematics of fluids in motion.	K2
			CO2 Derive the equations of mpotion of a fluid.	K5
			CO3 Study the three dimensional flows.	K2
			CO4 Study the two dimensional flows.	K3
			CO5 Understand the viscous fluid.	K5
	Core -XV	Graph Theory	CO1 Know about the graph and subgraph	K1
			CO2 know abouth the intersection graph and operation on graphs	K3
			CO3 know about the walk , trial and paths	K3
			CO4 know about the connectivity graph and eulerian and hamiltonian graph	K4
			CO5 know about the tree and theorems and simple graph	K4
	Elective IV	Numerical Methods	CO1 know about the Newton's forward and backward differences to compute derivatives	K3
			CO2 understand the General Quadrature formula-Trapezoidal rule-Simpson's one third ruleSimpson's three-eight rule	K1
			CO3 Know about the Linear differences equations-Linear homogeneous difference equation	K5
			CO4 Understand Solution of Algebraic and Transcendental Equations	K3
			CO5Apply the knowledge of Euler's method, Euler's modified method-Picard's method, Taylor's methods	K4

Department of Tamil

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	தாய்மொழியின் சிறப்புகளை அறிதல்
2	PO2	படைப்பாற்றலை வளர்த்தல்
3	PO3	அடிப்படைத் திறன்களை அறிதல்
4	PO4	சிந்தனை வளத்தை மேம்படுத்தல்
5	PO5	மொழிப்பற்றை வளர்த்தல்

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements
1	PSO1	தாய்மொழியின் சிறப்புகளை திறனாய்வு செய்யும் ஆற்றல் பெறுதல்.
2	PSO2	தமிழ்மொழியின் இலக்கணங்களை அறிதல்
3	PSO3	சிந்தனையை வலுப்படுத்துதல்
4	PSO4	ஆற்றல்களை வெளிக்கொணருதல்
5	PSO5	சமுகப் பண்பாட்டு மரபினை அறிதல்

Semest	Course	TitleThe Course	Course Outcome	Level
1	Core-1	இக்கால இலக்கியம்-1	1. நவீன இலக்கிய வகைகளை அறிந்து கொள்ளுதல் 2. நவீன இலக்கிய மரபுகளை தெரிந்து கொள்வர்.3 நவீன இலக்கிய உத்திகளை புரிந்து கொள்ளல் . 4.நவீன இலக்கிய மரபுகள் குறித்த விமர்சனப் பார்வை பெறல் . 5.படைப்பாக்க முயற்சியில் ஈடுபட ஆர்வம் கொள்ளல்.	K1
	Core-2	நன்னூல் - எழுத்ததிகாரம்	1. தமிழ் எழுத்திலக்கணம் மரபு குறித்து அறிந்து கொள்ளல். 2. பழந்தமிழ் இலக்கிய பனுல்களில் இடம்பெற்றுள்ள புணர்ச்சியைப் புரிந்து கொள்ளல். 3. ஒற்று மிகும் மிகா இடங்களைத் தெரிந்து கொள்ளுதல் . 4.தமிழில் தவறென்று எழுதும் திறனை பெறுதல். 5.பழந்தமிழர் இலக்கியங்களை இலக்கண அடிப்படையில் புரிந்து கொண்டு அவ் இலக்கியங்களை வாசித்து அனுபவிக்க பழகுதல்.	K2

	Allied -1	தமிழக வரலாறும் பண்பாடும்-1	1.தமிழக வரலாறு தமிழர்கள் ஈராயிரம் ஆண்டுகளாக வாழ்ந்து வந்த தமிழின பண்பாட்டுக் கூறுகள், ஆட்சி முறைகள், பழக்கவழக்கங்கள், வாழ்க்கை முறைகள் போன்றவற்றை அறிதல். 2.தமிழக வரலாற்றையும் மக்களின் பண்பாட்டையும் கற்பித்தல். 3.தமிழக வரலாற்றுக்கான அடிப்படை ஆதாரங்கள், தமிழகத்தின் இயற்கை அமைப்புகள், வரலாற்றுக் காலத்துக்கு முந்திய தமிழகம், சிந்துவெளி, அகழ்வாராய்ச்சி, பண்டைத்தமிழரின் அயல்நாட்டுத் தொடர்புகள் என அனைத்தையும் அறிதல்.	K1
II	Core-3	இக்கால இலக்கியம்-2	1. மரபுக் கவிதை புதுக்கவிதை ஆகியவற்றின் தன்மையை அறிதல் . 2.சிறுகதையின் நிலைப்பாட்டினை உணர்த்தல். 3. தமிழின் அடிப்படை இலக்கணங்களை அறிதல். 4. இக்கால இலக்கியங்களின் வரலாற்றை உணர்தல். 5. இக்கால இலக்கியப் போக்கினை அறிதல்.	K3
	Core-4	நன்னூல்-சொல்லதிகாரம்	1. தமிழ்ச்சொல் இலக்கண மரபு குறித்து அறிந்து கொள்ளல். 2. தமிழ் சொல் வகைகளைப் புரிந்து கொள்ளல். 3. பழந்தமிழ் இலக்கிய பனுவல்களில் இடம்பெற்றுள்ள தொடர் அமைப்பினைப் புரிந்து கொள்ளல். 4.தமிழில் தவறென்று எழுதும் திறனை பெறுதல். 5.பழந்தமிழ் இலக்கியங்களை சொல்லிலக்கண அடிப்படையில் புரிந்து கொண்டு அவ் இலக்கியங்களை வாசித்து அனுபவிக்க பழகுதல்.	K1
	Allied -2	தமிழகவரலாறும்பண்பாடும்-2	1. தமிழர்களின் பண்டைய கால வாழ்வியலை விளக்கிக் கொள்ள முடியும். 2.இருண்ட கால தமிழகத்தை அறிதல் . 3.பல்வேறு வகையான அரசர்களின் ஆட்சித்திறத்தை உணர்தல். 4. சோழர்கால அரசியல் நிலையை ஒப்பிட்டு அறிய வாய்ப்பு உண்டு. 5.நாயக்கர் கால ஆட்சித்திரத்தை விரிவாக அறிந்து கொள்ளுதல்.	K3
III	Core-5	இலக்கியம் 3 சமயப்பாடல்களும், சிற்றிலக்கியங்களும்	1. தமிழ் சிற்றிலக்கிய மரபுகளை தெரிந்துகொள்ளல். 2. சிற்றிலக்கியங்கள் பெருவாரியாக தோற்றம் பெற்ற காலத்தில் சமூக பின்னணியை தெரிந்து கொள்ளல். 3.தமிழ் சிற்றிலக்கியங்களின் பாடு பொருள்களைப்புரிந்து கொள்ளல்.	K4
	Core-6	இலக்கணம்-3 யாப்பருங்கலக் காரிகை	1. தொல்காப்பியர் காலத்திற்கு முன்பு இருந்தே யாப்பிலக்கணம் தோன்றியிருத்தலை அறிய முடிகிறது. 2. யாப்பு பொருள் விளக்கம் அறிதல். 3. தொல்காப்பியம் குறிப்பிடும் செயல் உறுப்புகளின் பெயர்களையும் அறிதல். 4. மக்களின் கருத்து வழிபாட்டிற்கு மொழி கருவியாக அமைகிறது.	K1

	Allied -3	தமிழ் இலக்கிய வரலாறு - I	1.தமிழ் மற்றும் தமிழர்களின் சிறப்பு குறித்து அறிந்து கொள்ளுதல். 2.சங்கமருவியகால இலக்கியம் அறிந்து கொள்ளுதல். 3.இலக்கியங்களின்வழி அரசிந்தனைகளை உணரவைத்தல். 4.இலக்கணநூல்கள்,சமணபௌத்தபடைப்புகளை அறிந்து கொள்ளுதல். 5.அரசுபோட்டி தேர்வில் பங்குபெற செய்தல்	K2
	skill-1	பயன்பாட்டுத் தமிழ்	1. கடித முறைகளை அறிதல். 2. செய்தித்தாள்களில் இடம் பெறும் விளம்பரங்களை குறித்து அறிதல். 3. புத்தகத்தில் உள்ள பிழை திருத்தங்களை அறிந்து கொள்ளுதல். 4. இதழ்களில் தலையங்கம் குறித்த செய்திகளை அறிந்து கொள்ளுதல். 5. இதில் ஆசிரியர் உள்ளிட்டோருக்கு கடிதம் எழுதும் முறையை தெரிந்து கொள்ளல்.	K1
IV	Core-7	இலக்கியம்-4 காப்பியங்கள்	1. காப்பிய வகைகளை தெரிந்து கொள்ளுதல். 2. காப்பியங்களின் வழியாக இறை சிந்தனைகளை வளர்த்துக் கொள்ளுதல் . 3.சமயம் சார்ந்த காப்பியத்தினை அறிந்து கொள்ளுதல். 4. தமிழரின் காப்பிய நெறியை தற்காலத்தில் பொருத்திப் பார்க்க வாய்ப்புண்டு காப்பியங்கள் உணர்த்தும் சமய புதுமையை அறிந்து கொள்ளுதல்.	K1
	Core-8	இலக்கணம்-4 தண்டியலங்காரம்	1.செய்யுளில் வெளிப்படும் அணிகள் மற்றும் அதன் வகைகளை அறிதல். 2.அணி இலக்கணத்தின் தொன்மையை அறிதல். 3.காப்பியத்திற்குரிய இலக்கணம் தகுதிகளை கற்றுக் கொள்ளுதல். 4.அணிகளின் நுட்பமான வேறுபாடுகளை அறிந்து கொள்ளுதல். 5.தத்தம் படைப்பாக்கங்களில் பல்வேறு அணிகளை பயன்படுத்துதல்.	K5
	Allied -4	தமிழ் இலக்கிய வரலாறு - 2	1. இலக்கியங்களை விரும்பி கற்க முடிதல் . 2.உச்சகங்கள் இருந்தமைக்கான சான்றுகளை அறிதல். 3. சிற்றிலக்கியங்களின் வளர்ச்சியினை அறிதல் . 4.தற்கால இலக்கியங்களின் போக்குகளை அறிதல். 5. மடங்கள் வளர்த்த தமிழினை அறிந்து கொள்ளுதல்.	K1
	skill-2	படைப்பிலக்கியமும் மொழிபெயர்ப்பும்	1. மரபுக் கவிதை எழுதும் முறையை தெரிந்து கொள்ளல். 2. புதுக்கவிதை எழுத்தாளர்களையும் புதுக்கவிதை எழுதும் முறையும் தெரிந்து கொள்ளல். 3. சிறுகதை எழுதும் முறையை அறிந்து கொள்ளல். 4. ஓரங்க நாடகம் எழுதும் முறையை அறிந்து கொள்ளல். 5. மொழிபெயர்ப்பின் அவசியத்தை அறிந்து கொள்ளல்.	K1
	Core-9	சங்க இலக்கியம் (அகம்)	1. சங்க இலக்கியம் எப்பொழுது தோன்றியது என்ற வரலாற்றுச் செய்தியை அறிதல். 2. சங்க இலக்கியத்தின் சிறப்பியல்பு பற்றியும் யாப்பு உவமைகள் பற்றியும் அறிதல். 3. நம் நாட்டினை ஆண்ட சேர சோழ பாண்டியர் மூவேந்தர்களை பற்றியும் அறிதல். 4. மொத்த அன்புடைய தலைவன் தலைவிக்கு இடையில் ஏற்படக்கூடிய அன்பு பற்றியும் போர் வீரம் பற்றியும் காணமுடிகிறது. 5. எட்டுத்தொகை பத்துப்பாட்டு பற்றிய நூல்களை தெரிந்து கொள்ள முடிகிறது.	K4

V	Core-10	இலக்கணம் – 5 (அகம்)	1.இல்லறவாழ்வின் சிறப்பை அறிந்து கொள்ளல். 2.களவுவாழ்க்கையை இலக்கிய முறைப்படி அறிந்து கொள்ளல். 3.அகத்திணை ஒழுக்கங்களை அறிந்து கொள்ளல். 4.போட்டி தேர்வுகளுக்கு தயாராகுதல். 5.இயற்கையோடு இயைந்த வாழ்வின் அவசியம், பிறர் உணர்வுகளுக்கு மதிப்பளித்தல் ஆகியவற்றைஅக இலக்கணவழி உணர்ந்துக்கொள்ளல்.	K1
	Core-11	தமிழ் மொழி வரலாறு	1. தமிழ் மொழியின் தொன்மை மற்றும் பெருமையை காணுதல். 2. ஒலிப்பு முறைகள் திராவிட மொழி குடும்பங்களை பற்றியும் வாழ்வியல் சார்ந்த நிலப்பரப்பு சார்ந்த மொழி பற்றியும் உணர்தல். 3. தமிழ் மொழியை கற்றுக் கொள்ளும் போது அதனுடைய தேவையை அறிதல் பிறமொழியை பயிற்றுவித்தலுக்கான அடிப்படை காரணிகள் என்ன என்பதையும் உணர்தல். 4. தமிழ் மொழியை கற்பதன் மூலம் அவற்றின் ஒளி ஊர்கள் குடும்பங்களுக்கு இடையே உள்ள ஒற்றுமை வேற்றுமையை அறிதல். 5. போட்டித் தேர்வுகளுக்கு மொழியியல் பாடத்தை தேர்வு செய்து பொது அறிவினை வளர்த்துக் கொள்ள முடிகிறது.	K1
	Core-12	இலக்கியத்திறனாய்வு	1. திறனாய்வின் வகைகளை அறிந்து கொள்ளல். 2. இலக்கியத்தில் கற்பனை புணர்ச்சி படிவம் ஆகியவற்றை அறிந்து கொள்ளல். 3. சிறுகதையின் அமைப்பு முறையை அறிந்து கொள்ளல். 4. இலக்கிய கொள்கையாளர்களை பயன்படுத்தும் உத்திகளை அறிதல். 5. நாடகத்தின் தோற்றம் வளர்ச்சி குறித்து அறிதல்.	K2
	Elective -1	நாட்டுப்புறவியல்	1.நாட்டுப்புறப்பாடல்களின் வடிவங்களைப் புரிந்து கொள்ளுதல். 2.கதை கதைப்பாடல்களின் வழி பண்டைய தமிழர்களின் வாழ்க்கை முறையை அறிந்து கொள்ளல். 3.நாட்டுப்புற மக்களின் பண்பாடு மற்றும் பழக்கவழக்கங்கள் அறிதல். 4.நம்பிக்கைகளின் மூலமாக நாட்டுப்புற மக்களின் மன உணர்வுகளை உணர்தல். 5.நாட்டுப்புற மக்களின் சமூக சூழலை உணர்தல்.	K3
	skil-3	கல்வெட்டியல்	1. கல்வெட்டின் முக்கியத்துவத்தை புரிந்து கொள்ளல். 2. சோழர் கால கல்வெட்டுகளில் உள்ள எழுத்தின் வடிவங்களை அறிதல். 3. தமிழக கோயில்களில் உள்ள கல்வெட்டுகளை அறிந்து கொள்ளல். 4. கல்வெட்டுகள் காணப்படும் எழுத்துக்களின் உருவம் மாற்றத்தை புரிந்து கொள்ளல்.	K2
	Core-13	சங்க இலக்கியம் (புறம்)	1. சங்க காலத்தில் மன்னர்களின் போர் செய்திகளை அறிதல். 2. மன்னர்களின் கொடை திறனை புரிந்து கொள்ளல். 3. தவறு செய்பவர்களை நல்ல நெறிக்கு வழிகாட்டும் புலவர்களின் தன்மையை அறிதல். 4. பிறருக்காக வாழும் நல்லெண்ணம் கொண்ட சான்றோர்களின் தன்மையை அறிதல். 5. கல்வியின் சிறப்புகளை அறிதல்.	K2

VI	Core-14	இலக்கணம் – 6 (புறம்)	1. சங்ககால மக்களின் போர் முறைகளை அறிதல்.2. சங்ககாலத்தில் போர்க்களத்தில் பெண்களின் பங்களிப்பையும் அறிதல். 3. போர்க்களத்தில் கையாண்டுள்ள நெறிமுறைகளை புரிந்து கொள்ளல். 4. நட்புறவோடு இருந்த தன்மையையும் உணர்தல். 5. நடுகல் பற்றிய செய்தியையும் அறிதல்.	K4
	Core-15	திராவிட மொழிகளின் ஒப்பிலக்கணம்	1. திராவிட மக்களின் வாழ்க்கையை அறிதல். 2. திராவிட மொழிகளின் வகைகளை அறிதல். 3. சொற்பொருள் மாற்றத்தை புரிந்து கொள்ளல். 4. கால்டுவெல்லின் தமிழ் பற்றினை உணர்தல். 5. திராவிட மொழிகள் பேசப்படும் இடத்தினை அறிதல்.	K1
	Elective -2	இதழியல்	1. இதழியல் தொடர்பான சிந்தனைகளை அறிதல் இதழியலின் படிநிலைகளை அறிதல். 2. படங்கள் குறித்த தகவல்களை அறிதல் . 3.கருத்து படங்களின் முக்கியத்துவத்தை அறிதல். 4. மின் இதழ்களின் வழியாக செய்திகளை அறிந்து கொள்ளுதல்.	K2
	Elective -3	சுற்றுலாவியல்	1.சுற்றுலாவின் பொருளாதார முக்கியத்துவத்தை அறிந்து கொள்ளுதல். 2.சுற்றுலாவின் நோக்கம் மற்றும் வகைகளை அறிந்து கொள்ளுதல். 3.பயணமுகவர்களின் பணிகுறித்து அறிதல். 4.சுற்றுலாசார்ந்த விளம்பரபணிகளைத் தெரிந்து கொள்ளுதல். 5.சுற்றுலாசெல்வதற்குரிய இடங்கள்,தமிழக சுற்றுலாத்தலங்கள் அறிந்து கொள்ளுதல்.	K2
	skill-4	தகவல் தொடர்பியல்	1. செம்மையாக்க குறியீடுகளை அறிதல் .2.பத்திரிகைகளில் மொழிபெயர்ப்பின் இன்றியமையாமையை உணர்தல். 3. பத்திரிக்கையின் கூறுகளை எழுத கற்றுக் கொள்ளுதல். 4. பத்திரிக்கை உருவாக்க கற்றுத் தருதல். 5. பத்திரிக்கை அலுவலக பயிற்சி பெற்று செய்தி ஆசிரியராக உருவாக முடியும்.	K1

DR.R.K.Shanmugham College of Arts and Science

MA TAMIL

S.No.	PO Number	PO Statements
1	PO1	தாய்மொழியின் சிறப்புகளை அறிதல்
2	PO2	படைப்பாற்றலை வளர்த்தல்
3	PO3	அடிப்படைத் திறன்களை அறிதல்
4	PO4	சிந்தனை வளத்தை மேம்படுத்தல்
5	PO5	மொழிப்பற்றை வளர்த்தல்

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements
1	PSO1	தாய்மொழியின் சிறப்புகளை திறனாய்வு செய்யும் ஆற்றல் பெறுதல்.
2	PSO2	தமிழ்மொழியின் இலக்கணங்களை அறிதல்
3	PSO3	சிந்தனையை வலுப்படுத்துதல்
4	PSO4	ஆற்றல்களை வெளிக்கொணருதல்
5	PSO5	சமுகப் பண்பாட்டு மரபினை அறிதல்

Semster	Course	TitleThe Course	Course Outcome	LEVEL
I	Core-1	இக்கால இலக்கியம்	1.கவித்துவ மொழியின் ஆளுமைத்திறனை அறிவர். 2.சமூக அடித்தள மக்கள் வளர்ச்சி பதிவுகளின் மேன்மைகளை அறிவர். 3.படைப்புகள் வழி மனித உறவுகளின் தரவுகளை அறிவர். 4.கலை வெளிப்பாட்டுத்திறனை அறிவர். 5.இலக்கிய பதிவுகளை தற்கால மொழி வழி அறிவர்	K1
	Core-2	அற இலக்கியம்	1. பக்தி இலக்கியத்தை அறிமுகப்படுத்துதல் சிற்றிலக்கியத்தின் தோற்றத்தை அறிதல் புதினா இலக்கியத்தை கற்றல் சொல் வகைகளை அறிதல். பழமொழிகளை ஒப்பிட்டு அறிய இயலும் நீதி நெறிமுறைகளை அறிந்து கொள்ள முடியும் . 5.அற இலக்கிய வரலாற்றை அறியலாம்.	K2
	Core-3	தொல்காப்பியம் - எழுத்ததிகாரம்	1.தமிழ் எழுத்துக்களின் பெயரீடு முறைகள் சொறகளின கட்டுமானம் முதலியவற்றை புரிந்து கொள்வர் .2.தமிழ் எழுத்துக்களின் பிறப்பு முயற்சிகளையும் கூட்டுச் சொற்கள் உருவாக்கத்தின் அடிப்படைகளையும் அறிந்து கொள்வர். 3.புணர்ச்சியில் எழுத்துக்களும் சொற்களும் தொகையாகவும் உருபாகவும் சொற் கட்டுமானத்தின் அடிப்படையாக அமையும் பொழுது ஏற்படும் மாற்றங்கள் குறித்து தெளிவடைவர்.4.புணர்ச்சியில் மெய்யெழுத்துக்களும் குற்றியலுகர எழுத்துக்களும் ஊடாடும் பொழுது எழுதும் திரிவுகளைத் தெளிவு கொள்வர்.5.தொல்காப்பியரின் எழுத்தில் சிந்தனைகள் மேனாட்டு அறிஞர்களின் ஒலியனியல் கோட்பாடுகளின் முன்னோடி என்பதை உணர்வர் .	K1
	Core-4	தமிழர் பண்பாட்டு வரலாறு	1.சிந்து சமவெளி நாகரிகம் அறிதல் . 2.களப்பிரர் காலம் குறித்து அறிதல். 3.பல்லவர் காலம் குறித்து அறிதல்.4. தமிழரின் பண்பாட்டு கருவூலங்களை அறிதல்.	K3

	Elective -1	தொல்லியல்	1.தொல்லியல் என்பது பொருள் சார் பண்பாட்டை அகழ்ந்தெடுத்து தொன்மைகால மாந்தர் செயல்பாட்டை பகுப்பாய்வு செய்யும் அறிவியல் புலமாகும் என்ற கருத்தை மாணவர்கள் கொள்ளுதல். 2.தொல்லியல் ஆவணங்களில் கட்டிடக்கலை தொல்பொருள் தொல்லுயிர் எச்சங்கள் மனித எச்சங்கள் சூழலியல் எச்சங்கள் ஆகியவை அடங்கும் என்பது மாணவர்களுக்கு அறிய செய்தல். 3.தொல்லியலை சமூகவியல் கிளைப்புலமாகவும் மாந்த வாழ்வியல் கிளைப்புலமாகவும் கருதலாம் என்பதை அறியச் செய்தல். 4.வரலாற்றுக்கு முந்திய மற்றும் வரலாற்றுக்கால மனிதப் பண்பாட்டின் தோற்றத்தையும் வளர்ச்சியையும் ஆவணப்படுத்துதல். 5.மனித நடத்தைப் பற்றி ஆய்வு செய்தல்	K1
II	Core-5	காப்பியங்கள்	1. சிலப்பதிகாரத்தின் சிறப்பினை அறிதல். 2. மனிதநேய வளர்ச்சியினை அறிதல் . 3.காப்பியங்களை பகுத்தறாய்தல் நிலையை அறிதல். 4. கடவுளை அடையும் முறையினை காப்பிய வழி அறிதல். 5. ஐம்பெருங்காப்பியங்களின் வகைகளை அறிதல் காப்பியங்களின் ஒருமைப்பாட்டு உணர்வை புரிந்து கொள்ளுதல் காப்பிய கால மக்களின் வாழ்வியல் முறைகளை அறிதல்.	K3
	Core-6	பக்தி இலக்கியம்	1.சமயம் இலக்கிய அறிவை அறிதல். 2.பல்வேறு சமய கோட்பாடுகளை அறிதல். 3.இறை ஒன்றே என்னும் ஒருமைப்பாட்டு உணர்வு அறிதல். 4.இலக்கிய வகைகளை அறிதல். 5.படைப்பாற்றல் திறன் பெறுதல்.	K4
	Core-7	தொல்காப்பியம் – சொல்லதிகாரம்	1.தொல்காப்பியரின் சொல் தொடர் இலக்கண புலமையை அறிமுகம் செய்தல். 2.தொடரமைப்பில் ஏற்படும் பொருள் மாற்றங்களுக்கான அடிப்படைக் கூறுகளை விளக்குகள். 3.சொல்லின் அடிப்படை வகைகளை விளக்கி பயன்பாட்டுக் கூறுகளை அறிமுகம் செய்தல்.4.பெயர் வினைச் சொற்களின் பொருள் நீட்சிக்கு காரணமான கூறுகளைப் பொருத்திக் காட்டுதல் .5.சொல்லிலக்கணம் மரபுகளை அடிப்படையாகக் கொண்டு தற்கால மொழியியல் வளர்ச்சியைப் பொருத்திக்காட்டி விளங்கச் செய்தல்.	K1
	Elective -1	பெண்ணியப் படைப்புகள்	1.பெண்ணியம் குறித்த சொல்லாட்சிகளை அறிதல். 2.பெண்கள் அன்றும் இன்றும் உள்ள சூழலை அறிதல். 3.பெண்படைப்பாளர்களின் படைப்புலகை அறிதல். 4. பெண்மையின் தனி சிறப்பை அறிதல்.	K2
III	Core-9	சிற்றிலக்கியம்	1.இலக்கிய தொடர்ச்சிகளையும் விரிவையும் அறிவர். 2.இலக்கியத்திற்கும் சமூக உறவிற்குமான தொடர்பை அறிவர் .3.வாழ்வியல் விழுமியங்களை அறிவர். 4.மொழி ஆளுகையை அறிவர். 5.படைப்பிலக்கிய பயிற்சி பெறுவர்.	K2
	Core-10	ஆராய்ச்சி நெறிமுறைகள்	1.ஆராய்ச்சி என்னும் சிந்தனையை மாணவர்கள் உளங் கொள்ளும் வகையில் அறிதல் .2.ஆராய்ச்சி நெறிமுறைகளை பயிற்றுவித்தல். 3.ஆராய்ச்சிக்கு பயன்படும் கோட்பாடுகளை கற்றல். 4.ஆய்வேட்டின் வடிவமைப்பு பற்றி பயிலுதல். 5.ஆய்வில் மேற்கொள்ள வேண்டிய அறம் பற்றி அறிதல்.	K4

	Core-11	தொல்காப்பியம் – பொருளதிகாரம்	1.ஆதித்தமிழரின் வாழ்வியல் முறையை தொல்காப்பியத்தின் வழி அறிந்து கொள்ளுதல்.2.திணை பாகுபாடு குறித்து அறிந்து கொள்ளுதல். 3.பொருள்வயற் பிரிதல் குறித்து மாணவர் அறிந்து கொள்ளுதல் 4. மெய்பாடுகளை குறித்து அறிதல். 5.களவு வாழ்க்கை கற்பு வாழ்க்கை குறித்து அறிதல்.	K5
IV	Core-13	சங்க இலக்கியம்	1.சங்க கால மக்களின் வாழ்வியலை அறிந்து கொள்ளுதல்.2.பத்துப்பாட்டு நூல்களை அறிந்து கொள்ளுதல். 3.எட்டுத்தொகை நூல்களைப் பற்றி அறிந்து கொள்ளுதல். 4.முதற்பொருளைப் பற்றி அறிந்து கொள்ளுதல். 5.கருப்பொருள் உரிப்பொருள் பற்றிய மாணவர்கள் அறிந்து கொள்ளுதல்.	K1
	Core-14	அகராதியியல்	1. தமிழில் உள்ள அகராதிகளின் வகைகளை அறிந்து கொள்ளுதல். 2. அகராதியில் சொற்பொருள் மாற்றத்தை உணர்ந்து கொள்ளுதல். 3. ஓரெழுத்து ஒரு மொழி குறித்து அறிந்து கொள்ளுதல். 4. சொற்பொருள் மாற்றத்தை புரிந்து கொள்ளல்.	K1
	Core-15	தொல்காப்பியம் – பொருளதிகாரம்	1.தொல்காப்பியத்தின் வழி பிற இலக்கணங்களை அறிந்து கொள்ளுதல். 2.பிற இலக்கணங்களுக்கு இல்லாத சிறப்பு தொல்காப்பியத்தில் இருக்கிறது என்பதை மாணவர்கள் அறிந்து கொள்ளுதல். 3.தொல்காப்பியத்தின் வழி தலைவன் தலைவிக்கு உள்ள குடிச்சிறப்பினை அறிந்து கொள்ளுதல். 4.பத்து வகையான அவத்தைகளைப் பற்றி அறிந்து கொள்ளுங்கள்.5.தொல்காப்பியத்தில் காணப்படும் உவமை அணிகளை பற்றி அறிந்து கொள்ளுதல்.	K3
	core-16	ஆய்வேடு	1. ஆய்வு நெறியினை வளர்த்தல். 2. ஆய்வு நோக்கில் படைப்பாற்றலை எழுத அறிதல். 4.மதிப்பீட்டு முறையை வளர்த்தல் 5.வாழ்க்கை முறையில் ஆய்வு நெறியினை அறிந்து கொள்ளல்.	K2
	Elective -4	தமிழர்மானிடவியல்	1. மானிடரின் பண்பாட்டு நிலை அறிதல். 2. பண்பாட்டு நிலையில் உயர்ந்து நின்றோர் நிலை அறிதல். 3. மானிடர் வாழ்ந்த நிலையினையும் வாழவேண்டிய நிலையினையும் அறிதல். 4. தமிழர்களின் மாண்பு நிலைகளை புரிந்து கொள்ளல். 5. தமிழர்களின் பழக்கவழக்கங்களையும் தெரிந்து கொள்ளல்.	K1

Department of Physics

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	Nuclear Physics deals with study of the structure of matter at the atomic level. A few other applications of the subject are nuclear medicine, ion implantation in material engineering, magnetic resonance imaging, and radiocarbon dating in geology and archaeology.
2	PO2	Working of various Electronic circuits. The students will u understand how to u se the basic test and measuring instruments to test the circuits. continuous and discrete time signals and systems. Understand and resolve the signals in frequency domain using Fourier series and Fourier transforms.
3	PO3	The course gives an introduction to solid state physics, and wil enable the student to employ classical and quantum mechanical theories needed to understand the physical properties of solids. Emphasis is put on building models able to explain several different phenomena in the solid state.
4	PO4	The structure and dynamics of atoms and simple molecules. the interaction between atoms, molecules and electromagnetic fields. collision processes involving atoms, charged particles and molecules. the structure of the periodic system, many-electron and relativistic effects.
5	PO5	The student will get an introduction to the discipline of optics and its role in the modern society. The student shall master the geometrical approximation, including Guass thin lens formula, Fermat's and Huygen's principles, and the paraxial matrix formalism for refractive and reflective surfaces.

Programme Specific Outcome (PSO)

S.No.	Number	POS Statements
1	PO1	After completing the course, you will: know what radioactivity is and how it arises. know about radioactivity in nature and why it is there. know about fundamental concepts e.g. half-life, radioactive series and isotope generators.
2	PO2	Characteristics and applications of operational amplifiers (op-amps). Design and analysis of op-amp amplifiers, comparators, voltage and current regulators, summers, integrators, and differentiators. Frequency response of op-amp circuits. Applications of the op-amp in power supplies and control systems.

3	PO3	Explain the measurement of crystal size distribution. Discuss the impact of additives, solvents and impurities on crystal growth and purity. Explain the design of batch and industrial crystallizers. Scale up from the laboratory to the Pilot Plant and beyond/Impact of mixing.
4	PO4	Describe the structure of atoms in terms of protons, neutrons and electrons. understand what is meant by a chemical element and how they are arranged in the periodic table. explain what is meant by atomic number and relative atomic mass of a chemical element.
5	PO5	Recognize and classify the structures of Optical fiber and types.1.Discuss the channel impairments like losses and dispersion.2.Analyze various coupling losses. 3.Classify the Optical sources and detectors and to discuss their principle.

Course Outcome(Cos)

Semester	Course	Title of the Course	Course Outcome	Level
I	CORE	PROPERTIES OF MATTER AND ACOUSTICS	To understand the theory of Elasticity and bending of beams, Couple per unit twist of a wire, Torsional pendulum ideas.	K1,K2
			To knowledge on surface properties of liquids and its determination methods.	K2,K3
			Understood the viscous behaviour of liquids and gasses.	K3,K4
			Understood the Physics of sound and its applications	K5,K6
			Understand the concept of acoustics,importancce of constructing buildong with good acoustics	K6
		CORE PRACTICAL -I	To understand and determine accurately the length,radius by using screw gauge ar	K1,K2
			To perform experiments in sonometer and verification of laws of transverse vibrat	K2,K3
			grasp and find the young's modulus, rigitity modulusof solid materials	K3,K4
			To recognize and estimate the surface tension and interfacial properties of two imı	K5
	FOUNDATION COURSE	INTRODUCTORY PHYSICS	Apply the concept of vectors to understand concepts of physics and solve problem	K5,K6
			Understand the concept of acoustics,importancce of constructing buildong with good acoustics	K1,K2
			To differentiate different types of motion they would encounter in various courses and understand the courses.	K3,K4

	ALLIED	CHEMISTRY- I	Students will acquire core competency in the subject Chemistry, and in allied subj	K4,K5
			Systematic and coherent understanding of the fundamental concepts in Physical chemistry, Organic Chemistry, Inorganic Chemistry, Analytical Chemistry and all other related allied chemistry subjects.	K5,K6
			To understand the nuclear reaction and its methods	K1,K2
			To know the different atom models and can get an idea about coupling schemes.	K2,K3
	SKILL ENHANCEMENT COURSE -1	PHYSICS FOR EVERY DAY LIFE	To Develop the skills of construction and working domestic electrical appliances.	K3,K4
			To knowledge the principle of pressure cooker,refrigerator and air conditioner	K4,K5
			To understand the fundamentals of laser and its applications	K5,K6
II	CORE	HEAT AND THERMODYNAMICS and STATISTICAL MECHANICS	To get an idea about the specific heat capacity and its determination methods.	K1,K2
				K2,K3
			Understood the kinetic theory of gases and gas laws.	K4
			understood the method of generating low temperature and Superconductivity.	K5,K6
			The friction, centre of gravity and flow of fluids.	K6
	FOUNDATION COURSE	CHEMISTRY FOR PHYSICAL SCIENCES -II	Units and dimensions of various fundamental physical quantities	K1,K2
			Different states of matter and conversion between them.	K2,K3
			Pressure and temperature and their measurement using simple devices.	K4,K5
				K5,K6
			Principle and use of mirrors, lenses and scattering of light.	K6
			To understand elastic properties of solids.	K1,K2
			To determine physical properties of liquids	K2,K3

	PRACTICAL	CORE PRACTICAL - II	Optical and electrical properties of materials and semiconductors	K4,K5
			Frequency of vibration, relative density, and acceleration due to gravity	K5,K6
				K1,K2
III	CORE	OPTICS AND SPECTROSCOPY	To knowledge of geometric optics and abbrations in lens system helps in the practical design of optical system and instruments.	K2,K3
			To derive the expression for temperature coefficient resistance of a coil using Carey Foster's Bridge and able to know how to calibrate the ammeter and voltmeter. Also able to learn the thermo electricity concept.	K3,K4
			To explain the concepts of self and mutual inductance using electromagnetic	K5
			To study the phenomena interface, thin films and its applications.	K5,K6
			To knowledge about diffraction, single slit and double slit diffraction pattern.	K1,K2
		PRACTICAL- II	To understand and determine accurately the length,radius by using screw gauge and vernier calipers.	K2,K3
			To perform experiments in sonometer and verification of laws of transverse vibrations.	K3,K4
			grasp and find the young's modulus, rigitity modulusof solid materials	K4,K5
			To recognize and estimate the surface tension and interfacial properties of two immiscible liquids	K5,K6
	INTERNAL ELECTIVE	LASER PHYSICS	To explain the principle of laser and its applications	K1,K2
			To explore the different types of lasers	K2,K3
			To discuss the uses of laser in medical field	K4
			To understand the application of laser in telecommunication	K5,K6

	ALLIED	MATHEMATICS - I	To knowledge on finding the expression of partial fractions and exponential and logarithmic series	K6
			To get a basic ideas of polynomial equation and Newtons method.	K1, K2
			To solving prayley-Hamilton theorem and Eigan roots and Eigan vectors.	K2, K3
			To understanding the trigonometry functions	K3, K4
			To develop the skill of differential calculus.	K5, K6
IV	CORE	ELECTRICITY, MAGNETISM & ELECTROMAGNETISM	To know fundamentals coulomb's law and Gauss's law and also able to derive the expression for electric potential,	K6
			To derive the expression for temperature coefficient resistance of a coil using Carey Foster's Bridge and able to know how to calibrate the ammeter and voltmeter. Also able to learn the thermo electricity concept.	K4
			To explain the concepts of self and mutual inductance using electromagnetic induction phenomenon.	K3
			To distinguish the dia, para and ferromagnetic materials based on different theories.	K4
			To able formulate the expression for displacement current and Maxwell's equations.	K3
	PRACTICAL	CORE PRACTICAL - II	Study the elastic behaviour of materials	K3
			Analyse the relationship between various types of experiments	K3
			Perform the procedure as per standard values	K3
			Understan the applications	K5
			To solve nonlinear equations using analytic methods.	K6

	ALLIED	MATHEMATICS - II	The mathematics concepts in real world situations.	K3
			To simplify and perform operations with nonlinear expressions.	K3
			To understand principle in real world situations.	K3
	SBS	BASIC ELECTRICAL TECHNOLOGY	To know principle of Voltage, Current, Resistance, Ohm's law and Electrical safety.	K2
			To distinguish between cells and batteries and able to explain the different types of batteries.	K4
			To understand the Wheastone's bridge, Thevenin and Norton's theorem and also able to describe the function of DC generator and motor.	K2
			To know the fundamentals of alternating currents and voltages and able to differentiate the single phase and three phase connections.	K3
			To acquire the principle and construction of transformers and its types and also able to demonstrate the function of AC generator.	K4
	CORE	ATOMIC AND MOLECULAR PHYSICS	To know the properties of cathode rays and positive rays. Also will be able to study the determination of specific charge of an electron.	K3
			To know the different atom models and can get an idea about coupling schemes.	K2
			To study the Zeeman effect, Paschen Back effect and Stark effect.	K4, K5
			To know the basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.	K2
			To study the rotational and vibrational energy of a molecule and also learn the Infrared spectra, Raman Effect and Laser.	K2
		RELATIVITY AND QUANTUM MECHANICS	To know the frames of reference and able to formulate the Galilean Transformation equations and Lorentz Transformation equations.	K2
			the student will be understand the matter waves and can derive an equation for de Broglie wavelength. Also able to distinguish between phase velocity and	K3
			To state the Heisenberg's Uncertainty Principle and able to derive the time dependent and time independent Schrödinger's equations.	K5

V			The basic idea of photoelectric effect and can able to derive the equation for Einstein's photoelectric equation.	K3
			The learn postulates of quantum mechanics, operators and also able to acquire knowledge on Dirac's bra and ket notations.	K4
		BASIC AND APPLIED ELECTRONICS	To classification of solids on the basis of band theory and know the construction, working and pplications of semiconducting diodes and transistors.	K2
			To design the RC-coupled amplifier and to study its frequency response curve. Also students will be able to classify the power amplifiers, to learn the h-	K4
			To understand the multivibrators using transistors and can able to study the different wave shaping circuits.	K4
			The basic idea of integrating circuits and able to fabricate diode, transistors, resistor and capacitors. Also	K4
			To analyze the different applications op-amp circuits like adder, subtractoretc.and also able to demonstrate 555 Timer	K6
	NAAN MUDHALVAN	DATA ANALYTICS WITH TABLEAU	To learn about the empathy map and brainstroming map for population forecasting analysis.	K5, K6
			The student will be able to understand how to use the tableau software for the CO2 analysis and forecasting analysis.	K3, K4
				K3
			The student to get the overall project and create the story line videos	K2
				K3, K4
	ELECTIVE	DIGITAL ELECTRONICS	To gain knowledge between different types of number systems, and their conversions. Also able to study the various Binary codes and to design basic	K4, K5
			To describe laws of Boolean Algebra, De Morgan's theorems. Also able to demonstrate K-Map and simplification of logic expressions and to design	K5
			To explain the Multiplexer, Demultiplexer and Decoder. Students can know the functions of various Flip-Flop circuits.	K6
			To conceptualize the classification of registers and counters.	K1

			To know how to convert digital to analog and analog to digital using different methods.	K3
	CORE	NUCLEAR AND PARTICLE PHYSICS	Idea about the fundamentals of nucleus and its structure.	K1
			To understood the concept of radioactivity.	K2
			The design and working of particle accelerators and detectors.	K3
			To understanding about the nuclear reactions and nuclear reactors.	K6
			To gained adequate knowledge about the elementary particles like pions, muons, hyperons etc.	K6
		SOLID STATE PHYSICS	To Distinguish between crystalline and amorphous solids, Classify the crystal systems and able to understand the crystal structure	K5
			To Relate the X-ray diffraction with crystal structure and explain the various differences in properties of solids due to	K4, K5
			To understand the different types of bonding in crystals, apply this to understand the optical , specific heat capacity of solids	K5
			To gain the knowledge of magnetism in materialsand able to distinguish different magnetic materials. Also able to	K3
			To explain the electric polarization in dielectric materials and also gain the knowledge in dielectric breakdown	K2
		FUNDAMENTALS OF MICROPROCESSOR-8085	To know the evolution of microprocessor, pin and architecture of 8085 microprocessor in detail.	K3, K4
			To describe different types of instructions like data transfer, arithmetic, logical and branching instructions with examples	K4, K5
			To write assembly language programs for simple arithmetic operations and hence they can apply it for interfacing applications.	K5
			To learn the memory interface and peripheral interface devices.	K6
			To know how to interface the peripheral device with microprocessor 8085 and they are able to write the programs for LED and Temperature control interface	K1

VI	ELECTIVE	NANOPHYSICS	To know the fundamentals of nanotechnology.	K3
			To learn about carbon nanostructures and its properties.	K1
			To study the preparation of nanomaterial by different methods.	K2
			To analyse the synthesized nanomaterial by various characterization techniques.	K3
			To understand the various applications of nanotechnology.	K6
		DATA ANALYTICS WITH TABLEAU USING PYTHON	To learn about the empathy map and brainstroming map for population forecasting analysis.	K6
			To get knowledge of about pytho programming.	K5
				K4, K5
			The student to get the overall project and create the story line videos	K5
				K2
	PRACTICAL	CORE PRACTICAL - III	To study the elastic behaviour of materials	K3
			To analyse the relationship between various types of experiments	K6
				K6
			To perform the procedure as per standard values	K5
			To understand the applications	K4, K5
			To study the elastic behaviour of materials	K5

	PRACTICAL	CORE PRACTICAL - IV	To analyse the relationship between various types of experiments	K3
			To perform the procedure as per standard values	K6
			To understand the applications	K6
	PROJECT	PROJECT	To identifying grown crystal was exosed single crystal using x-ray diffraction & powder x-ray diffraction studies.	K5
			The crystal system &lattice parameters where confirmed by single crystal XRD.	K6

Upon completion of the degree requirements,student will be able

S.NO	PO Numbe	PO statements
1	PO1	Nuclear Physics deals with study of the structure of matter at the atomic level. A few other applications of the subject
2	PO2	working of various Electronic circuits. The students will u understand how to u se the basic test and measuring instruments to test the
3	PO3	The course gives an introduction to solid state physics, and wil enable the student to employ classical and quantum mechanical theories
4	PO4	the structure and dynamics of atoms and simple molecules. the interaction between atoms, molecules and electromagnetic fields.
5	PO5	The student will get an introduction to the discipline of optics and its role in the modern society. The student shall master the
Programme Specific Out come (PSOs)		
S.NO	**PO Numbe**	**PO Statement**
1	PO1	After completing the course, you will: know what radioactivity is and how it arises. know about radioactivity in nature and why it is
2	PO2	Characteristics and applications of operational amplifiers (op-amps). Design and analysis of op-amp amplifiers, comparators, voltage
3	PO3	Explain the measurement of crystal size distribution. Discuss the impact of additives, solvents and impurities on crystal growth and
4	PO4	describe the structure of atoms in terms of protons, neutrons and electrons. understand what is meant by a chemical element and how
5	PO5	Recognize and classify the structures of Optical fiber and types.1.Discuss the channel impairments like losses and dispersion.2.Analyze

emeste	Course	Title of the course	Course Outcome	Level
		CLASSICAL AND RELATIVISTIC MECHANICS	Have depth knowledge about Lagrangian and Hamiltonian formulations and solve problems using those	K2
			Have knowledge about fundamentals of rigid body motion and explainMoment of inertia tensor and Euler's	K3
			Apply Hamilton's characteristic function to solve problems. Understand Action Angle variables and solve one	K2, K3
			Acquire knowledge about oscillatory motion and stability of oscillatory motion. Understand the linear and	K1, K3
	CORE	MATHEMATICAL	Students learn about Lagrangian and Hamiltonian formulation of Classical Mechanics.	K1, K2

I	CORE	MATHEMATICAL PHYSICS - I	state the conservation principles involving momentum, angular momentum and energy and understand that they	K6
			CO3:Have a deep understanding of Newton's laws,	K6
		LINEAR AND INTEGRATED CIRCUITS	Understand the principles, working of semiconductor devices and diodes	K3
			Study the applications of operational amplifier	K5, K6
	CORE PRACTICAL - 1	GENERAL & ELECTRONICS EXPERIMENT	Understand the usage of basic laws and theories to determine various properties of material.	K3
			Understand the application side of the experiments	K3
			Acquire in depth knowledge regarding the basic concepts in electronics.	K3
			Apply theoretical knowledge to establish electronic experiments	K3
	CORE ELECTIVE	CRYSTAL GROWTH AND THIN FLIM	Learn about the fundamental theory of laser actions	K1
			Brief out the various concepts of advanced laser systems	K2
			understand the fundamental theory of laser actions	K2
II	CORE	QUANTUM MECHANICS	Recognize the concept of quantum mechanical too	K3
			Describe the application of Schrodinger’s equation to exactly solvable	K3
		PLASMA PHYSICS	Apply Partial Differential equation to solve various physics problems.	K3
			Solve problems using complex variable method	K2
			Solve problems using Fourier series and Fourier transforms.	K2
		THERMODYNAMIC AND STATISTICAL	The student will demonstrate an understanding of the challenges on safe nanotechnology	K3
			The students will be able to Identify the importance of diary chemistry	K3
			Acquire knowledge of mikl-lipids, proteins, carbohydrates and vitamins	K3
	CORE PRACTICAL II	GENERAL & ELECTRONICS EXPERIMENT	Understand the usage of basic laws and theories to determine various properties of material.	K2
			Understand the application side of the experiments	K3
			Acquire in depth knowledge regarding the basic concepts in electronics.	K3
			Apply theoretical knowledge to establish electronic experiments	K4
	CORE ELECTIVE-II	RESEARCH METHODOLOGY and IPR	To teach the basic of rsearch philosophies and research approches.	K4
			To know how to do the review of literature.	K3
			To expose the importance of internet in research.	K2
		CONDENSED MATER PHYSICS	CO1: To understand the basic crystal structures,bounding of solids and the energy calculation	K2
			CO2: To study the lattice dynamics and phono momentum.	K1
			CO3: To explaini the free electron gas in three dimensions and electronics heat capacity.	K3
			CO4: To understand basics concept of magneyism and its application.	K4

III	CORE		CO5: To study the properties of superconducting material and its application	K2
		ELECTROMAGNE TIC THEORY	Understand the basic mathematical concepts related to electromagnetic vector fields	K3
			Apply the principles of electrostatics to the solutions of problems relating to electric field and electric potential	K6
			boundary conditions and electric energy density.	K6
		MICRO PROCESSOR AND MICROCONTROL	CO1:recall and apply a basic concept of digital fundamentals to Microprocessor based personal computer system.	K3
			CO2:identify a detailed s/w & h/w structure of the Microprocessor.	K5, K6
			CO3:illustrate how the different peripherals (8255, 8253 etc.) are interfaced with Microprocessor.	K3
	LECTIVE -	RESEARCH METHODOLOGY	CO1: To teach the basic of rsearch philosophies and research approches.	K3
			CO2: To know how to do the review of literature.	K3
			CO3: To expose the importance of internet in research.	K3
IV	CORE	SPECTROSCOPY	CO1: To give an ide about rotatioinal spectra of different molecules using rotational spectroscopy	K1
			CO2: To study the vibrational spectroscopy of diatomic and polyatommic molecules using IR spectroscopy	K2
			CO3: To acquire knowledge on raman spectroscopy and its application	K2
			CO4: To expose the concept of UV spectroscopy and its application.	K3
		CRYSTAL GROWTH	CO1: To introduce theories of crystal growth.	K3
			CO2: To study the crystal symmetry and crystal structures.	K3
			CO3: To teach the various mechanisms of crystal growth.	K2
			CO4: To know the basics of thin flim deposition techniques.	K3
		NUCLEAR & ELEMENTARY PARTICLE PHYSICS	CO1: To make the students learn the concept of polymers and plastics	K3
			CO2: To understand theh classification of polymers.	K4
			CO3: To understand the methods of molecular weight determination	K4
			CO4: To learn the importance of freons and rubber.	K3
		CORE PRACTICAL IV	CO1:Study the elastic behaviour of materials	K2
			CO2:Analyse the relationship between various types of experiments	K2
			CO3:Perform the procedure as per standard values	K1
			CO4:Understand the applications	K3
		PROJECT WITH VIVA VOCE	CO1:Understand the basic ideas about the project	K4
			CO2:Understand the working procedure of the project	K2
			CO3:Perform the procedure as the labarotary standards	K3
			CO4:Understand the calues obtained and its applications	K6

2.6 Students Performance and Learning Outcomes (2023-2024)

2.6.1 Program Outcomes,Program Specific outcomes and Course Outcomes for all Programs Offered by the Institution Stated and Displayed in website of the institution(to provide the weblink)

Department of Chemistry

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	**PO Number**	**PO Statements**
1	PO1	Demonstrate, solve and an understanding of major concepts in alldisciplines of chemistry.
2	PO2	Employ critical thinking and the scientific knowledge to design, carry
3	PO3	Create an awareness of the impact of chemistry on the environment,
4	PO4	Find out the green route for chemical reaction for sustainabledevelopment.
5	PO5	To creat chemistry in everyday life

Programme Specific Outcome(PSO)

S.No.	**POS Number**	**POS Statements**
1	PO1	Gain the knowledge of Chemistry through theory and practical"s.
2	PO2	To explain nomenclature, stereochemistry, structures, reactivity,and mechanism of the chemical reactions.
3	PO3	Identify chemical formulae and solve numerical problems.
4	PO4	Know structure-activity relationship.
5	PO5	To explain chemical uses and properties

Course Outcome(Cos)

Semester	**Course**	**Title of the Course**	**Course Outcome**	**Level**
			CO1 Basic concepts regarding Atomic structure, Periodic properties	K1,K2
			CO2 Bonding concepts, VSEPR and MO theories	K2,K3
	Core Theory	General Chemistry - I	CO3 Basic concepts of organic chemistry	K3,K4

I			CO4 To know about the states of matter	K5,K6
			CO5 Application of volumetric analysis	K6
	Allied-I	Allied bio chemistry-I	CO1 Know properties of vitamines	K1,K2
			CO2 Basic knowledge on specific of biochemistry	K2,K3
			CO3 Basic concepts of bio chemistry	K3,K4
			CO4 To know about chemical composition of amino acid	K5,K6
			CO5 Toknow about carbohydtrates	K6
	Elective	Introductory chemistry	CO1 Basic concepts chemical reagents	K1,K2
			CO2 To know role of chemistry in everyday life	K2,K3
			CO3 Basic concepts of organic chemistry reagents	K3,K4
			CO4 To know about the structrue of lab	K5,K6
			CO5 Application of volumetric analysis	K6
	NME	Astro physisc	CO1 Experiments based on Young’s and Rigidity modulus	K1,K2
			CO2 Practical in Surface Tension and Sonometer	K2,K3
			CO3 Experiments based on Young’s and Rigidity modulus	K3,K4
			CO4 Practical in Surface Tension and Sonometer	K5,K6

			CO5 Experiments based on Spectrometer and Potentiometer	K6
	Core Practical-I	Major Practical-I	CO1- Impart Knowledge about electrochemistry	K1,K2
			CO2- Derivation og Nernst equation and polarization	K2,K3
			CO3- Impart Knowledge about surface chemistry	K3,K4
			CO4- Studying about chemical kinetics	K5,K6
	Allied Practical	Allied biochemistry Practical-I	CO1 Know properties of nucliec acid	K6
			CO2 Basic knowledge on analysis of bio compounds	K1,K2
			CO3 Basic concepts of peptide bonds	K2,K3
			CO4 To know about chemical composition of amino acid	K3,K4
	Core Theory	General Chemistry - II	CO5 Toknow about the gentic codons	K5,K6
			CO2 Basic knowledge on specific of biochemistry	K6
			CO3 Basic concepts of peptide bonds	K1,K2
			CO4 To know about chemical composition of amino acid	K2,K3
			CO5 Toknow about the gentic codons	K3,K4
	Core Practical	Volumetric Analysis	CO1 Study the Volumetric analysis of Acidimetry Iodometry and Potentiometry	K5,K6
			CO2 Understand to calculate the strength of solutions	K6

II	Allied-II	Bio chemistrey-II	CO1- Know the complete study about carbohydrates	K1,K2
			CO2- Study the amino acides reaction with ninhydrin and common properties	K2,K3
			CO3- Study and learning for primary, secondary, tertiary,quaranary structure of protein	K3,K4
			CO4- Study the concept of DNA and RNA biological function and their type difference between DNA,RNA	K5,K6
			CO5- Study about classification and function of lipids.simple and compound lipids and their properties	K6
	NME-II	NME(PHY)	CO1 Experiments based on Young's and Rigidity modulus	K1,K2
			CO2 Practical in Surface Tension and Sonometer	K2,K3
			CO3 Experiments based on Spectrometer and Potentiometer	K3,K4
			CO4 Practical in Surface Tension and Sonometer	K5,K6
			CO5 Experiments based on Spectrometer and Potentiometer	K6
	NME-III	Internet and Its Aplications	CO1- study about the java program	K1,K2
			CO2- crarify the concept of web browser	K2,K3
			CO3- demondstrating the concept of web browser	K3,K4
			CO4- Learning HTML programs	K5,K6
			CO5- get knowledge about web marketting	K6
			CO1 Experiments based on Young's and Rigidity modulus	K1,K2

	Allied Practical	Allied biochemistry Practical-II	CO2 Practical in Surface Tension and Sonometer	K2,K3
			CO3 Experiments based on Spectrometer and Potentiometer	K3,K4
	Core Theory-III	General Chemistry-III	CO1- Know the principles and application of inorganic qualitative analysis and acid base equilibria,solubility product,spot test reagent types of solvent	K5,K6
			CO2- study about carbon,nitrogen,oxygen family for oxide, hydride,oxyacides	K6
			CO3- Study a.aliphatic and aromatic nucleophilic substitution reaction.Elimination reaction.	K1,K2
			CO4 study the aromaticity,Huckel rule,Electrophilic substution reaction reaction,ortho and para ratio	K2,K3
			CO5- Study second law of thermodynamics, carnot cycle entropy, reversible irreversible process	K3,K4
	Allied	Physics-I	CO1 Experiments based on Young's and Rigidity modulus	K5,K6
			CO2 Practical in Surface Tension and Sonometer	K6
			CO3 Experiments based on Young's and Rigidity modulus	K1,K2
			CO4 Practical in Surface Tension and Sonometer	K2,K3
			CO5 Experiments based on Spectrometer and Potentiometer	K3,K4
III	Allied Practical	Physics Practical-I	CO1 Experiments based on Young's and Rigidity modulus	K5,K6
			CO2 Practical in Surface Tension and Sonometer	K6
			CO3 Experiments based on Young's and Rigidity modulus	K1,K2

		CO4 Practical in Surface Tension and Sonometer	K2,K3
		CO5 Experiments based on Spectrometer and Potentiometer	K3,K4
SBS-l	Water treatment and analysis	CO1- Understand chrecteristic of water, units of water purification of water by various method	K5,K6
		CO2- Explained softening of water by various method. Determination of hardness of water	K6
		CO3-Study about the industrial treatment of water.Effluent treatmen	K1,K2
		CO4- Studying water analysis of colour,odur,turbidity,taste, temperature,ph.Analysis of solids	K2,K3
		CO5- analysis of chemical substance affecting health.measurments of toxic chemical substance.	K3,K4
NME I	Introduction to Information Technoloy	CO1- study about introduction computer	K5,K6
		CO2- crarify the concept of web browser	K6
		CO3- demondstrating the concept of web browser	K1,K2
		CO4- Learning HTML programs	K2,K3
		CO5- get knowledge about web marketting	K3,K4
Core Theory-IV	General Chemistry-IV	CO1- Know the Electronic configuration of Noble gases, Compounds of Xenon	K5,K6
		CO2- study about Carboxylic acid, Amines	K6
		CO3- Have a Knowledge about Alcohols, Phenols	K1,K2

			CO4- Derive Maxwell relation, free energies	K2,K3
			CO5- Study Third law of thermodynamics, Partial Molar properties	K3,K4
	Core Practical-II	Inorganic qualitative analysis and Preparations	CO1- Have a complete Knowledge about salt analysis	K5,K6
			CO2- Prepare some inoranic compounds	K6
			CO3- Glarify Basic knowledge of inoranic practicals	K1,K2
	Allied	Physics-I	CO1 Experiments based on Young’s and Rigidity modulus	K2,K3
			CO2 Practical in Surface Tension and Sonometer	K3,K4
			CO3 Experiments based on Young’s and Rigidity modulus	K5,K6
			CO4 Practical in Surface Tension and Sonometer	K6
IV			CO5 Experiments based on AND, NOT GATE	K1,K2
	Allied Practical-II	Physics Practical	CO1 Experiments based on Young’s and Rigidity modulus	K2,K3
			CO2 Practical in Surface Tension and Sonometer	K3,K4
			CO3 Experiments based on Young’s and Rigidity modulus	K5,K6
	SBS II	Food Chemistry	CO1- Impart Knowledge about Cereals and it classification	K6
			CO2- ExplainVegetabls, Fungies,algaes.	K1,K2
			CO3- Have knowledge about beverages , appetizers	K2,K3

		CO4- Studying beveraes, Preservatives	K3,K4
		CO5- knowing food additives , food colors	K5,K6
NME II	Introduction to Information Technoloy	CO1- study about introduction computer	K6
		CO2- crarify the concept of web browser	K1,K2
		CO3- demondstrating the concept of web browser	K2,K3
		CO4- Learning HTML programs	K3,K4
		CO5- get knowledge about web marketting	K5,K6
Core Theory-V	Inirganic chemistry-I	CO1- Study about the halogen family and related components	K6
		CO2- study about the coordination compounds,structural,geometrical,optical isomerism	K1,K2
		CO3- Understandig sidwick theory VBT AND CFT	K2,K3
		CO4- knowledge about copare VBT,CFT.Bonding,hybridization structure of carbonyls.application of coordination compound	K3,K4
		CO5- Study about the nature and structure of solid, defects of solid and semiconductor	K5,K6
Core theory-V	organic Chemistry I	CO1- Know the complete study about carbohydrates	K6
		CO2- Understanding stereo isomerism,geometrical isomerism and optical activity of compounds	K1,K2
		CO3- Study about the nitroalkane preparation properties,structure.Reagent and their application mechanism of naming reaction .	K2,K3

V			CO4- know the completely study of conformation analysis of compounds	K3,K4
			CO5- Study about the hetrocyclic compounds	K5,K6
	Core theory-V	Physical chemistry-I	CO1- know about the completely study of solutions derivation of Gibbs duhem equation, nertst distribution law	K6
			CO2- Study about the phase rule.application of phase rule and thermal analysis,cooling curve	K1,K2
			CO3- completely study of colligative properties and chemical equilibrium,vont Hoff reaction	K2,K3
			CO4- Studying about specific and equivalent conductance,Debye Huckels theory and mobility of ions	K3,K4
			CO5- knowing about application of conductometric measurements,concept of pH,buffer solutions, Henderson equation	K5,K6
	Elective paper I	Analytical Chemistry I	CO1- Important knowledge about data analysis, purification of organic compound	K6
			CO2- Study about purification of liquid, gravimetric analysis and electro magnetic radiation	K1,K2
			CO3- Study about the micro wave spectroscopy,UV visible spectroscopy and types of electronic transition	K2,K3
			CO4- Study about IR spectroscopy and their application	K3,K4
			CO5- know about the completely study of Raman spectroscopy and their application	K5,K6
			CO1- Know the important knowledge of nuclear chemistry	K6
			CO2- study about Radio activirty	K1,K2

	Core Theory-VI	Inorganic chemistry-II	CO3- Have a Know about metallurge	K2,K3
			CO4- Kown the inner transition elements	K3,K4
			CO5- Studythe organometalic and Bioinorganic compounds	K5,K6
	Core Practical-III	Gravimetric estimation	CO1- Estimation of Sulphate as Barium sulphate	K6
			CO2- Estimation of Barium as Barium sulphate	K1,K2
			CO3- Estimation of Barium as Barium chromate	K2,K3
	Core theory-VI	organic Chemistry II	CO1- Know the complete study about Molecular rearrangement	K3,K4
			CO2- Studying Amino acids and Polypeptides	K5,K6
			CO3- Have a knowledge Protin and Nuclic acid	K6
			CO4- Identify the concept chemistry of natural product	K1,K2
			CO5- Study about Organo- synthsis reagents	K2,K3
	Core Practical-III	Organic qualitative analysis and prepartion	CO1- Idendification of Fuctional group	K3,K4
			CO2- Organic prepation Nitration, Acylation	K5,K6
			CO3- Organic prepation Oxidation, halogenationand hydrolysis	K6
			CO1- Impart Knowledge about electrochemistry	K1,K2
VI			CO2- Derivation og Nernst equation and polarization	K2,K3

VI	Core theory-VI	Physical chemistry	CO3- Impart Knowledge about surface chemistry	K3,K4
			CO4- Studying about chemical kinetics	K5,K6
			CO5- knowing about photochemistry	K6
	Core Practical-III	Physical chemistry practical I	CO1- knowing kinetic reaction	K1,K2
			CO2- Finding molecular weight	K2,K3
			CO3- Knowing electrochemistry reaction	K3,K4
			CO4- kown the potentiometric titration	K5,K6
			CO5- Knowing about calorimetric reaction	K6
	Elective paper III	Nano Chemistry	CO1- Impart Knowledge about nano chemistry	K1,K2
			CO2- know the carbon nano tubes	K2,K3
			CO3- Impart Knowledge about the sem, tem afm	K3,K4
			CO4- Studying about types of nano particles	K5,K6
			CO5- knowing about synthesis of nano particles	K6
	Elective paper IV	Pharmaceutical Chemistry	CO1- Know the drug design	K1,K2
			CO2- Studying Amino acids and Polypeptides manufacturing proces	K2,K3
			CO3- Have a knowledge Protin and Nuclic acid	K3,K4

			CO4- Identify the concept chemistry of natural product	K5,K6
			CO5- Study about Organo- synthsis reagents	K6

M.SC. CHEMISTRY

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	**PO Number**	**PO Statements**
1	PO1	Determine molecular structure by using UV, IR and NMR.
2	PO2	Synthesis of Natural products and drugs by using proper mechanisms
3	PO3	Solve the reaction mechanisms and assign the final product.
4	PO4	. Determine the aromaticity of different compounds.

Programme Specific Outcome(PSO)

S.No.	**POS Number**	**POS Statements**
1	PO1	Know the structure and bonding in molecules/ ions and predict theStructure of molecule/ions.
2	PO2	Study of free radical,bycyclic compound, conjugate addition ofEnolates and pericyclic reactions.
3	PO3	Study of free radical,bycyclic compound, conjugate addition ofEnolates and pericyclic reactions.
4	PO4	Understand good laboratory practices and safety.

Course Outcome(Cos)

Semester	**Course**	**Title of the Course**	**Course Outcome**	**Level**
			CO1 Concept of stereochemistry	K2,K3
			CO2 Conformational analysis and their application	K3,K4
	core	Organic Chemistry- I	CO3 Analyze Mechanism of aliphatic substitution reactions	K5,K6

			CO4 To understand the Elimination reactions	K6
			CO5 Acquires knowledge on the various concept of reaction kinectics and mechanism	K1,K2
	core	Inorganic Chemistry- l	CO1 To explain isopolyacids and heteropolyacids of V, Cr,W etc.	K2,K3
			CO2 Describe the structure, properties, correlations of some inorganic polymers	K3,K4
			CO3 Illustrstes the chemistry of metal clusters	K5,K6
			CO4 Apply the stereo chemistry of co-ordination complexes of the complexes	K6
			CO5 To know about the structure of bonding of inorganic compounds	K1,K2
I	Elective-II	Electrochemistry-1	CO1 To study the partial molar property and concept of fugacity	K2,K3
			CO2 To acquire knowledge on phase equilibria of three component system	K3,K4
			CO3 Get the knowledge about miscells, surfactants, basics of colloids	K5,K6
			CO4 Theories and basic concept of chemical kinetics	K6
			CO5 Mechanism of acid, base and enzyme catalysis reaction	K2,K3
			CO1 have a knowledge on classification and Nomenclature of inorganic polymers	K3,K4
			CO2 Kinetics and mechanism of polymerization reaction	K5,K6

	Elective-I	Nano chemistry(Elective-I)	CO3 Structure and properties of polymers	K6
			CO4 To learn about industrial and natural polymers	K1,K2
			CO5 Understood the characterization of polymers	K2,K3
	core practical	organic chemistry practicals-I	CO1 To learn about Fundamentals of physics, system of units CGS,MKS and SI	K3,K4
			CO2 To study the basic concept heat and different scales of temperatures	K5,K6
			CO3 To learn basics of chareges and know about ohm's law, krichoff's law	K6
			CO4 To understant the differents types of wave motion and its properties	K1,K2
			CO5 To teach the importants of light energy and propagation of light	K2,K3
	Core Theory-II	Organic Chemistry-II	CO1- Elucidate the mechanism of addition and elimination reaction	K3,K4
			CO2- Appreciate the synthetic ussages of various oxidizing and reducing reagents	K5,K6
			CO3- To Illustrate the importance of Free radicals	K6
			CO4- Describe the concept of Aromaticity	K2,K3
			CO5- Study heterocycles, vitamine and steroids compound	K3,K4
			CO1- Know the complete study about chemical kinetics and fast reaction	K5,K6

II	Core Theory-II	physical chemistry-I	CO2- Describe Debye-Huckel Limitting law and	K6
			CO3- Explain the structure of double layer	K1,K2
			CO4- Identify the group theory in elements	K2,K3
			CO5- Study about types of group theory and its application	K3,K4
	Elective-III	Green chemistry	CO1- Have a complete Knowledge about the basic principle of green chemistry	K5,K6
			CO2- Have a knowledge about 12 rules on green chemistry	K6
			CO3- Have a complete Knowledge about the green synthesis compounds	K1,K2
			CO4- Apply use of phase transfer catalysis in reen synthesis	K2,K3
			CO5- studied about the industrial case studies	K3,K4
	ELECTIVE IV	bio inorganic chemistry	CO 1- To give some fundamentals of spectroscop[y and lasers	K5,K6
			CO 2-To provide good knowledge about micrwave spectroscopy	K6
			CO 3- To teach different reggion of IR	K2,K3
			CO 4- Students can acquire the fact of Raman spectroscopy	K3,K4
			CO 5- To learn the basic laser and application	K5,K6

	core practical-I	Inorganic chemistry-I	CO1- study about the knowledge semimicro qualitative analysis of mixture	K6
			CO2- to get knowledge about the comlexometric titration	K1,K2
			CO3- to get knowledge of the preparation inorganic complex	K2,K3
	Skilled enhancement course	indus & computational chemistry	CO 1- To give some fundamentals of spectroscop[y and lasers	K3,K4
			CO 2-To provide good knowledge about micrwave spectroscopy	K5,K6
			CO 3- To teach different reggion of IR spectrum	K6
	Main	Field study	CO 1- To learn about suar processing in cooperative sugar mill	K1,K2
			CO 2 - The students learned about the production and operation management.	K2,K3
			CO 3- The students learned manufacturing of the product like cutting grinding	K3,K4
	Main	Organic Chemistry- III	CO1 Understand the factors affecting UV-absorption spectra, Interpret IR- spectra on basic values of IR-frequencies.	K5,K6
			CO2 Discuss the problem of Proton NMR and Carbon-13 NMR	K6
			CO3 Study of mass spectrometry: Instrumentation, various methods of ionization. Different detectors rules of fragmentations of different functional groups.	K2,K3
			CO4 Study alkaloids and Teroenoids with their structure elucidation	K3,K4

			CO5 Learning the free radicals and understanding name reactions based on free radicals	K5,K6
	Main	Inorganic Chemistry- III	CO1 Study the different types of Carbon Donars And different types of Reactions	K6
			CO2 Know the Various Catalysis	K1,K2
			CO3 Learning Complementary, non-complementary electron transfer reactions	K2,K3
			CO4 Understand the Substitution in square planar complexes and reactivity	K3,K4
			CO5 Know Photo-substitution, Photoredox and isomerisation process Inorganic Photochemistry	K5,K6
	Main	Physical Chemistry- III	CO1 Learn Mechanism of electrode reactions	K6
			CO2 Know Classification of Solids and Magnetic properties	K1,K2
			CO3 Learn the Raman, Electronic and Microwave Spectrascopy and its application.	K2,K3
			CO4 Study the Zeeman effect, 13C, 19F, 31P NMR spectra - applications	K3,K4
			CO5 Understand Fermi - Dirac and Bose - Einstein statistics, Partition function	K5,K6
	Core Practical-V	Inorganic chemistry practicals-II	CO1 Learn Mechanism of electrode reactions	K6
			CO2 Know Classification of Solids and Magnetic properties	K2,K3
III			CO3 Learn the Raman, Electronic and Microwave Spectrascopy and its application.	K3,K4

			CO4 Study the Zeeman effect, 13C, 19F, 31P NMR spectra - applications	K5,K6
			CO5 Understand Fermi - Dirac and Bose - Einstein statistics, Partition function	K6
	Core Practical-VI	Physical Chemistry Practical- II	CO1 Learn Mechanism of electrode reactions	K1,K2
			CO2 Know Classification of Solids and Magnetic properties	K2,K3
			CO3 Learn the Raman, Electronic and Microwave Spectrascopy and its application.	K3,K4
			CO4 Study the Zeeman effect, 13C, 19F, 31P NMR spectra - applications	K5,K6
			CO5 Understand Fermi - Dirac and Bose - Einstein statistics, Partition function	K6
	elective	Scientific Research Methodology	CO1 Know Nature and importance of research	K1,K2
			CO2 Learn Analysis and methods of separation Techniques	K2,K3
			CO3 Understand the accuracy and precision and classification error.	K3,K4
			CO4 Know the students test, F test and Q test	K5,K6
			CO5 Realise Thesis and Assignment writing format	K6
			CO1 Know Nature and importance of research	K2,K3
			CO2 Learn Analysis and methods of separation Techniques	K3,K4

	Open elective	Industrial Chemistry II	CO3 Understand the accuracy and precision and classification error.	K5,K6
			CO4 Know the students test, F test and Q test	K6
			CO5 Realise Thesis and Assignment writing format	K1,K2
	Main	Organic Chemistry-IV	CO1- Know the study of aromaticity	K2,K3
			CO2- study about the introduction of photochemistry	K3,K4
			CO3- Have a Knowledge about protein and nuclic acid	K5,K6
			CO4- Have study of the human antibiotics compounds	K6
			CO5- Study of organic dyes compounds	K1,K2
	Elective	Elective	CO1- Have a complete Knowledge about the basic inorganic spectra	K2,K3
			CO2- study the introduction of inorganic spectra	K3,K4
			CO3- Have a complete Knowledge about instrumentation of inorganic spectra	K5,K6
			CO4- To study the inorganic compound instrumental analysis	K6
			CO5- Glarify Basic knowledge of spectra in inorganic chemistry	K2,K3

IV	Main	physical chemistry-IV	CO1- Know the complete study about the introduction of inorganic photochemistry	K3,K4
			CO2- Studying in basic elemental analysis	K5,K6
			CO3- Have a knowledge of photo reduction and oxidation	K6
			CO4- Identify the basic quantum chemistry	K1,K2
			CO5- Study about the statistical thermodynamics	K2,K3
	project	project	CO1- Have a complete Knowledge about the air and water pollution	K3,K4
			CO2- study the air and water pollution controled	K5,K6
			CO3- Have a complete Knowledge about the sampling and analysis of air and water	K6
			CO4- have a knowledge of noise pollution	K1,K2
			CO5- studied about the indian and other radio active pollution in some material	K2,K3
	core practical-VII	organic Chemistry-II	CO1- Impart Knowledge about two stage preparation of organic compounds	K3,K4
			CO2- to get knowledge about the estimation of some organic compounds	K5,K6
			CO1- study about the knowledge of valumetrical and gravimetrical estimated	K6

	core practical-VIII	inorganic chemistry-II	CO2- to get knowledge about the comlexometric titration	K2,K3
			CO3- to get knowledge of the preparation inorganic complex	K3,K4
	core practical-IX	physical chemistry-II	CO1- knowledge about the conductometric titration method	K5,K6
			CO2- Crarify the concept of the phototiometric titration methods	K6
			CO3- To study the experiments related interpritation of the spectrum	K1,K2

Department of Computer Science		
Programme Outcome(POs)		
Upon Completion of the degree requirements,students will be able		
S.No.	**PO Number**	**PO Statements**
1	PO1	An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline.
2	PO2	An ability to analyse a problem and identify and define the computing requirements appropriate to its solution.
3	PO3	An understanding of professional, ethical, legal, security and social issues and responsibilities.
4	PO4	An ability to communicate effectively with a range of audiences.

Programme Specific Outcome(PSO)

S.No.	**POS Number**	**POS Statements**
1	PSO1	To equip the students with sufficient exposure and skills to enable them in attaining a deserving position in Software Industry.
2	PSO2	To inculcate training & practical approach, internship is given to be trained among the students in the field of Computer Science.
3	PSO3	To exploit emerging technologies in Computer Science and its related discipline.
4	PSO4	To expose adequate training to the computing environment in Software Development, Software Engineering, Computer Networks etc.

Course Outcome(Cos)

Semester	**Course**	**Title of the Course**	**Course Outcomes**	**Level**
	Core-I	Python Programming	CO1 Understand the concepts of Python programming	K2
			CO2 Apply the OOPs concept in PYTHON programming	K3
			CO3 Impart knowledge on demand and supply concepts	K2, K3
			CO4 Learn best practices in PYTHON programming	K1, K3
			CO5 Know the costs and profit maximization	K1, K2

I	Core II- Practical - I	Python Programming Lab	CO1 Design and program Python applications.	K6
			CO2 Create loops and decision statements in Python.	K6
			CO3 Work with functions and pass arguments in Python.	K3
			CO4 Build and package Python modules for reusability.	K5, K6
			CO5 Able to read and write files in Python.	K3
	Foundation Course / Skill Based Course	Problem Solving Techniques	CO1 Familiarize with writing of algorithms.	K3
			CO2 Implement different programming constructs and decomposition of problems.	K3
			CO3 Use data flow diagram, Pseudo code to implement solutions.	K3
			CO4 Define and use of arrays with simple applications.	K1
			CO5 Understand about operating system and their uses.	K2
II	Core - III	Dat Structure & Algorithms	CO1 Understand the concepts of ADTs	K2
			CO2 Learn linear data structures-lists, stacks, queues	K3
			CO3 Learn Tree structures and application of trees	K3
			CO4 Learn graph structures and application of graphs	K3
			CO5 Understand various sorting and searching	K2
	Core IV - Practical - II	Dat Structure & Algorithms Lab	CO1 Understand the concepts of ADTs	K2
			CO2 Learn linear data structures-lists, stacks, queues	K3
			CO3 Learn Tree structures and application of trees	K3
			CO4 Learn graph structures and application of graphs	K3
			CO5 Understand various sorting and searching	K2
	Skill Course - 3	Internet and its Applications	CO1 Acquire practical knowledge in internet concepts	K3
			CO2 Acquire the knowledge in e-mail concepts	K3
			CO3 Analyse the internet services	K4
			CO4 Analyse the web concepts and browsers	K4
			CO5 Knowledge in search engines	K3

III	Core IV	Programming in Java	CO1 Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.	K2
			CO2 Understand fundamentals of object-oriented programming in Java, including defining classes, invoking methods, using class libraries, etc.	K2
			CO3 Aware of the important topics and principles of software development.	K1
			CO4 Ability to write a computer program to solve specified problems.	K3
			CO5 Able to use the Java SDK environment to create, debug and run simple Java programs.	K4
	Core Practical III	Programming in Java Lab	CO1 Understand the basic concepts of Java Programming with emphasis on ethics and principles of professional coding.	K2
			and the concepts of constructor, methods overloading, inheritance.	K3
			CO3 Construct Java programs using Multithreaded Programming and Exception Handling.	K6
			CO4 Understand the implementation of Graphics and Applets.	K2
			CO5 Implementation of AWT controls, layouts and windows fundamentals.	K5, K6
	Internal Elective II	Computer Graphics	CO1 Remember the basic concepts of Graphics system.	K1
			CO2 Understanding scanner systems and I/O Devices.	K2
			CO3 Apply 2D Transformations.	K3
			CO4 Evaluate 3D Transformations.	K5, K6
			CO5 Implement the Visual surface techniques.	K3
	Core V	Python Programming	CO1 Understand the principles of Python and acquire skills in programming in python	K2
			CO2 Develop the emerging applications of relevant field using Python	K6
			CO3 Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.	K3

IV			CO4 Able to develop simple turtle graphics programs in Python	K6
			CO5 Understand the Files, Exception handling, object Oriented programming principles in Python.	K2
	Core Practical IV	Python Programming Lab	CO1 Understand the numeric or real-life application problems and solve them.	K2
			CO2 Apply a solution clearly and accurately in a program using Python.	K3
			CO3 Apply the best features available in Python to solve the situational problems.	K3
			CO4 Understand the concept of file handling in Python.	K2
			CO5 Apply the recursive methods in Python.	K3
	Skill Based Subject II	Software Engineering	CO1 Illustrate the concepts of software processes and software process models.	K4
			CO2 Describe the scenario-based and class-based models of software systems.	K2
			CO3 Apply design concepts and frame conceptual models for a given project.	K3
			CO4 Calculate effort estimation using COCOMO model.	K3
			CO5 Explain the testing strategies for ensuring software quality and agile development process.	K2
	Core V	Mobile Applications Development	CO1 Understands the basic technologies used by the Android platform. Understand Android OS, gradle, Android Studio.	K2
			CO2 Develop UI based Mobile Application using Android Studio.	K3
			CO3 Design application for Mobile using various sensors.	K3, K4
			CO4 Recognizes and uses Android Environment Emulator and Application life cycle	K4
			CO5 Adapt to learn new mobile technologies.	K6
			CO1 Understand the evolution of OS functions and process.	K1

	Core VI	Operating System	CO2 Learn process scheduling.	K1, K2
			CO3 Understand Deadlock techniques.	K2,K3
			CO4 Acquire knowledge on Memory Management.	K3
			CO5 Ascertain facts on Storage management.	K3
	Core VII	Design & Analysis of Algorithms	CO1 Ability to analyze the performance of algorithms.	K4
			CO2 Ability to choose appropriate algorithm design techniques for solving problems.	K3
			CO3 Understand how the choice of data structures and the algorithm design methods impact the performance of programs.	K2
			CO4 Identify problems using algorithm design methods such as the greedy method, divide and conquer, dynamic programming, backtracking and branch and bound methods.	K5
			CO5 Understand the differences between tractable and intractable problems .	K2
	Practical V	Mobile Applications Development Lab	CO1 Demonstrate the android features and create ,develop using android	K3
			CO2 Demonstrate and Understanding anatomy of an Android application	K3
			CO3 Apply the android geo location based services	K3
			CO4 Illustrate the android wifi features and advance android development	K2
V			CO5 Demonstrate the linux security and implement ADL interface	K3
			CO1 Interpret the fundamental UNIX commands & system calls	K2
			CO2 Apply the scheduling algorithms for the given problem	K3

	Practical VI	Operating System Lab	CO3 Apply the process synchronous concept using message queue, shared memory, semaphore and Dekker's algorithm for the given situation	K3
			CO4 Analyze and experiment an algorithm to detect and avoid dead lock	K4
			CO5 Demonstrate the various operations of file system	K3
	Elective I	Data Mining	CO1 Understand Data Warehouse fundamentals and datamining Principles.	K1, K2
			CO2 Appreciate the strengths and limitations of various data mining and data warehousing models.	K3
			CO3 Explain the analyzing techniques of various data.	K3
			CO4 Describe different methodologies used in data mining and data ware housing.	K3, K4
			CO5 Compare different approaches of data ware housing and data mining with various technologies.	K4
	Skill Based III	Software Engineering	CO1 Ability to identify the minimum requirements for the development of application.	K4
			CO2 Ability to develop, maintain, efficient, reliable and cost effective software solutions.	K3
			CO3 Ability to critically thinking and evaluate assumptions and arguments by using variant software architectural styles &	K2
			CO4 Understanding of software testing approaches such as unit testing and integration testing.	K5
			CO5 Understanding on quality control and how to ensure good quality software.	K2
			CO1 Understand the features of OSS over Commercial Software.	K1
			CO2 Develop simple shell programs using simple commands.	K2

VI	Core VIII	Open Source Software	CO3 Apply the DDL and DML commands for their simple Applications with MySQL as backend.	K2, K3
			CO4 Classify the usage of different operators and functions in PHP.	K2
			CO5 Implement the web pages for manipulating files .	K5
	Core IX	Python Programming	CO1 Enable the students to understand the basic principles of the Python Language.	K1
			CO2 Applying the design principles in the data-driven applications.	K2
			CO3 Enabling to design the web-based applications using Python.	K2
			CO4 Understanding the machine learning ability of Python based components.	K3
			CO5 Solving the real time problems using Python.	K4
	Practical VII	Python Programming Lab	CO1 Write, Test and Debug Python Programs.	K1
			CO2 Implement Conditionals and Loops for Python Programs.	K3
			CO3 Use functions and represent Compound data using Lists & Tuples.	K3
			CO4 Read and write data from & to files in Python and develop Application.	K3
	Practical VIII	Open Source Software Lab	CO1 Demonstrate the installation process of various operating systems.	K2
			CO2 Implement virtualization by installing Virtual Machine software.	K4
			CO3 Apply UNIX/LINUX operating system commands.	K3
			CO4 Understand different UNIX/LINUX shell scripts	K2
			CO5 Execute various shell programs.	K4
	Elective II	Big Data Analytics	CO1 Identify Big Data and its Business Implications.	K1
			CO2 List the components of Hadoop and Hadoop Eco-System.	K1
			CO3 Access and Process Data on Distributed File System.	K3
			CO4 Develop Big Data Solutions using Hadoop Eco System.	K3, K4
			CO5 Analyze Infosphere BigInsights Big Data Recommendations and Apply Machine Learning Techniques.	K4

	Project	Project	CO1 Remember the process of various Software Project Methods.	K1
			CO2 Identify the theoretical and methodological issues involved in modern Software Project.	K1
			CO3 Prepare the activity plan andlist the existing system and tthe proposed system.	K3
			CO4 Analyze project monitoring activities.	K4
			CO5 Develop quality products by working as a team.	K3

Department of Computer Science (M. Sc., COMPUTER SCIENCE)
Academic Year 2023 - 24

Programme Outcomes (POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	The ability to identify and analyse the requirements of Computer Science problems.
2	PO2	The understanding of professional and ethical responsibility in the field of computer science and to communicate effectively.
3	PO3	The ability to implement algorithms and paradigms with modern software tools.
4	PO4	The ability to function effectively on multi-disciplinary projects and problems.
5	PO5	The ability to recognize and respond towards research areas of computer science and the need for lifelong learning.

Programme Specific Outcomes (PSOs)

S.No.	POS Number	POS Statements
1	PSO1	To embrace future developments and professional relevance in Computer Science.
2	PSO2	To attain agility in advanced programming languages and software building for wide area of applications.
3	PSO3	To explore with applications of Internet Technologies in the related profession with social and ethical responsibilities.
4	PSO4	To handle the current techniques, skills and tools necessary for computing practice.
5	PSO5	To engage in research-oriented activities and life-long learning for continuing professional development.

Course Outcomes (COs)

Semester	Course	Title of the Course	Course Outcomes	Level
	Core I	Analysis & Design of Algorithms	CO1 Get knowledge about algorithms and determines their time complexity. Demonstrate specific search and sort algorithms using divide and conquer technique.	K1,K2
			CO2 Gain good understanding of Greedy method and its algorithm.	K2,K3
			CO3 Able to describe about graphs using dynamic programming technique.	K3,K4
			CO4 Demonstrate the concept of backtracking & branch and bound technique.	K5,K6
			CO5 Explore the traversal and searching technique and apply it for trees and graphs.	K6
	Core II	Python Programming	CO1 Understand the basic concepts of Python Programming	K1,K2
			CO2 Understand File operations, Classes and Objects	K2,K3
			CO3 Acquire Object Oriented Skills in Python	K3,K4
			CO4 Develop web applications using Python	K5
			CO5 Develop Client Server Networking applications	K5,K6
I	Core III	Algorithm & Python Lab	CO1 Understand the concepts of object oriented with respect to C++ and able to write programs in Python using OOPS concepts.	K1,K2
			CO2 Able to understand and implement OOPS concepts and to understand the concepts of File operations and Modules in Python.	K3,K4

			CO3 Implementation of data structures like Stack, Queue, Tree, List using C++ and Implementation of lists, dictionaries, sets and tuples as programs.	K4,K5
			CO4 Application of the data structures for Sorting, Searching using different techniques and to develop web applications using Python.	K5,K6
	Elective I	Advance Software Engineering	CO1 Understand about Software Engineering process	K1,K2
			CO2 Understand about Software project management skills, design and quality management	K2,K3
			CO3 Analyze on Software Requirements and Specification	K3,K4
			CO4 Analyze on Software Testing, Maintenance and Software Re-Engineering	K4,K5
			CO5 Design and conduct various types and levels of software quality for a software project	K5,K6
	Elective II	Internet of Things	CO1 Understand about IoT, its Architecture and its Applications	K1,K2
			CO2 Understand basic electronics used in IoT & its role	K2,K3
			CO3 Develop applications with C using Arduino IDE	K4
			CO4 Analyze about sensors and actuators	K5,K6
			CO5 Design IoT in real time applications using today’s internet &wireless technologies	K6
			CO1 Understand the basic data mining techniques and algorithms	K1,K2
			CO2 Understand the Association rules, Clustering techniques and Data warehousing contents	K2,K3

	Core IV	Data Mining & Warehousing	CO3 Compare and evaluate different data mining techniques like classification, prediction, Clustering and association rule mining	K4,K5
			CO4 Design data warehouse with dimensional modeling and apply OLAP operations	K5,K6
			CO5 Identify appropriate data mining algorithms to solve real world problems	K6
	Core V	Data Mining & Advance Java Programming Lab	CO1 Able to write programs using R for Association rules, Clustering techniques and simple Java programmes.	K1,K2
			CO2 To implement data mining techniques like classification, prediction and must be capable of implementing JDBC and RMI concepts.	K2,K3
			CO3 Able to use different visualizations techniques using R and able to write Applets with Event handling mechanism.	K4,K5
			CO4 To apply different data mining algorithms to solve real world applications and To create interactive web based applications using servlets and JSP.	K5,K6
	Core VI	Advance Java Programming	CO1 Understand the advanced concepts of Java Programming	K1,K2
			CO2 Understand JDBC and RMI concepts	K2,K3
			CO3 Apply and analyze Java in Database	K3,K4
			CO4 Handle different event in java using the delegation event model	K5
II			CO5 Design interactive applications using Java Servlet, JSP and JDBC	K5,K6
			CO1 Demonstrate AI problems and techniques	K1,K2

	Elective III	Artificial Intelligence & Machine Learning	CO2 Understand machine learning concepts	K2,K3
			CO3 Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning	K3,K4
			CO4 Analyze the impact of machine learning on applications	K4,K5
			CO5 Analyze and design a real world problem for implementation and understand the dynamic behavior of a system	K5,K6
	Elective IV	Mobile Computing	CO1 Understand the need and requirements of mobile communication	K1,K2
			CO2 Focus on mobile computing applications and techniques	K2,K3
			CO3 Demonstrate satellite communication in mobile computing	K4
			CO4 Analyze about wireless local loop architecture	K5,K6
			CO5 Analyze various mobile communication technologies	K6
	Skill Enhancement Course I	Object Oriented Programming through Java, HTML Basics	CO1 Develop a proper understanding of Web Development Architecture.	K1, K2
			CO2 Create application using React components.	K2, K3
			CO3 Perform Navigation using Routes.	K3, K4
			CO4 Build Web Applications using React with Redux.	K5, K6
			CO5 Perform ReactJS animations	K6
			CO1 Analyze the concepts and fundamentals of Digital Image Processing	K4

III	Core VII	Digital Image Processing	CO2 Demonstrate Spatial domain and Frequency domain and its applications	K3
			CO3 Analysis of residual based technique, Canny edge detection and their applications.	K4
			CO4 Apply Image Compression techniques	K3
			CO5 Use different features of Image Segmentation	K3
	Core VIII	Machine Learning	CO1 Apply the machine learning concepts in real life problems.	K3
			CO2 To Implement and analyze existing learning algorithms, including well-studied methods for classification, regression, clustering.	K3
			CO3 To Identify machine learning techniques suitable for a given problem.	K5
			CO4 To Design application using machine learning techniques.	K6
			CO5 To Solve the problems using various machine learning techniques	K3
	Core IX	Research Methodology	CO1 Able to demonstrate knowledge of research processes (reading, evaluating, and developing);	K3
			CO2 Perform literature reviews using print and online databases;	K3
			CO3 Identify, explain, compare, and prepare the key elements of a research proposal/report;	K2
			CO4 Compare and contrast quantitative and qualitative research	K4
			CO5 Understand Concepts of Measurements.	K2
	Core Practical V	Image Processing Lab	CO1 Retrieve and display the image.	K3
			CO2 Transform the domain from spatial to frequency.	K4
			CO3 Apply suitable operators to detect the edge.	K3
			CO4 Perform the process of compression and segmentation using certain methods	K2

			CO5 Implementation the concept of erosion and dilation	K4, K5
	Core Practical VI	Machine Learning Lab	CO1 Understand the mathematical and statistical perspectives of machine learning algorithms through python programming.	K2
			CO2 Understand complexity of Machine Learning algorithms and their limitations;	K2
			CO3 Understand modern notions in data analysis-oriented computing;	K2
			CO4 Apply common Machine Learning algorithms in practice and implementing their own;	K3
			CO5 Perform experiments in Machine Learning using real-world	K5
	Core Elective III	Cloud Computing	CO1 To get depth knowledge Cloud concepts and technologies	K3
			CO2 To acquire various analytics service in cloud computing	K4
			CO3 Students are able to understand Cloud applications	K2
			CO4 To get knowledge in Python based cloud systems	K4
			CO5 To acquire knowledge in cloud architecture and security	K4
	Core X	Advanced Comptuer Networks	CO1 Analysis a basic concept of Network Hardware, software and different types of transmission techniques.	K4
			CO2 Design, Implement & Evaluate Wireless transmission & Communication Satellite.	K6
			CO3 Communicate Effectively the Medium Access Layer & Data Communication etc.	K5, K6
			CO4 Recognize the principal of Routing Algorithm & Congestion Control Algorithm	K3, K4

IV			CO5 Elaborate advanced network concept of Network Security & Cryptography	K3
	Core XI	Block Chain Technology	CO1 Contentedly discuss and describe the history, types and applications of Block chain	K2
			CO2 Gains familiarity with cryptography and Consensus algorithms.	K3, K4
			CO3 Create and deploy projects using Web3j and design block chain based applications.	K4, K5
			CO4 Implement an ICO on Ethereum	K5
			CO5 Design block chain based application with Swarm and IPFS	K6
	Core Elective IV	Mobile Computing	CO1 To understand basic concepts of Mobile Communication.	K1
			CO2 To analyze next generation Mobile Communication System.	K3
			CO3 To understand network and transport layers of Mobile Communication.	K1
			CO4 Classify different types of mobile telecommunication systems	K2
			CO5 Analyze various protocols of all layers for mobile and ad hoc wireless communication networks.	K3
	Core Project	Project	CO1 Discover the most thrust areas in the field of Information Technology.	K6
			CO2 Develop a complete project for a particular problem domain.	K6
			CO3 Identify analyses, design and implement any IT related projects.	K5
			CO4 Compare and contrast existing solutions for developing a project.	K4, K5
			CO5 Demonstrate an ability to work in teams and manage with good communication skill.	K5

Department of Computer Application

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline.
2	PO2	An ability to analyse a problem and identify and define the computing requirements appropriate to its solution.
3	PO3	An understanding of professional, ethical, legal, security and social issues and responsibilities.
4	PO4	An ability to communicate effectively with a range of audiences.

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements
1	PSO1	To equip the students with sufficient exposure and skills to enable them in attaining a deserving position in Software Industry.
2	PSO2	To inculcate training & practical approach, internship is given to be trained among the students in the field of Computer Science.
3	PSO3	To exploit emerging technologies in Computer Science and its related discipline.
4	PSO4	To expose adequate training to the computing environment in Software Development, Software Engineering, Computer Networks etc.

Course Outcome(Cos)

Semester	Course	Title of the Course	Course Outcome	Level
I	Core-I	Python Programming	CO1 To make students understand the concepts of Python programming.	K1
			CO2 To apply the OOPs concept in PYTHON programming	K1, K2
			CO3 Understand the principles of decision-making statement, array and strings.	K1, K2,K3
			CO4 To make the students learn best practices in PYTHON programming	K3
			CO5 Expose the concept of pointer and file management.	K3
	Allied - I	Statistical Methods and its Application-I	CO1: develop the skill of statistical methods and its representations	K1
			CO2: solve by mean ,median and mode	K2
			CO3: calculate range, deviation and its measures	K3

			CO4: solve the skewness and its coefficients	K1, K3
			CO5: understand the correlation and regression analysis	K4
	Practical - I	Python Programming Lab	CO1 1.Demonstrate the understanding of syntax and semantics	K1
			CO2 2.Identify the problem and solve using PYTHON programming techniques	K3
			CO3 3.Identify suitable programming constructs for problem solving.	K1, K5
			CO4 4.Analyze various concepts of PYTHON language to solve the problem in an efficient way	K2, K3
			CO5 5.Develop a PYTHON program for a given problem and test for its correctness	K3
II	Core-II	Object Oriented Programming Concepts Using C++	CO1 To spell the key concepts of OOPs, Input/output and control structures.	K1
			CO2 To demonstrate C++ programs with functions, classes and objects.	K2
			CO3 .To apply Operator Overloading & Inheritance technique for various problem solving approach	K3
			CO4 To interpret and understand searching and sorting techniques.	K1, K2,K3
			CO5 To construct algorithms for Graph and its Application.	K3
	Allied - I	Statistical Methods and its Applications-II	CO1 Relate the mathematical logic to solve problems.	K1
			CO2 Classify sets, relations, functions, and discrete structures.	K2
			CO3 Summarize logical notation to define and reason about fundamental mathematical concepts such as sets, relations, and functions	K2,K3,K4
			CO4 Able to formulate problems and solve recurrence relations.	K4
			CO5 Analyze real-world problems using graphs and trees.	K4
			CO1 Understand the Creating and Deleting the Objects with the Concepts of Constructors and Destructors.	K1

	Practical - II	C++ Programming Lab	CO2 Demonstrate the Polymorphism Concepts and Operator Overloading.	K1
			CO3 Understand basic Data Structures such as Arrays, Linked Lists, Stacks, Queues,Doubly Linked List and Infix to Postfix Conversion	K1, K2
			CO4 Apply Algorithm for solving problems like Sorting and Searching.	K3
			CO5 Apply Algorithms and use Graphs and Trees as tools to visualize and simplify Problems	K3
III	Core-III	Java Programming	CO1 Define the basic fundamentals of Java Programming.	K1
			CO2 Learn about Object - oriented programming concepts.	K2
			CO3 Apply the Knowledge in Java packages, Threads and Strings.	K3
			CO4 Demonstrate the concept of JDBC and RMI.	K3
			CO5 Building programs to develop rich internet applications using JavaFX.	K3
	Allied - II	Financial Accounting I	CO1 Define book keepting and accounting	K1
			CO2 Explain the general purpose and functions of accounting	K2
			CO3 Explain the difference between financial and manageent accounting	K3
			CO4 Describe the main element of financial accounting information - assets, liabilities, revenue and expenses	K2
			CO5 Identify the main financial statements and their purposes	K3
	Practical - III	Java Programming Lab	CO1 Understand the features of Java	K2
			CO2 Design classes with object-oriented features	K1
			CO3 Describe advanced features of Java like exception handling, multithreading etc.	K2, K3
			CO4 List the programs in JAVA featuring its core capabilities	K4

			CO5 Apply and Construct JDBC and ODBC Connectivity	K2, K3
	Core - IV	Design & Analysis of Algorithms	CO1. Ability to analyze the performance of algorithms.	K1, K2
			CO2. Ability to choose appropriate algorithm design techniques for solving problems.	K3
			CO3. Understand how the choice of data structures and the algorithm design methods impact the performance of programs.	K3
			CO4. Identify problems using algorithm design methods such as the greedy method, divide and conquer, dynamic programming, backtracking and branch and bound methods.	K3
			CO5. Understand the differences between tractable and intractable problems and P & NP classes.	K2
	Core-V	Python Programming	CO1. Understand the database concepts, modelling, dependencies and normalization.	K1
			CO2. Recognize the basics and facts of Oracle9i or SQL with DDL commands.	K2
			CO3.Develop the knowledge of data management using DML and TCL Commands.	K3
			CO4. Acquire knowledge of PL/SQL to develop, organize and manage a database with huge data.	K3
			CO5. Illustrate the knowledge of database designer using named PL/SQL Blocks.	K3
	Core - VI	Artificial Intelligence	CO1 To Explain basic principles of ERP	K1
			CO2 To Define and demonstrate the life cycle & methodology in ERP	K1
			CO3 To Design and implement a business modules.	K2
			CO4 Design and implement Packages in ERP.	K3
			CO5 To Make present & future of ERP	K3

IV	Practical - IV	Python Programming Lab	CO1. Creating a table and evaluate simple queries.	K1
			CO2. Applying the Set and Aggregate operations in Database.	K3
			CO3. Apply the join techniques.	k3
			CO4. Evaluate queries using SQL DML/DDL/DCL commands.	K5
			CO5. Define and Evaluate PL/SQL program for various operations.	K1, K5
	Allied - II	Financial Accounting II	CO1 Preparing financial statements in accordance with appropriate standards.	K2
			CO2 Prepare ledger accounts using double entry bookkeeping and record journal entries accordingly	K2,K3
			CO3 Preparing accounting information for planning and control and for the evaluation of finance	K2
			CO4 Interpreting the business implications of financial statement information	K3, K4
			CO5 Prepare Bank reconciliation statement from incomplete statement	K4
	Core- VII	Mobile Application Development	CO1 Understands the basic technologies used by the Android platform. Understand Android OS, gradle, Android Studio.	K2
			CO2 Develop UI based Mobile Application using Android Studio.	K3
			CO3 Design application for Mobile using various sensors.	K3, K4
			CO4 Recognizes and uses Android Environment Emulator and Application life cycle	K4
			CO5 Adapt to learn new mobile technologies.	K6
	Core-VIII	Operating System	CO1 Understand the evolution of OS functions and process.	K1
			CO2 Learn process scheduling.	K1, K2
			CO3 Understand Deadlock techniques.	K2,K3

			CO4 Acquire knowledge on Memory Management.	K3
			CO5 Ascertain facts on Storage management.	K3
	Core-IX	Design and Analysis of Algorithms	CO1. Ability to analyze the performance of algorithms.	K4
			CO2. Ability to choose appropriate algorithm design techniques for solving problems.	K3
			CO3. Understand how the choice of data structures and the algorithm design methods impact the performance of programs.	K2
			CO4. Identify problems using algorithm design methods such as the greedy method, divide and conquer, dynamic programming, backtracking and branch and bound methods.	K5
			CO5. Understand the differences between tractable and intractable problems and P & NP classes.	K2
V	Practical - V	Mobile Applications Development - Lab	CO1 Demonstrate the android features and create ,develop using android	K3
			CO2 Demonstrate and Understanding anatomy of an Android application	K3
			CO3 Apply the android geo location based services	K3
			CO4 Illustrate the android wifi features and advance android development	K2
			CO5 Demonstrate the linux security and implement ADL interface	K3
	Practical - VI	Operating System - Lab	CO1 Interpret the fundamental UNIX commands & system calls	K2
			CO2 Apply the scheduling algorithms for the given problem	K3
			CO3 Apply the process synchronous concept using message queue, shared memory, semaphore and Dekker's algorithm for the given situation	K3
			CO4 Analyze and experiment an algorithm to detect and avoid dead lock	K4

			CO5 Demonstrate the various operations of file system	K3
	Skill Based - III	Design and Analysis of Algorithms	CO1. Ability to identify the minimum requirements for the development of application.	K4
			CO2. Ability to develop, maintain, efficient, reliable and cost effective software solutions.	K3
			CO3. Ability to critically thinking and evaluate assumptions and arguments by using variant software architectural styles & software process models.	K2
			CO4. Understanding of software testing approaches such as unit testing and integration testing.	K5
			CO5. Understanding on quality control and how to ensure good quality software.	K2
	Elective - I	Data Mining	CO1 Understand Data Warehouse fundamentals and datamining Principles.	K1, K2
			CO2 Appreciate the strengths and limitations of various data mining and data warehousing models.	K3
			CO3 Explain the analyzing techniques of various data.	K3
			CO4 Describe different methodologies used in data mining and data ware housing.	K3, K4
			CO5 Compare different approaches of data ware housing and data mining with various technologies.	K4
	Core-X	Open Source Software	CO1 Understand the features of OSS over Commercial Software.	K1
			CO2 Develop simple shell programs using simple commands.	K2
			CO3 Apply the DDL and DML commands for their simple Applications with MySQL as backend.	K2, K3
			CO4 Classify the usage of different operators and functions in PHP.	K2
			CO5 Implement the web pages for manipulating files .	K5

VI	Core-XI	Python Programming	CO1 Enable the students to understand the basic principles of the Python Language.	K1
			CO2 Applying the design principles in the data-driven applications.	K2
			CO3 Enabling to design the web-based applications using Python.	K2
			CO4 Understanding the machine learning ability of Python based components.	K3
			CO5 Solving the real time problems using Python.	K4
	Practical - VII	Python Programming Lab	CO1 Write, Test and Debug Python Programs.	K1
			CO2 Implement Conditionals and Loops for Python Programs.	K3
			CO3 Use functions and represent Compound data using Lists, Tuples and Dictionaries.	K3
			CO4 Read and write data from & to files in Python and develop Application. services	K3
	Practical - VIII	Open Source Programming - Lab	CO1 Demonstrate the installation process of various operating systems.	K2
			CO2 Implement virtualization by installing Virtual Machine software.	K4
			CO3 Apply UNIX/LINUX operating system commands.	K3
			CO4 Understand different UNIX/LINUX shell scripts	K2
			CO5 Execute various shell programs.	K4
	Elective II	Big Data Analytics	CO1 : classify the symmetric encryption techniques	K1
			CO2 : Illustrate various Public key cryptographic techniques	K1
			CO3 : Evaluate the authentication and hash algorithms.	K3
			CO4 : Discuss authentication applications	K3, K4
			CO5: Summarize the intrusion detection and its solutions to overcome the attacks.	K4

	Elective III	Cloud Computing	CO1. Describe the principles of Parallel and Distributed Computing and evolution of cloud computing from existing technologies.	K2
			CO2. Implement different types of Virtualization technologies and Service Oriented Architecture systems.	K4
			CO3. Elucidate the concepts of NIST Cloud Computing architecture and its design challenges.	K5
			CO4. Analyse the issues in Resource provisioning and Securizty governance in clouds.	K4
			CO5. Choose among various cloud technologies for implementing applications.	K2
	Project - I	Group/ Individual Project Work	CO 1 Identify the problem by applying acquired knowledge.	K1
			CO 2 Analyze and categorize executable project modules after considering risks.	K1
			CO 3 Choose efficient tools for designing project modules.G145	K3
			CO 4 Combine all the modules through effective team work after efficient testing.	K4
			CO 5 Elaborate the completed task and compile the project report.	K3

Department of Commerce -B.Com		
Programme Outcome(POs)		
Upon Completion of the degree requirements,students will be able		
S.No.	**PO Number**	**PO Statements**
1	PO1	Students are able to gain a thorough basic knowledge in the fundamental of Commerce and Accounting.
2	PO2	Curriculum offers a number of specializations and practical disclosures which would provide the student to face the contemporary challenge business activities
3	PO3	Further the students are encouraged with add on value based and job oriented courses which ensure them to the sustained in the organization level.
4	PO4	Develop the ability to use a basic accounting system to create (record, classify, and summarize) the data needed to solve a variety of business problems.
5	PO5	Prepare the students who will demonstrate respectful engagement ideas

Programme Specific Outcome(PSO)

S.No.	**POS Number**	**POS Statements**
1	PO1	Develop the ability to interact well with team members.
2	PO2	Employ marginal analysis for decision making
3	PO3	Analyze causes and consequences ofunemployment, inflation and economic growth
4	PO4	Describe the concept of buyer persona and its importance for constructing effective marketing campaigns.
5	PO5	Possess knowledge of the values and beliefs of multiple cultures and a global perspective

Course Outcome(Cos)

Semester	**Course**	**Title of the Course**	**Course Outcome**	**Level**
	Core-I	Financial Accounting- I	CO1 To learn the Accounting methods	K3
			CO2 To become an accountant by profession	K2

I			CO3 To know the accounting methods.	K1
			CO4 To operate the accounting transactions into systems without any mistakes.	K5
			CO5 The students can gain knowledge about the basic principles and functions of Accountancy.	K4
	Core-II	Principles of Marketing	CO1 To understand and the basic management concepts and functions	K2
			CO2 To know the various techniques of planning and decision making	K1
			CO3 To familiarize the with concepts of organization components of staffing	K2
			CO4 To operate the accounting transactions into systems without any mistakes.	K4
			CO5 To enable students understanding the controltechniques of management	K5
	Elective-I	Business ccommunication	CO1 To Know Acquirethebasicconceptof businesscommunication.	K1
			CO2 To understand Exposedtoeffectivebusinessletter.	K4
			CO3 To gain knowledgeon Para phrase the concept of various correspondences.	K5
			CO4 To Prepare Secretarial Correspondence like agenda, minutes.	K2
			CO5 To understand Acquiretheskill of preparing an effective resume	K3
			CO1 To Know Acquire the basic concept of business communication.	K4

	Foundation Course	Fundamental of Business Studies	CO2 Tomake the students familiar with the basic concepts of commerce, and Management Fields.	K1
			CO3 To encourage and motivate the Students for the commerce Education.	K3
			CO4 To make the students aware towards the various branches of commerce	K2
			CO5 To understand Acquiretheskill of fundamental studies	K5
	Core-III	Financial Accounting- II	CO1 To understand the students to prepare different kinds of accounts such hire purchase and installments system	K3
			CO2 To understand the allocation of expenses under departmental accounts	K2
			CO3 To gain the understanding about the partnership accounts	K1
			CO4 To operate the accounting transactions into systems without any mistakes.	K5
			CO5 To know the requirements of internal accounting standards	K4
	Core -IV	Business Law	CO1 To know the nature of objectives and mercantile law	K2
			CO2 To understand the essentials of vaild contract	K5
			CO3 To gain knowledgeon performance contracts	K1
			CO4 To define the concepts of bailment and pledge	K4

II			CO5 To understand and the essentials of contract of sale	K3
	Elective-II	Business Environment	CO1 To understand the nextbetween environment and business	K2
			CO2 To understand the politicalenvironment	K3
			CO3 To gain knowledge on the concepts of economic environment	K5
			CO4 To learn the trends in technical environment	K4
			CO5 To famailiarize the concepts of an business environment	K1
	NME	Internet and its Application	CO1 To educate the students to introducein internet and its application	K5
			CO2 To gain the knowledge in internet technology	K4
			CO3 To acquire the knowledge in block chin technology	K1
			CO4 To understand the effects of internet of various sectors.	K3
			CO5 To famailiarize the concepts of an business world	K4
	Core -V	Corporate Accounting-I	CO1To understand about the pro-rata allotment and underwritting of shares	K5
			CO2 To know the provisions of companies Act	K4
			CO3 To gain the form and content of financial statement	K1

III			CO4 To examine the variuos methods of valuation of goodwill and shares	K3
			CO5 To indentify the significance of international financial reprting standard	K2
	Core -VI	Company Law	CO1 To know the company law 1956 and companies Act 2013	K5
			CO2 To have the understanding on the formation of a company	K3
			CO3 To understand the gain knowledge on the procedures to appoint and remove directors	K1
			CO4 To understand the requistes of meeting and resoultion	K4
			CO5 To famailiarize with the various modes of winding up	K2
	Skill Enhancement Course	Stock Market Operations	CO1 To acquaint students with knowledge of Securities Market	K3
			CO2 To have the understanding enable the students to understand the knowledge of Practice	K4
			CO3 To understand the gain knowledge on the procedures to appoint and remove directors	K1
			CO4 To understand theimpart the students to understand the legal frame work of securities Market	K5
			CO5 To famailiarize enables the students to havedepth knowledgein different segment of stock exchange	K2
			CO1 To acquaint students with knowledge of Setting up a new Business	K1

	Skill Enhancement Course	New Venture Planning and Development	CO2 To enable the students to understand the legal challenges in setting up Business	K4
			CO3 To impart the students to search for entrepreneurial capital	K3
			CO4 To enables the students to have depth knowledgein marketing aspects of new ventures	K5
			CO5 Tounderstand the role Business PlanPreparation for New Ventures	K2
IV	Core -VII	Corporate Accounting-II	CO1 To know the types of amalgation,internal and external reconstruction	K5
			CO2 To know the financial statements of banking companies	K4
			CO3 To gain the form and content of financial statement	K3
			CO4 To understand the procedures for preparation of consolidated balance sheet	K1
			CO5 To have an insight on medoes of winding up of a company	K2
	Core -VIII	Principles of Marketing	CO1 To know the principles and pratices of marketing	K2
			CO2 To understand the about market segementation	K4
			CO3 To understand the pricing mechanism of marketing	K5
			CO4 To solve a range of problems faced by a business man in the market	K1
			CO5 To conduct the important meetings along with the co operation of all the employees	K3

	Elective-IV	Financial Services	CO1 To impart knowledge on the role and function of the Indian financial system.	K2
			CO2 To enrich their knowledge on key areas relating to management of financial products and services	K4
			CO3 To Familiarize students about Venture Capital, Leasing.	K5
			CO4 To Infer the importance of the Credit Rating system.	K1
			CO5 To Understand various types of Mutual funds schemes and the roles of NSDL and CSDL.	K3
	Skill Enhancement Course	Brand Management	CO1 To Explain the concept of branding	K5
			CO2 To Discuss the brand positioning and identify brands	K4
			CO3 To Familiarize students about Venture Capital, Leasing.	K2
			CO4 To Explain the elements of brand extension.	K1
			CO5 To Discuss the determinants of successful brand management	K3
	Core -IX	Cost Accounting-I	CO1To understand the various concepts of cost accounting	K1
			CO2 To prepare and reconcile cost accounts	K4
			CO3 To gain the knowledge regarding valuation methods of material	K2
			CO4 To know the apportionment of overheads	K5

			CO5 To have an insight on medoes of winding up of a company	K3
	Core -XI	Income Tax Law and Pratices-I	CO1 To understand the basic concepts and definitons under the income tax act 1961.	K3
			CO2 To compute the residential status of an assessee and the incidence of tax	K4
			CO3 To compute the income under the heads salaries	K2
			CO4 To learn the concepts of annual value, associated deductions and the calculation of income from house property	K5
V			CO5 To compute the income tax from the business and profession considering in the basic principles	K1
	Elective-V	Financial Management	CO1 To gain knowledge about techniques in capital budgeting	K2
			CO2 To understand the needs and calculation of working capital in an organization.	K3
			CO3 To compute the income under the heads salaries	K4
			CO4 To introduce the concept of financial management.	K5
			CO5 To compute the income tax from the business and profession considering in the basic principles	K1
			CO1 To introduceAware of various provision of Banking Regulation Act 1949	K5

	Core -X	Banking Law and Pratice	CO2 To learn Analyse the evolution of Central Banking concept	K3
			CO3 To compute the Gain knowledge about the Central Bank in India	K4
			CO4 To learn the Evaluate the role of capital fund of commercial banks	K2
			CO5 To Define the practical banking systems relationship of bankers and customers	K1
	Core -XIII	Cost Accounting-II	CO1 To understand the various concepts of cost accounting	K3
			CO2 To prepare and reconcile cost accounts	K2
			CO3 To gain the knowledge regarding valuation methods of material	K1
			CO4 To know the apportionment of overheads	K5
			CO5 To have an insight on medoes of winding up of a company	K4
	Core -XIV	Management Accounting	CO1 To understand the basics management acccounting.	K5
			CO2 To know the aspects of Financial Statement Analysis.	K4
			CO3 To familiarise with fund flow and cash flow analysis.	K1
			CO4 To learn about budgetary control.	K3
			CO5 To gain insights into marginal costing.	K2
VI			CO1 To understand provisions relating to capital gains.	K5

	Core -XV	Income Tax Law and Pratices-II	CO2 To know the provisions for computation of income fromother sources.	K4
			CO3 To familiarise law relating to set off and carry forward of losses and deductions from Gross Total Income.	K1
			CO4 To learn about assessment of individuals.	K3
			CO5 To gain the knowledge about assessment.	K2
	Elective-VII	Entrepreneurial Development	CO1 To know the meaning and characteristics of entrepreneurship	K5
			CO2 To identify the various business opportunities	K4
			CO3 To gain knowledge in the aspects of legal Compliance of setting up of an enterprise	K1
			CO4 To learn about assessment of individuals.	K3
			CO5 To develop an understanding of the role of MSME in economic growth	K2

2.6.1 Program Outcomes,Program Specific outcomes and Course Outcomes for all Programs Offered by the Institution Stated and Displayed in website of the institution(to provide the weblink)

Department of Commerce - M.Com.

Programme Outcome(POs)

Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements
1	PO1	To gain knowledge about Indian ethical practices. To familiarize the students to acquire sound knowledge of concepts,
2	PO2	The students can get the placement for jobs in all industries in Corporate Finance or you can apply to Banks, Investment
3	PO3	To inculcate the knowledge of business and the techniques of managing the business with special focus on marketing,
4	PO4	To impart the knowledge basic accounting principles and the latest application oriented corporate accounting methods.
5	PO5	To Individual and Team Leadership Skill

Programme Specific Outcome(PSO)

S.No.	PSO Number	PSO Statements	
1	PO1	To develop the decision making skill through costing methods and practical application of management accounting principles.	
2	PO2	To enhance the horizon of knowledge in various field of commerce through advertising and sales promotion, auditing and	
3	PO3	To Develop the skills of analysis and capability of making business decisions.	
4	PO4	To promote the addational skill of making business decisions.	
5	PO5	To inculcate the knowledge of business and the techniques of managing the business with special focus on marketing,	

I	CORE - I	Business Finance	CO 1 To outline the fundamental concepts in finance	K3
			CO 2 To estimate and evaluate risk in investment proposals	K2
			CO 3 To evaluate leasing as a source of finance and determine the sources of startup financing	K1
			CO 4 To examine cash and inventory management techniques	K5
			CO 5 To appraise capital budgeting techniques for MNCs	K4
	CORE - III	Digital Marketing	CO 1 To assess the evolution of digital marketing	K5
			CO 2 To appraise the dimensions of online marketing mix	K4
			CO 3 To infer the techniques of digital marketing	K1
			CO 4 To analyse online consumer behaviour	K3
			CO 5 To interpret data from social media and to evaluate game based marketing	K2
			CO 1 To understand the evolution of new era banking	K3

	ELECTIVE	Banking and Insurance	CO 2 To explore the digital banking techniques	K2
			CO 3 To analyse the role of insurance sector	K1
			CO 4 To evaluate the mechanism of customer service in insurance and the relevant regulations	K5
			CO 5 To analsye risk and its impact in banking and insurance industry	K4
	CORE - IV	Security Analysis and Portfolio Management	CO 1 To become familiar with various Investment avenues and Portfolio Construction	K5
			CO 2 To understand the Equity Shares, Preference Shares and Bonds valuation models	K4
			CO 3 To learn about long-term and short-term investment analysis tools.	K1
			CO 4 To analyse with Portfolio theories	K3
			CO 5 Analyse the element of cost	K2
	CORE - VI	Corporate Accounting	CO 1PrepareFinancialStatementsofcompaniesasperscheduleIIIofCompaniesAct,2013	K5
			CO 2 Prepare Consolidated Financial Statements of Holding Companiesin accordance with AS21	K4
			CO 3 Use measuring managerial effectiveness	K1
			CO 4 To adopt financial reporting standards	K3
			CO 5 To develop the Knowledge about the mutual funds	K2
			CO 1 To understand the startup landscape and its financing	K3

II	ELECTIVE-III	Setting of Business Entities	CO 2 To understand the procedure for obtaining registration and license	K2
			CO 3 To outline the concept of LLP and business collaboration	K1
			CO 4 Compute digital transactions	K5
			CO 5To create awareness about the legal compliances governing business entities	K4
	ELECTIVE-IV	Business Ethics and Corporate Sustanability	CO1 To understand the concept and importance of business ethics	K3
			CO2 To enable ethical decision making based on various theories	K2
			CO3 To understand the concepts of corporate sustainability	K1
			CO4 To know how the business relationship	K5
			CO5 To analyse sustainability information and prepare reports	K4
	CORE - VII	Organisational Behaviour	CO 1 To understand thevariousaspectsofhuman behavior atwork.	K1
			CO 2 Tounderstand the role of motivation and job satisfaction in organisational commitment	K4
			CO 3 To gain knowledge on recent trends in organizational change and development.	K2
			CO 4 Assess theories of motivation and their impact on job satisfaction.	K5
			CO 5 Analyse interpersonal transactions at workplace	K3
			CO 1 Enumerate Problems of Industrial Relations and Growth of Trade Union	K3
			CO 2 Understand and solve Disputes in GST	K2

III	CORE - VIII	Taxation	CO 3 Evaluate GST related Measures	K1
			CO 4 Analyse Industrial Accidents and Safety measures	K5
			CO 5 Analyse issues related to GST calculation	K4
	CORE - IX	Research Methodology	CO 1 Understand Meaning of Research and research design.	K5
			CO 2 Create Hypothesis and testing	K4
			CO 3 Identify Methods of Data collection and pilot study	K1
			CO 4 Develop Processing and Analysis of data and SPSS packaging	K3
			CO 5 Apply Report writing and drafting of report	K2
	CORE - X	Computer application in Business	CO 1 To understand the fundamentals of SPSS	K5
			CO 2 To compare the values obtained in t-test and ANOVA	K4
			CO 3 To perform regression and non-parametric tests	K1
			CO 4 Conduct non-parametric tests	K3
			CO 5 Create a company, form groups and get automated financial statements	K2
	CORE-XI	Core Industry Module	CO 1 To interact the students with actual industry personals.	K3
			CO 2 Computation of tax payment	K2
			CO 3 Interaction of students with the peoples of all critical departments.	K1

			CO 4 inform them of the industrial procedures required to enter in any company.	K5
			CO 5 3) To experience the working environment in industry and visualize all the essential	K4
	CORE - XII	Corporate Economic Law	CO 1 Recall important provisions of FEMA	K3
			CO 2 Identify the risk management	K2
			CO 3 Analyse the provisions relating to regulation of real estate	K1
			CO 4 Recall the process relating to obtaining copyrights and patents	K5
			CO 5 Evaluate the provisions of the Competition Act, 2002	K4
	CORE - XIII	Internaional Business	CO 1 To understand the concepts of International Business and International Business Environment	K5
			CO 2 Evaluate the legal procedures involved in International Business	K4
			CO 3 Explain the different types of economic integrations.	K1
			CO 4 Identify the operations of MNCs through real case assessment	K3
			CO 5 Analyze different theories of International Business	K2
IV	PROJECT	Project with viva voce	CO 1 Understand the functioning of Business institutions	K3
			CO 2 Assess the performance of Business institutions	K2
			CO 3 Recall the basics of due diligence	K1
			CO 4 Audit the working and performance of Business institutions/Portfolio	K5

			CO 5 Tender suggestions for efficient management of Business Institutions	K4
	ELECTIVE- VI	Audit and due Diligence	CO 1 Compare different types of audit	K5
			CO 2 Assess the provisions relating to secretarial audit	K4
			CO 3 Recall the basics of due diligence	K1
			CO 4 Explain the various types of due diligence	K3
			CO 5 Examine due diligence for take overs and prepare due diligence report	K2

Department of Business Administration
Programme Outcome(POs)
Upon Completion of the degree requirements,students will be able

S.No.	PO Number	PO Statements	
1	PO1	Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study	
2	PO2	Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and	
3	PO3	Critical thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.	
4	PO4	Problem solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.	
5	PO5	Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.	

Programme Specific Outcome(PSO)

S.No.	POS Number	POS Statements	
1	PO1	To enable students to apply basic microeconomic, macroeconomic and monetary concepts and theories in real life and decision making.	
2	PO2	To sensitize students to various economic issues related to Development, Growth, International Economics, Sustainable Development and Environment.	
3	PO3	To familiarize students to the concepts and theories related to Finance, Investments and Modern Marketing.	

4	PO4	Evaluate various social and economic problems in the society and develop answer to the problems as global citizens.	
5	PO5	Enhance skills of analytical and critical thinking to analyze effectiveness of economic policies.	

Course Outcome(Cos)

Semester	Course	Title of the Course	Course Outcome	Level
I	Core I	Principles of management	Describe Nature,scope,level functions and approaches of management	K2
			Apply planning and decision making in management	K3
			Identify organization structure and various organizing techniques	K1
			Understand Direction, Co-ordination & Control mechanisms	K2
			Relate and infer ethical practices of organisation.	K5
	Core II	Accounting for managers	Prepare Journal, ledger, trial balance and cash book	K1
			Classify errors and making rectification entries	K2
			Prepare final accounts with adjustments	K3
			Pass depreciation entries and prepare depreciation accounts	K3
			Prepare single and double entry system of accounting.	K4

	Elective	Business Organization	To introduce the concepts and forms of business organization and provide insights into advertising and stock exchange.	K1
			To learn about the various forms of business organization and the process of setting a new venture entity under a country's legal-economic structure	K2
			To explore the international prospects of trade and business under globalization and understand the working of different functionaries of business	K3
			To acquaint the students with the forms of business organization.	K3
			To create the Knowledge about Business	K6
	CoreIII	Marketing Management	To list and identify the core concepts of Marketing and its mix.	K3
			To sketch the market segmentation, nature of product, PLC	K2
			To analyze the appropriate pricing methods	K4
			To determine the importance of various media	K2
			To assess the sales force and applications of digital market	K1
			To understand the concepts of Business Environment.	K2
			To apply knowledge in the business and strategic decisions.	K3

II	Core IV	Business Environment	To analyze the importance of business.	K4
			To evaluate the types of business environment and its global impact.	K5
			To construct and stimulate environment for real-time business.	K6
	Elective II	International Business	Discuss the modes of entry to International Business	K2
			Explain international trade theories	K3
			Understand Foreign exchange market and FDI	K2
			Outline the Global Business Environment	K3
			Identify the relevance of international institutions and trading blocs.	K4
	Allied	Business Law	Explain Indian Contracts Act.	K2
			Understand Sales of goods act and Contract of Agency.	K2
			Understand Indian Companies Act 1956	K2
			Understand Consumer Protection Act – RTI	K2
			Understand Cyber law	K2
			student will able to understand scope of organisational psychology	K2

III	Core V	Organizational Behaviour	student will able to understand Perception, Motivation	K2
			student will able to understand Employee attitude and behavior	K2
			student will able to understand Group Dynamics, Cohesiveness	K2
			student will able to understand Leadership, Counseling	K2
	Core IV	Business Mathematics and statistics	Measures of Central Tendency	K3
			Measures of Variation	K3
			Analyze of Time Series	K3
			Understand Index Numbers	K2
			Test Hypothesis	K3
	Elective	Business Organization	The course aims to provide the basic concept and knowledge with regard to business enterprises and its functional areas.	K2
			To know about Business Ethics	K2
			To understand the various forms of Business.	K2
			To know about various types of companies to start an organisation	K3
			To create the Knowledge about Business	K6

IV	Core VI	Production management	Provide comprehensive outlook on basic concepts, and practices of production.	K2
			Identify right plant location and plant layout of factory	K3
			Know work study & method study, its procedure & quality control techniques in production	K3
			Outline inventory control concepts and its replenishment to manage inventory	K2
			Discuss purchase management procedure and identify vendor rating mechanisms	K4
	Core VII	Human Resource Management	To understand the concepts and basic functions of Human Resource Management.	K2
			To learn the implementation of employee recruitment and selection processes.	K3
			To acquire knowledge in the training needs and methods.	K2
			To understand the need and methods of performance appraisal.	K2
			To analyse the key issues related to Compensation, Mentoring, Career Planning,	K4
	Allied	Management Accounting	To understand the nature and scope of management accounting	K2
			To gain knowledge in the preparation of financial statement analysis, marginal costing, budget, working capital, standard	K3
			To utilize the management tools and techniques to take appropriate financial decisions.	K3
			To gain knowledge about nature and scope of organization.	K3

	Elective	Office Management	The student will To gain effective knowledge about be able to Administrative arrangements and physical conditions	K2
			The student will be able to gain a knowledge of Office equipments and Office System	K2
			The student will be able to know about Office Correspondence	K2
			The student will be able to learn about Office Supervisor	K2
	Core	Marketing Management	To identify the primary marketing activities of an oganisation.	K3
			To use marketing information and research to develop marketing strategies for targeting customers.	K3
			To create and analyse product positioning,brand building process, with appropriate product port folio structure which contributes to the success of products or services.	K6
			To understand the price elasticity and how itcan be used to set price for a product.	K2
			The student will be able to evaluate how to use distribution channels to market the products / services effectively.	K5
	Core	Business Law	To understand the fundamental legal principles in developing various contracts	K2
			The student will be able to understand the commercial laws in the business world.	K2
			The student will be able to identify the common forms of business associations and	K3
			The student will be able to understand the legality and statute of frauds in	K2

			The student will be able to develop insights regarding the laws and transactions related to sales of goods.	K3
V	Core	Research methodology	Gain knowledge about Research Project	K2
			Increase knowledge on research problem	K3
			Improve practice in review of literature	K2
			Gain knowledge on Data Collection and Analysis	K3
			Be Proficient in Project Preparation	K3
	Core	Industrial Relation and Labour Law	Understand the role and importance of Industrial Relations	K2
			Understanding the concepts of industrial Disputes and settlement.	K2
			Understanding the concepts of Labour legislation.	K2
			Identifying the concepts of Workers Participation in Management	K3
			Understanding the concepts of Trade Union	K2
	Elective	E-Business	To define and understand the basic concepts of business done through web	K3
			To Examine and apply web tools in real-time business situations.	K4
			To analyze the security threats in e-business.	K3

			To evaluate strategies for marketing.	K5
			To prepare the environment for e-business.	K3
	Core	Computer Application in Business	Student will know about the emergence of computers and various software solution used for business	K2
			The student will be learn to use MS word and its functions	K3
			The students will learn the application of Excel in problem solving and decision	K2
			The student will be familiar with uses of PPT and also learn to design presentations	K2
			The student will know about the emerging trends of computer applications in business	K3
	Core	Strategic Management	Appreciate strategic analysis of corporate goals and its capabilities.	K2
			The corporate strategy, process of strategic planning, formulation of strategy, project life cycle, portfolio analysis and SWOT analysis.	K3
			Student will be able to learn generic strategic alternatives - horizontal and vertical diversification.	K2
			Student will be able to understand external growth strategy, mergers, acquisition, amalgamation, joint ventures, problems of organizational structure and the management of change.	K3
			Student will be able to learn the implementation of strategy, elements of strategy, significance of leadership and organizational climate, planning and control of implementation.	K3
			The student will be able to define and explain the importance of globalization and international business	K2

VI	Core	International Business	The student will be known the options used and various modes of entering global markets.	K3
			The student will understand how governments use trade policies	K2
			The student will be familiar with how various regional co operational organization work and their functions.	K2
			The student will be able make decisions of setting up MNCs and know how to invest abroad to establish MNC	K4
	Elective	Financial Management	The student will be able to calculate time value for money	K2
			The student will be able to explain Capital structure decision and suggest the best mix of capital structure using theories	K4
			The student will calculate cost of capital how it is affected	K4
			The student will be familiar with capital budgeting and develop a basic budget format	K3
			The student will know how to make funds available for routine operations.	K2
	Elective	Marketing Research	The student will be able to scope and concept of marketing research.	K3
			The student will be able to define the Marketing Research process	K2
			The student will be able to identify the appropriate tool for collecting data.	K2
			The student will be able to choose the correct sampling method.	K3
			The student will be able to apply the concepts of marketing research in sales, product, market and advertising.	K3