



TAKSHASHILA UNIVERSITY

(Tamil Nadu State Private University)
ONGUR, TINDIVANAM TK, VILLUPURAM DT

FACULTY OF SCIENCES

SCHOOL OF BASIC SCIENCES

Department of Mathematics

REGULATION 2025 NEP
CURRICULUM & SYLLABI

B.Sc-MATHEMATICS

I Semester UG



VISION AND MISSION OF UNIVERSITY

VISION :

To inspire, develop and create change makers and world leaders of tomorrow through knowledge similar to the ancient Takshashila University

MISSION :

Nurturing and developing the leaders of tomorrow with the brightest minds and best resources, fostering lifelong and ethical excellence.

DEPARTMENT VISION AND MISSION

VISION :

To become a globally recognized center of excellence in teaching, pure mathematics, and applied research.

To equip individuals with the analytical and quantitative reasoning skills needed to solve complex, real-world scientific and industrial challenges.

To build a diverse, inclusive community where learners appreciate the elegance of mathematical sciences and become confident users of quantitative data.

MISSION :

M1: Quality Education	To provide rigorous, updated academic programs that train competent, analytically sound mathematicians, educators, and engineers.
M2: Research, Innovation, and Interdisciplinary Collaboration	To foster an environment that supports groundbreaking interdisciplinary research and the continuous development of mathematical theory.
M3: Professional Competency, Ethics, and Leadership	To develop skilled, ethical, and socially responsible science professionals by organizing conferences, workshops, and events that align with current societal requirements and practical engagement.
M4: Industry Engagement and Sustainable Development	To nurture logical reasoning, creativity, and persistent problem-solving habits that transfer beyond the classroom into lifelong learning and productive citizenship.

PROGRAMME OUTCOMES

PO1: Disciplinary Knowledge:

Demonstrate comprehensive understanding of core concepts, theories, and methodologies relevant to the maths discipline.

PO2: Analytical and Critical Thinking:

Formulate logical conclusions, evaluate evidence objectively, and use critical thinking to solve complex, real-world problems.

PO3: Problem Solving:

Identify, analyze, and devise data-driven solutions while considering societal and environmental impacts.

PO4: Effective Communication:

Articulate complex ideas clearly, prepare coherent reports, and make impactful presentations to diverse audiences.

PO5: Modern Tool Usage:

Select and apply modern IT tools, laboratory equipment, and predictive modeling techniques relevant to research and industry.

PO6: Ethics and Values:

Commit to professional ethics, environmental sustainability, and their responsibilities as informed citizens.

PO7: Teamwork and Leadership:

Function effectively as an individual and as a member or leader in multidisciplinary teams.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1: Professional Knowledge

Graduates will acquire a comprehensive understanding of fundamental mathematical concepts, abstract principles, and logical reasoning. They will be able to translate real-world situations into mathematical frameworks and use quantitative skills to analyze information and draw accurate conclusions.

PEO2: Research and Development

Graduates will develop the ability to formulate and solve complex problems. They will effectively design mathematical models for scientific, engineering, and socio-economic contexts, integrating modern computational and software tools to process data and evaluate optimal solutions.

PEO3: Leadership

Graduates will build a robust theoretical foundation—such as in algebra, analysis, and calculus—that enables them to pursue postgraduate studies (e.g., M.Sc., Ph.D.). They will be prepared to undertake academic research, fostering the creation of new techniques and methods in mathematical sciences.

PEO4: Professional Competence and Lifelong Learning

Graduates will possess the communication and teamwork skills necessary to collaborate across multidisciplinary settings. They will engage in lifelong learning, adapting to technological advancements and finding successful employment in sectors like banking, finance, data analytics, and education.

PROGRAM SPECIFIC OUTCOMES (PSOs)

PSO1: Domain Knowledge

Students develop an in-depth understanding of core mathematical domains, including algebra, calculus, differential equations, and real/complex analysis, preparing them for advanced research.

PSO2: Analytical and Critical thinking

Graduates acquire the ability to construct rigorous logical proofs, analyze complex theoretical problems, and synthesize quantitative information to evaluate solutions critically.

PSO3: Practical problem solving

Students learn to translate real-world phenomena into mathematical frameworks, utilizing quantitative models to solve practical issues in science, business, and technology



**TAKSHASHILA
UNIVERSITY**

(Established under Tamil Nadu State Private Universities Act 2019 &
Recognized by UGC u/s 2(f) of the UGC Act, 1956)

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FACULTY OF SCIENCES
DEPARTMENT OF MATHEMATICS (B.Sc. MATHEMATICS)
(REGULATION 2025 NEP)
SEMESTER – I

Sl. No.	Course Code	Course Title	Category	Periods			Credits	Hrs.	Max. Marks								
				L	T	P			CAT I, II, III (Best of Two)	ASS	MCQ	ATT	SEM	PRA	CAM	ESM	Total
1	U25MA17T	Algebra	DSC	3	1	0	4	60	20	5	5	5	5	-	40	60	150
2	U25CH01B	General Chemistry – I	DSC	3	0	2	4	75	20	5	5	5	5	50	40	60	150
3	U25PH01B	Physics-I	IDC	3	0	2	4	75	20	5	5	5	5	50	40	60	100
4	U25CS61T	Programming in C	MDC	1	0	2	2	45	-	-	-	-	-	-	100	-	100
Total:							14	255									
5	U25TA01T	Tamizhum Ilakkiyamum	AEC	2	0	0	2	30	20	5	5	5	5	-	40	60	100
6	U25EN01T	English for Communication	AEC	1	0	2	2	45	20	5	5	5	5	-	40	60	100
7	U25VA01T	Indian Intellectual Heritage	VAC	2	0	0	2	30	-	-	-	-	-	-	100	-	100
Total:							6	105									
Total:							20	360						100	400	300	800

Note:

L – Lecture

P – Practical

ESM – End Semester Exam Marks

ASS – Assignment

CAM – Continuous Assessment Marks

T – Tutorial

CAT – Continuous Assessment Test

ATT – Attendance

SEM – Seminar


BoS Chairman

U25MA17T	Algebra	L	T	P	C	Total
		3	1	0	4	60

COURSE OBJECTIVES:

• To understand polynomial equations and their properties
• To apply numerical methods to approximate polynomial roots
• To use mathematical series for summation and approximation
• To analyze matrices and compute eigenvalues and eigenvectors
• To apply basic number theory concepts to solve mathematical problems

COURSE OUTCOMES:

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

CO1 :	Understand the relationship between roots and coefficients.
CO2 :	Identify the nature of the roots of the given equation.
CO3 :	Evaluate sum to infinity of the given binomial, exponential and logarithmic series.
CO4 :	Identify the types of matrices and calculate the Eigen values of a given square matrix.
CO5 :	Identify the number theory concepts.

UNIT I : THEORY OF EQUATIONS	12 Hrs.
Polynomial Equations- Relation between roots and coefficients- Symmetric Functions of roots in terms of Coefficients- Transformation of Equations- Reciprocal Equations.	

UNIT II : NUMERICAL METHODS FOR POLYNOMIAL EQUATIONS	12 Hrs.
Descartes Rule of Signs- Approximate Solutions of Polynomials by Horner's method- Newton - Raphson method of Solving a Cubic Polynomial.	

UNIT III : SERIES AND APPROXIMATIONS	12 Hrs.
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Summation of series using Binomial- Exponential and Logarithmic series (Theorems without proofs), Approximation using Binomial- Exponential and Logarithmic series- simple problems.

UNIT IV :MATRICES AND EIGEN VALUES	12 Hrs.
Symmetric- Skew Symmetric- Hermitian- Skew Hermitian- Orthogonal and Unitary Matrices, Eigen Values- Eigen Vectors- Cayley-Hamilton Theorem (without proof)	

UNIT V: ELEMENTARY NUMBER THEORY	12 Hrs.
Prime Number, Composite Number, Decomposition of a Composite Number as a Product of Primes uniquely (without proof)- Divisors of a Positive Integer- Congruence Modulo n- Euler Function (without Proof)- Highest Power of a Prime Number p contained in n!-, Fermat's and Wilson's Theorems (statements only)- simple problems.	

Total Hours: 60

TEXTBOOKS :	
1.	Vittal, P.R., "Allied Mathematics", Margram Publications, 2014.
2.	Kandasamy,P and Thilagavathy.K, S.Chand and Co, "Allied Mathematics" Vol-I, 2004.
3.	ManickavasagamPillay, T. K. and Natarajan,T and Ganapathy, K. S, " Algebra", Volume I &II, S. Viswanathan(Printers & Publishers) Pvt. Ltd., Reprint 2011 .

REFERENCE BOOKS :	
1.	Kandasamy.P and Thilagavathy.K, "Mathematics for B.Sc", Vol-I, II, III & IV", S.Chand& Company Ltd., New Delhi-55-2014.
2.	Arumugam S, "Algebra", New Gamma Publishing House, Palayamkottai. 2003.
3.	Singaravelu. A, "Algebra and Trigonometry", Vol.-I & II Meenakshi Agency, Chennai-2003.
4.	Sudha.S, "Algebra and Trigonometry", Emerald Publishers, Chennai-1998.
5.	Herstein. I.N, "Topics in Algebra", 2nd Edition, Wiley India Pvt. Ltd., New Delhi, 2006.




WEB REFERENCES :

1.	scribd.com/doc/78449466/1st-Year-Maths-Notes
2.	https://www.slideshare.net/slideshow/m1-complete-notes/96392954
3.	https://www.ckundan.com.np/2022/08/applied-mathematics-first-complete-bca-notes-pdf.html
4.	https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SMT1554.pdf
5.	https://www.youtube.com/watch?v=LhpbLHIabc

Shambhu

K.V.
BoS Chairman

U25CH01B	General Chemistry – I	L	T	P	C	Total
		3	0	2	4	75

COURSE OBJECTIVES:

To learn the principles and concepts of chemistry, including atomic structure, chemical bonding, and molecular geometry
To understand the basic properties of periodic table and electronic configuration
To understand the basic organic chemistry nomenclature, formula and structure of molecules
To obtain the basic knowledge in qualitative and quantitative analysis
To develop practical laboratory skills, including accurate measurement and basic chemical reactions

COURSE OUTCOMES:

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

CO1 :	Understand the properties and characteristics of subatomic particles, including protons, neutrons, and electrons.
CO2 :	Demonstrate the classifying elements into groups and periods, including the concepts of alkali and earth metals, transition metals, halogens and noble gases.
CO3 :	Interpret atomic structure influences chemical bonding, including the formation of ionic, covalent, and metallic bonds.
CO4 :	Formulate the name of organic compounds based on their structures and functional groups.
CO5 :	Determine qualitative and quantitative analysis of various chemical reactions.

UNIT I : ATOMIC STRUCTURE	9 Hrs.
Planck's theory – Photoelectric effect – Compton Effect – de Broglie's relationship- Heisenberg's uncertainty principle – Schrodinger wave equation (elementary treatment) – significance of ψ and ψ^2 quantum number and their significance – concept of atomic orbitals – shapes of s, p, d and f orbitals	

UNIT II : CLASSIFICATION OF ELEMENTS AND PERIODICITY OF PROPERTIES	9 Hrs.
Classification of elements - noble gases and s, p, d and f - block elements - Modern periodic table:	

position of hydrogen in the periodic table -variation of atomic volume, atomic and ionic radii, ionization potential, electron affinity, electronegativity along periods and groups-variation of metallic characters-factors influencing the above periodic properties.

UNIT III :CHEMICAL BONDING

9 Hrs.

Ionic bond - Lattice energy - Born Haber cycle -covalent bond -bond polarity -Pauling and Mulliken's scales of electronegativity -polarizing power and polarizability -Fajan's rules-VB theory-Principles of hybridization -shapes of simple inorganic molecules -BeCl₂, BF₃, NH₃, XeF₄, BrF₅, PCl₅ SF₆, H₂O and IF₇. MO theory -Application to H₂, He₂, N₂, O₂, HF and CO-comparison of VB and MO theories. Coordinate Bond-Hydrogen bonding -types and effects.

UNIT IV :BASIC CONCEPTS OF ORGANIC CHEMISTRY

9 Hrs.

Hybridization and shapes of molecules - methane, ethane, ethylene, acetylene and benzene -electron displacement effects - inductive, electromeric, mesomeric (resonance) and hyperconjugation.- steric effect - Cleavage of bonds - homolytic and heterolytic fissions - Reactive intermediates - carbocations, carbanions and free radicals - their formation and stability - Nomenclature of organic compounds: IUPAC system of nomenclature of compounds containing up to 8 carbon atoms - mono and bi-functional compounds

UNIT V :BASIC CONCEPTS OF ORGANIC CHEMISTRY PRINCIPLES OF INORGANIC QUALITATIVE AND QUANTITATIVE ANALYSIS

9 Hrs.

Common ion effect, solubility product, applications of the solubility product principle in qualitative analysis - principle of elimination of interfering anions - complexation reactions in qualitative analysis - spot test reagents and tests with them - Cupferon, DMG, thiourea, magneson, alizarin and Nessler reagent - **Volumetric analysis:** Definitions - normality, molarity, molality and molefraction, primary and secondary standards- theories of acid - base, redox, complexometric, iodometric and iodimetric titrations - calculations of equivalent weights - theories of acid - base, redox, metal ion and adsorption indicators and choice of indicators.

Total Hours: 45

List of Experiments

1. Estimation of HCl by NaOH using a standard oxalic acid solution.
2. Estimation of Na₂CO₃ by HCl using a standard Na₂CO₃ solution.
3. Estimation of oxalic acid by KMnO₄ using a standard oxalic acid solution.
4. Estimation of Iron (II) sulphate by KMnO₄ using a standard Mohr's salt solution.
5. Estimation of KMnO₄ by Na₂S₂O₃ using a standard K₂Cr₂O₇ solution.

Total Hours: 30

U25PH01B	Physics – I	L	T	P	C	Total
		3	0	2	4	75

COURSE OBJECTIVES:

• To expose the interdisciplinary areas of Physics
• To give broader idea about various areas of Physics in a comprehensive manner
• To prepare for various dimensions of problem solving
• To Understand and articulate the foundational principles of physics.
• To Explore and understand the applications of physics in real-world scenarios

COURSE OUTCOMES:

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

CO1 :	Analyze the behavior of sound waves and fundamental concepts of mechanics
CO2 :	Demonstrate the elastic behavior of matter and the basic concepts of surface tension of a fluid
CO3 :	Apply the fundamental thermodynamic properties and the associated laws to understand physical systems.
CO4 :	Illustrate the effects of electric and magnetic fields.
CO5 :	Explore the importance of the laws of refraction and reflection of visible light

UNIT I : WAVE AND OSCILLATIONS	9 Hrs.
Sound: Simple harmonic motion - composition of two simple harmonic motions at right angles (periods in the ratio 1:1) – verification of laws of transverse vibration of a string using sonometer - A.C. frequency measurement using sonometer - steel wire and electromagnet – Ultrasonics – Piezoelectric effect- production of ultrasonic waves by piezoelectric method - application	

UNIT II : PROPERTIES OF MATTER ELASTICITY	9 Hrs.
Elasticity - Elastic constants – Energy stored in stretched wire- bending of beams –Expression for bending moment - Young's modulus by non-uniform bending - determination of rigidity modulus by	

S. Kumar

K.V. V

TEXTBOOKS:

- | | |
|----|--|
| 1. | Puri B.R., Sharma L.R., Kalia K.K. Principles of Inorganic chemistry, (33rd edition), New Delhi, ShobanLalNaginChand.Co, 2020. |
| 2. | R. Gopalan, P.S.Subramanian, K.Rangarajan , Analytical Chemistry, New age, Sultan Chand & Sons Publishing Year: 2003. |
| 3. | Morrison R.T. and Boyd R.N., Organic Chemistry (6th edition), Ny, Allyn &Beecon Ltd., 1976. |

REFERENCE BOOKS:

- | | |
|----|--|
| 1. | Lee JD, Concise inorganic Chemistry, 5edition, 2022, Chapman & Hall, London,1996. |
| 2. | J.E. Huheey, E. A. Keiter and R. L.Keiter "Inorganic Chemistry, Principles of structure and Reactivity", 4thEdn. Harper Collin College Publishers, 1993. |
| 3. | Basic Organic Chemistry, Ramesh Chandra, Snigdha Singh, Aarushi Singh, Arcler Education Inc, 2019. |
| 4. | Kolthoff&Sandell - Text Book of Qualitative Inorganic Analysis, 6th edn., revised by G.Svehla, Orient Longman, 1979. |
| 5. | Soni P.L., and Chawla H.M., Textbook of Organic Chemistry, 29th ed., New Delhi, Sultan Chand & Sons, 2007. |

WEB RESOURCES

- | | |
|----|---|
| 1. | https://nptel.ac.in/courses/104101124 |
| 2. | https://ncert.nic.in/textbook/pdf/kech202.pdf |
| 3. | https://www.video-tutor.net/orgo-chem.html |
| 4. | https://jeenotes.in/chemistry/organic-principles/hybridization/ |
| 5. | https://www.slideshare.net/slideshow/solubility-product-and-common-ion-effect/231745937 |

**BoS Chairman**

torsion pendulum –**Surface Tension**– Introduction to surface Tension -molecular theory of surface tension, excess of pressure inside a liquid drop and bubble – determination of surface tension of a liquid by drop weight method

UNIT III : HEAT AND THERMODYNAMICS

9 Hrs.

Heat capacity - specific heat capacity- specific heat capacity of solids by the method of mixtures - Thermodynamical systems - Zeroth law of thermodynamics - first law of thermodynamics – Second law of thermodynamics - third law of thermodynamics - Isochoric, isobaric, isothermal and adiabatic processes - Statement and proof of Carnot's theorem – entropy - Change in entropy in reversible and irreversible process.

UNIT IV : ELECTRICITY AND MAGNETISM

9 Hrs.

Current, current density, Ohm's law – resistance in series and parallel - calibration of ammeter and voltmeter using potentiometer –Definition of magnetic induction – Biot - Savart's law - magnetic field along the axis of the circular coil – peak, average and RMS value of AC voltage and current – power factor in AC circuits.

UNIT V : OPTICS AND FIBER OPTICS

9 Hrs.

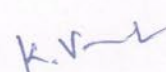
Refraction – laws of refraction – image formation by refraction - dispersion through a prism rainbow expression for the dispersive power of the prism. Introduction to optical fibers - critical angle - total internal reflection - principle of light propagation in optical fibers - acceptance angle- numerical aperture - applications.

Total Hours: 45

List of Experiments

1. Determination of frequency of AC mains -sonometer,steel wire and electromagnet.
2. Determine the period of oscillation of a compound pendulum vary with the distance of its pivot point from the center of gravity.
3. Determine the Numerical aperture and the acceptance angle of the optical fiber
4. Determine the wavelength of the given laser using grating and partical size of the given lycopodium powder using laser diffraction method.
5. Determine the young's modulus of the material of a beam-uniform bending using pin and microscope.
6. Determine the young's modulus of the material of a beam non – uniform bending using pin and microscope.

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K.V. 

7. Determine the rigidity modulus of the material of a wire by using torsion pendulum.
8. Calibration of a low range voltmeter-potentiometer
9. Calibration of an ammeter-potentiometer.

Total Hours: 30

TEXTBOOKS:

1.	R.Murugesan, Allied Physics, S.Chand & Co. Ltd., New Delhi, 1st edition, 2006.
2.	R. Murugesan, Kiruthiga Sivaprasath, Properties of Matter and Acoustics, S. Chand & Co. Ltd. 3rd Edition, Reprint 2013.
3.	R.Murugesan, Electricity and Magnetism, S.Chand & Co. Ltd, reprint 2017.

REFERENCE BOOKS:

1.	Robert F.Kingsbury, Elements of Physics, 1st edition, Van Nostrand Company Inc., London, 1966.
2.	BrijLal and N.Subrahmanyam, Properties of Matter, 3rd Edition, S.Chand & Co. Ltd., 2005
3.	M. N Avadhanulu, N. Subrahmanyam, BrijLal, Text Book of Optics S.Chand & Co. Ltd., 2012.
4.	BrijLal & N.Subrahmanyam, Heat Thermodynamics and Statistical Physics, S.Chand & Co. Ltd., 2012.
5.	Nelkon and Parker, Advanced Level Physics, CBS Publishers & Distributors Pvt. Ltd., 7th edition, 2006.

WEB REFERENCES:

1.	https://physics.info/sound (unit I)
2.	http://hyperphysics.phy-astr.gsu.edu/hbase/surten.html
3.	https://www.livescience.com/50776-thermodynamics.html
4.	https://faculty.wcas.northwestern.edu/infocom/Ideas/electric.html
5.	https://www.geeksforgeeks.org/computer-networks/fiber-optics-and-types/


BoS Chairman



U25CS61T	Programming in C	L	T	P	C	Total
		1	0	2	2	45

COURSE OBJECTIVES:

• Understand the fundamentals of the C programming language, including syntax, data types, variables, operators, and program structure
• Apply decision-making and looping constructs to solve computational problems
• Develop modular programs using arrays, strings, and functions, including recursive techniques
• Implement C programs using various programming constructs for practical problem-solving
• Build logical thinking and programming skills through hands-on coding exercises

COURSE OUTCOMES:

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

CO1 :	Explain the fundamentals of C programming, including program structure, data types, variables, keywords, and operators.
CO2 :	Develop C programs using decision-making, selection, and iterative control statements to solve simple computational problems.
CO3 :	Design modular programs using arrays, strings, functions, parameter passing techniques, and recursion.
CO4 :	Implement C programs involving input/output operations, operators, conditional statements, and switch-case constructs..
CO5 :	Develop and debug C programs using loops, arrays, and recursive/non-recursive functions to solve real-world programming problems.

UNIT I : OVERVIEW OF C	9 Hrs.
Introduction to C Language - Features of C Language - First Program in C - Compilation of C Program - Variables – definition – declaration – Constants - Keywords – Data Types – integer - char – floating point - Operators – arithmetic – relational – logical – conditional.	

T. Vijayak

UNIT II : CONTROL STATEMENTS	9 Hrs.
Decision Making Statements – simple if – if-else – nested if - Switch Statement – Looping Statements – for – while – do-while - Continue Statement - Break Statement.	

UNIT III : ARRAYS & FUNCTIONS	9 Hrs.
Array & String Handling in C: Arrays in C - Strings in C - Multidimensional Arrays in C. Functions in C: Function Prototype – Call by value – Call by reference – Recursion.	

UNIT IV : PROGRAMS FOR PRACTICE - I	9 Hrs.
Program using simple I/O operations - Demonstrate different data types in a program - Program using various operators in C - Program using if-else statement - Program using switch-case statement.	

UNIT V : PROGRAMS FOR PRACTICE - II	9 Hrs.
Program using for loop - Program using while loop - Program using do-while loop - Demonstrate single dimensional array with a C program - Demonstrate two dimensional array with a C program - Program using non-recursive function in C - Program using recursive function in C.	

Total Hours: 45

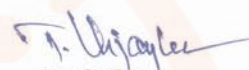
TEXT BOOKS :	
1.	Programming in ANSI C – E.Balagurusamy, Eighth Edition, 2018.
2.	The C Programming Language – Brian W.Kernighan and Dennis M.Ritchie, 1988, 2nd Edition, Pearson Education.
3.	Let Us C – YashavantKanetkar, 21st Edition, 2025.

REFERENCE BOOKS :	
1.	Programming with C – Byron S. Gottfried, Fourth Edition, 2018.
2.	C: How to Program – Paul Deitel and Harvey Deitel, Ninth Edition, 2024.
3.	Programming in C – Stephen G. Kochan, Fourth Edition, 2015.

T. Vijaya

WEB REFERENCES :

- | | |
|----|---|
| 1. | https://www.tutorialspoint.com/cprogramming/index.htm |
| 2. | https://www.geeksforgeeks.org/c-programming-language/ |
| 3. | https://www.programiz.com/c-programming |
| 4. | https://www.learn-c.org |
| 5. | https://www.w3schools.com/c/?utm_source=chatgpt.com |


BoS Chairman

U25TA01T	Tamizhum Ilakkiyamum	L	T	P	C	Total
		2	0	0	2	30

பாடத்திட்டத்தின் நோக்கம்:

• தமிழின் தொன்மை இலக்கியங்களான சங்க இலக்கியங்கள் பற்றிய ரசனை மற்றும் அறிவைப் பெறுதல்
• காப்பியங்கள்,பக்தி இலக்கியங்கள் வழி அறநெறிகளை வளரச்செய்தல்
• பாட்டியல் நூல்களின் வரலாற்றினை அறியச்செய்து பிற்கால இலக்கியங்களின் அமைப்பினைத் தெளிவுபெறச்செய்தல்
• பள்ளியிலிருந்து கல்லூரிக்கு வரும் மாணவர்களுக்கு தமிழில் உள்ள அறிவு சார் படைப்புகளை அறிமுகப்படுத்துவது இதன் முதல் நோக்கமாகும்
• சமூக மற்றும் தேசிய அறிவுடன் நவீன காலத்திற்கு ஏற்ற தொடர்புத் திறன்களைப் பெற இப்பாடத்திட்டம் மாணவர்களுக்குப் பயிற்சி அளிக்கிறது

பாடத்திட்டத்தின் பயன்கள்

CO1 :	சங்க இலக்கியங்கள் பற்றியும் சங்ககால மக்களின் அகப்புற வாழ்க்கையையும் அறிந்துக்கொள்ளலாம்.
CO2 :	காப்பியங்கள் வழி பழங்கதை மாந்தர்களின் பண்புகளையும் சமயக்கொள்கைகளையும் மாணவர்கள் அறிந்துக்கொண்டு இலக்கியங்களை படைக்கின்றனர்.
CO3 :	பக்தி இலக்கியங்களை மாணவர்கள் படிப்பதன் வழி அறநெறியையும் பக்தியுணர்வையும் உணர்ந்து வாழ்வர்.
CO4 :	சிறுநிலக்கியங்கள் படிப்பதன் வழி மாணவர்கள் மன்னர்களின் பெருமையையும் தமிழின் சிறப்பையும் உலகறியசெய்வர்.
CO5 :	மொழிப் பாடமாக தமிழைப் பயிலும் மாணவர்களுக்கு கல்லூரி மற்றும் மாநில அளவிலான போட்டித்தேர்விற்கும் தமிழ் இலக்கிய அறிவு தற்கால அரசு வேலை வாய்ப்பிற்கும் உதவுகிறது. இக்கால சூழலுக்கு ஏற்ப இலக்கியங்களை படைக்கும் ஆற்றலைப்பெறுகின்றனர்.

அலகு I: சங்க இலக்கியம்	6 மணிநேரம்
எட்டுத்தொகை, பத்துப்பாட்டு அறிமுகச் செய்திகள் நற்றிணை - நின்ற சொல்லர்; நீடுதோன்று இனியர்; சிறுமை உறுபவோ? செய்யு அறியலரே! (கபிலர், பாடல்: 1) குறுந்தொகை - யாயும் ஞாயும் யார் ஆகியரோ?..... அன்புடை நெஞ்சம் தாம் கலந்தனவே. (செம்புலப் பெயனீரார், பாடல்-40) புறநானூறு - ஈன்று புறந்தருதல் எந்தலைக் கடனே..... களிறு எறிந்து பெயர்தல் காளைக்குக் கடனே. (பொன்முடியார், பாடல்.312).	

அலகு II : காப்பிய இலக்கியம்	6 மணிநேரம்
காப்பியங்களின் தோற்றமும் வளர்ச்சியும் - ஐம்பெரும் காப்பியங்கள் (சிலப்பதிகாரம் - மணிமேகலை - சீவக சிந்தாமணி - வளையாபதி - குண்டலகேசி) - ஐஞ்சிறுகாப்பியங்கள். சிலப்பதிகாரம் - மதுரைக்காண்டம் - வழக்குரை காதை.	

அலகு III : பக்தி இலக்கியம்	6 மணிநேரம்
பக்தி இலக்கியங்கள் தோற்றமும் வளர்ச்சியும்- (சைவம்,வைணவம் - இஸ்லாமியம், கிறித்துவம்-பௌத்தம்-சமணம்.) சைவம் - மாசில் வீணையும் மாலை மதியமும் ஈசன் எந்தை இணையடி நீழலே (திருநாவுக்கரசர். பாடல்1) வைணவம் - செடியாய வல்வினைகள் தீர்க்கும் திருமாலே படியாய்க் கிடந்து உன் பவளவாய் காண்பேனே! (குலசேகர ஆழ்வார். பாடல்.66).	

அலகு IV: சிற்றிலக்கியங்கள்	6 மணிநேரம்
சிற்றிலக்கியங்கள் தோற்றமும் வளர்ச்சியும் - (பரணி - பிள்ளைத்தமிழ் - தூது - உலா - கலம்பகம் - குறவஞ்சி- பள்ளு - அந்தாதி) . தமிழ் விடு தூது அறிமுகம்- சீர்கொண்ட கூடற் சிவராச தானிபுரந்..... நினையும் படிப்பெல்லா நின்னைப் படிப்பார் -1-10, 11-20, 21-27. (27 கண்ணிகள்)	

அலகு V- தற்கால இலக்கியங்கள்	6 மணிநேரம்
ஹைக்கூ தோற்றமும் வளர்ச்சியும், ஹைக்கூ கவிதைகள் - சிறுகதை தோற்றமும் வளர்ச்சியும், சிறுகதை-பிரபஞ்சன்-மனுஷி, (கதைக்கரு,கதாப்பாத்திரங்கள்) மாணவர்களுக்கு சிறுகதை, ஹைக்கூ, ஒரு நிமிட கதை, ஒரு பக்க சிறுகதை படைக்கும் பயிற்சி அளித்தல் .	



Total Hours: 30

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1.	முனைவர். மு.அருணாசலம் & இராஜா வரதராஜா., தமிழ் இலக்கிய வரலாறு, அருண் பதிப்பகம், கண்டோன்மென்ட், திருச்சி, 2017.
2.	முனைவர்.ச.வே.சுப்பிரமணியன்., சங்க இலக்கியம் (மூலம் முழுவதும்), மணிவாசகர் பதிப்பகம், சென்னை, 2006.
3.	புலியூர்கேசிகன்., சிலப்பதிகாரம்(மூலம் முழுவதும்), சரண் பக்ஸ், சென்னை, 2021.
4.	முனைவர்.கதிர் முருகு., தமிழ்விடுதாது., கௌரா பதிப்பகம், சென்னை, 2020.
5.	யுகன்(தொகுப்பாசிரியர்).General Tamil III, பிரபஞ்சனின் சிறுகதைகள்., நற்றிணை பதிப்பகம், சென்னை, 2024.

பார்வை நூல்கள்:

1.	தேவி. இராசேந்திரன் (தேவிரா), தமிழ் இலக்கணம், நந்தினி பதிப்பகம், அண்ணாநகர், சென்னை, 2012.
2.	தமிழண்ணல்., புதிய நோக்கில் தமிழ் இலக்கிய வரலாறு, மீனாட்சி புத்தக நிலையம், மதுரை, 1960.
3.	தற்காலத் தமிழ் இலக்கியம்., பாரி நிலையம், சென்னை, 1985.
4.	மா.இராசமாணிக்கனார், பத்துப்பாட்டு ஆராய்ச்சி., சாரதா பதிப்பகம், சென்னை, 2012.
5.	இரா.சந்திரசேகரன், தமிழ்ச் சிற்றிலக்கியங்கள்., கௌரா பதிப்பகம், சென்னை, 2012.

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2.	https://ta.vikaspedia.in/viewcontent/education/ba4baebbfbb4bcd-ba8bc2bb2bcd95bb3bcd
3.	https://www.tamilvu.org/ta/courses-degree-p203-p2031-html-p2031662-29949
4.	https://arangameena.blogspot.com/2022/11/blog-post.html
5.	https://shorturl.at/qhnMC


BoS Chairman

U25EN01T	English for Communication	L	T	P	C	Total
		1	0	2	2	45

COURSE OBJECTIVES:

• To master communication fundamentals and overcome barriers
• To boost listening comprehension across contexts
• To enhance speaking fluency, accuracy, and interpersonal skills
• To develop strong reading comprehension and summarization
• To acquire essential paragraph and letter writing abilities

COURSE OUTCOMES:

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

CO1 :	Effectively communicate, identify communication types, and address barriers.
CO2 :	Actively listen to comprehend spoken English and take notes.
CO3 :	Speak clearly and confidently, improving fluency and pronunciation.
CO4:	Read effectively, grasping main ideas and summarizing texts.
CO5 :	Write well-structured paragraphs and various letters.

UNIT I : FOUNDATIONS OF LANGUAGE AND COMMUNICATION	9 Hrs.
Introduction to Communication - Definition, process, importance, types (verbal, non-verbal, formal, informal) – 7 Cs of effective communication – Barriers to Communication: Semantic, psychological, physical, cultural, and how to overcome barriers.	

UNIT II : RECEPTIVE SKILLS I: LISTENING	9 Hrs.
Listening Skills: Importance of active listening – Types of listening - Intensive, Extensive, Attentive – Strategies for listening comprehension - Listening for gist, specific information, inference – Listening to short talks, news snippets, and simple conversations– Note-taking.	

UNIT III : PRODUCTIVE SKILLS I: SPEAKING	9 Hrs.
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Intrapersonal and Interpersonal Communication & Differences – Speaking sub-skills: Fluency, Accuracy, Vocabulary and Pronunciation – Factors influencing Speaking Skills: Performance conditions, Affective factors, Listening Skill, Feedback, Linguistic Components & Speaking – Form, Content & Use.

UNIT IV : RECEPTIVE SKILLS II: READING

9 Hrs.

Reading Skills – Types of reading - skimming, scanning, intensive, extensive; Strategies for reading comprehension - Identifying main ideas, topic sentences, supporting details, inferencing. Summarizing and paraphrasing short passages.

UNIT V: PRODUCTIVE SKILLS II: WRITING

9 Hrs.

Paragraph Writing: Elements of a good paragraph (topic sentence, supporting sentences, concluding sentence) – Cohesion and coherence – Types of paragraphs (descriptive, narrative, persuasive - basic) – Letter Writing: Formal letters (application for leave, complaint letter, simple inquiry letter) – Informal letters (personal letter to a friend/relative).

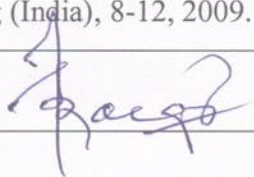
Total Hours: 45

TEXT BOOKS :

1. C.Richards, Jack and Theodore S.Rodgers. Approaches and Methods in Language Teaching. 2nd Edition. Cambridge: Cambridge University Press, 2010.
2. Adler, Ronald B., et al. Understanding Human Communication. 13th ed., Oxford University Press, 2013.
3. Hacker, Diana, and Nancy Sommers. *A Writer's Reference*. 9th ed., Bedford/St. Martin's, 2018.
4. H.H, Stern. Fundamental Concepts of Language Teaching. New York: Oxford University Press, 2015.
5. Mohan, Krishna, and Meera Banerji. Developing Communication Skills. 2nd ed., Macmillan Education India, 2018.

REFERENCE BOOKS :

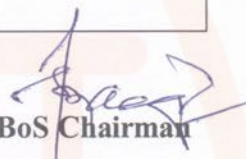
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2. Konar, N, How to Teach Vocabulary in ELT Classroom? The Journal of English Language Teaching (India), 8-12, 2009.



3.	Savignon, S. J, Communicative Language Teaching: State of the Art. TESOL Quarterly, 25(2), 261–278. https://doi.org/10.2307/358746 , 1991.
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2.	https://www.bbc.co.uk/learningenglish
3.	https://www.skillsyouneed.com/ips/active-listening.html
4.	https://learnenglish.britishcouncil.org/skills/speaking
5.	https://www.cambridgeenglish.org/learning-english/


BoS Chairman

U25VA01T	Indian Intellectual Heritage	L	T	P	C	Total
		2	0	0	2	30

COURSE OBJECTIVES:

To understand the concept of Bhāratīyata (Indianness) and the fundamentals of the Indian Knowledge System (IKS)
To understand the evolution, scope, and interdisciplinary nature of Indian Knowledge Systems
To learn about India's contributions to science, engineering, technology, humanities, and social sciences
To appreciate India's rich cultural, philosophical, and scientific heritage and its relevance in the modern world
To promote ethical values, national integration, innovation, and sustainable development through Indian Knowledge Systems

COURSE OUTCOMES:

After completion of the course the students will be able to

CO1 :	Explain the concepts of Bhāratīyata (Indianness) and Indian Knowledge Systems.
CO2 :	Describe the evolution, sources, and scope of Indian Knowledge Systems.
CO3 :	Identify India's contributions to science, engineering, technology, and health.
CO4 :	Examine the role of Indian Knowledge Systems in humanities, culture, and governance.
CO5 :	Evaluate the relevance of Indian Knowledge Systems for ethical, sustainable, and value-based development.

UNIT I: INTRODUCTION TO BHĀRATĪYATA (INDIANNES)	6 Hrs.
Concept of Bhāratīyata (Indianness) – Core values of Indianness – Unity in Diversity – Indian Identity and National Integration – Indian cultural heritage and civilizational ethos – Role of Bhāratīyata in promoting social harmony and national development.	

UNIT II: FOUNDATIONAL CONCEPTS IN IKS FOR SCIENCE, ENGINEERING & TECHNOLOGY	6 Hrs.
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K.V.

Concept and scope of Indian Knowledge Systems (IKS) – Evolution of Indian knowledge traditions – Sources of IKS: Vedas, Upanishads, Itihasas, and Puranas – Interdisciplinary nature of IKS – Relevance of IKS in science, engineering, technology, and contemporary education.

UNIT III: SCIENCE, ENGINEERING & TECHNOLOGY IN IKS

6 Hrs.

Indian contributions to **Mathematics** (Decimal system, Zero, Algebra, Geometry) and **Astronomy** – Engineering, metallurgy, water resource management, and indigenous technologies – Ayurveda, Yoga, medicinal plants, and traditional healthcare systems – Environmental conservation, biodiversity, and sustainable practices.

UNIT IV: HUMANITIES & SOCIAL SCIENCES IN IKS

6 Hrs.

Indian society and cultural heritage – Family system, traditions, customs, and cultural diversity – Indian literature, Vedas, Upanishads, Itihasas, Puranas, and philosophical traditions – Governance, ethics, leadership, and public administration – Contemporary relevance of IKS in humanities, social sciences, and nation-building.

UNIT V: INTRODUCTION TO INDIAN KNOWLEDGE SYSTEMS

6 Hrs.

Applications of IKS in science and technology – IKS for sustainable development and environmental stewardship – Value-based education, ethical living, and holistic well-being – Indigenous knowledge for innovation, entrepreneurship, and nation-building – Global relevance of Indian Knowledge Systems.

Total Hours: 30

TEXT BOOKS :

1.	Mahadevan, B., Bhat, V. R., & Pavana, R. N. (2022). <i>Indian knowledge systems</i> . PHI Learning Pvt. Ltd.
2.	Kapoor, K., & Danino, M. (Eds.). (2019). <i>Indian knowledge systems</i> . Indian Institute of Advanced Study.
3.	Central Board of Secondary Education. (2012). <i>Knowledge traditions and practices of India</i> . CBSE.
4.	Dharampal. (2000). <i>The beautiful tree: Indigenous Indian education in the eighteenth century</i> . Other India Press.
5.	Mahadevan, B., Bhat, V. R., & Pavana, R. N. (2022). <i>Indian knowledge systems</i> . PHI Learning Pvt. Ltd.

K. V. V.

REFERENCE BOOKS :

1.	Basham, A. L. (2021). <i>The wonder that was India</i> (3rd ed.). Picador India.
2.	Chatterjee, S. C., & Datta, D. M. (2016). <i>An introduction to Indian philosophy</i> (8th ed.). Rupa Publications.
3.	Dasgupta, S. (1991). <i>A history of Indian philosophy</i> (Vols. 1–5). MotilalBanarsidass.
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2.	https://ncert.nic.in/pdf/publication/otherpublications/Unity_cultural.pdf
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4.	https://estudentdavedanta.net/Cultural_Heritage_Vol_I.pdf
5.	https://onlinecourses.swayam2.ac.in/e-learning/preview/ntr26_ed18


BoS Chairman