

Programme Name : B.Sc (Computer Science)		Programme Code: SE1
Course Code & Course Name	Course Outcomes At the end of this course the students will be able to	Cognitive Level
Cognitive Level - Remember - (R), Understand - (U), Apply - (P), Analyse - (A), Evaluate - (E), Create - (C)		
I Year - I Semester		
LA11A - Tamil I	CO1: இக்கால இலக்கிய வகைகளையும் இலக்கிய வரலாற்றையும் தெரிந்து கொள்வர்.	U
	CO2: இக்கால இலக்கியங்களைத் துயக்கும் முறைகளையும், உணர்த்தும் கருத்துகளையும் அறிந்து கொள்வர்.	U
	CO3: மொழியைத் திறம்படப் பயன்படுத்தும் ஆற்றலைப் பெறுவர்.	U
CLK1S - French I	CO1: Define the overview of the rich French civilisation.	R
	CO2: Infer the phrase to write the informal letters.	U
	CO3: Make use of the rules of grammar in the phrases.	P
CLE1E - Hindi I	CO1: Infer the values from the stories and relate them to real life experiences.	U
	CO2: Construct official and business correspondence using functional Hindi.	P
CLG1E - Sanskrit I	CO1: Explain the greatness of epics in Sanskrit literature.	U
	CO2: Outline the Sanskrit grammar- Lakaras, Indeclinables and Shabdas.	U
	CO3: Explain the literary merit of Raghuvamsa of Kalidasa.	U
LZ11A - Communicative English - I	CO1: Demonstrate the basics of LSRW in real life applications.	U
	CO2: Classify American and British vocabulary.	U
	CO3: Demonstrate the usage of grammar in written and oral form.	U
SE21A - Problem Solving using Python	CO1: Understand the principles of Python and acquire skills in programming in python.	U
	CO2: Develop the emerging applications of relevant field using Python.	P
	CO3: Interpret the fundamental Python syntax and semantics and be fluent in the use of Python control flow statements.	U
	CO4: Develop simple turtle graphics programs in Python.	P
	CO5: Develop python programs using functions and common data structures.	P
SE211 - Problem Solving using Python Lab	CO1: Understand the numeric or real life application problems and solve them.	U
	CO2: Apply a solution clearly and accurately in a program using Python.	P
	CO3: Apply the best features available in Python to solve the situational problems.	P

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SM3AA - Mathematics I	CO1: Gain knowledge about basic concepts of Algebra, Theory of Equations, Matrices, Trigonometry and Calculus.	R
	CO2: Evaluate the summation series, Operators, Newton's Raphson Method, Newton's forward and Backward Method, Lagrange Method.	U
	CO3: Calculate the Eigen values and Eigen Vectors, and verification of Cayley Hamilton theorem.	U
	CO4: Determine polynomial equations, Transformation of equations and roots of Reciprocal equations.	U
	CO5 : Explain the concepts of expansion of $\sin \theta$, $\cos \theta$, $\tan \theta$ in powers of θ , Hyperbolic and Inverse Hyperbolic functions.	U
	CO6: Calculate the Successive Differentiation using Leibnitz theorem, Jacobians, Curvature, Radius of Curvature , Maxima and Minima of the functions .	U
NLT1C - Basic Tamil I	CO1: தமிழ் எழுத்துக்களின் வகைகளை எழுதவும் படிக்கவும் அறிந்து கொள்வர்.	U
	CO2: சொற்களின் வகைகளை அறிந்து கொள்வர்.	U
	CO3:வாக்கிய அமைப்பு முறை மற்றும் பிழையின்றி எழுதத் தெரிந்து கொள்வர்.	U
	CO4:தமிழ் எண்கள், உறவுப் பெயர்கள், வாழ் இடங்கள் மற்றும் பொருள்கள் பற்றித் தெரிந்து கொள்வர்.	U
	CO5:தமிழகத்தின் இயற்கை, விழாக்கள் மற்றும் உணவு முறைகளை அறிந்து கொள்வர்.	U
TLT1C - Advanced Tamil II	CO1: இக்கால இலக்கியங்கள் உணர்த்தும் கருத்துகள், துய்க்கும் முறைகளை அறிந்து கொள்வர்.	U
	CO2: இக்கால இலக்கிய வகைகள் மற்றும் வரலாற்றை தெரிந்து கொள்வர்.	U
	CO3:மொழியைத் திறம்படப் பயன்படுத்தும் ஆற்றலைப் பெறுவர்.	U
CC5AC - Non Major Elective I - Health Care Management	CO1: Awareness to overcome health problems.	U
	CO2: Explain the importance of self health care management.	U
	CO3: Explain the significance of family and communal health.	U
	CO4: Explain the techniques of disaster management.	U
PZ1SA - Professional English for Physical sciences	CO1: Demonstrate their listening skill.	U
	CO2: Illustrate the use of language skills for speaking with confidence in an intelligible and acceptable manner.	U
	CO3: Illustrate their reading skill while reading independently unfamiliar texts with comprehension.	U
	CO4: Illustrate their writing skill while writing simple sentences without committing error of spelling or grammar.	U

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I Year - II Semester		
LA12A - Tamil II	CO1: சங்க இலக்கியம், அற இலக்கியங்களின் அமைப்பு மற்றும் இலக்கிய வரலாற்றையும் தெரிந்து கொள்வர்.	U
	CO2: சங்க இலக்கியம், அற இலக்கியங்களின் சிறப்பியல்புகள், உணர்த்தும் விழுமியங்களை அறிந்து கொள்வர்.	U
	CO3: மொழியைத் திறம்படப் பயன்படுத்தும் ஆற்றலைப் பெறுவர்.	U
CLK2T - French II	CO1: Explain the different parts of speech.	U
	CO2: Recall the short texts.	R
	CO3: Outline the culture and tradition.	U
CLE2G - Hindi II	CO1: Understand and explain the one act plays and make students get a good opportunity to get acquainted with the situation of the society which helps in making the girl students self-reliant.	U
	CO2: Summarize the author's experience in the story.	U
	CO3: Infer the phrase and translate the passages.	U
CLG2G - Sanskrit II	CO1: Explain the merits of Gadya kavyas in Sanskrit literature.	U
	CO2: Explain Sanskrit grammar-Lakaras and Shabdas.	R
	CO3: Summarize the moral derived from the stories.	U
LZ12A -Communicative English - II	CO1: Demonstrate the learnt LSRW skills to communicate their ideas.	U
	CO2: Find the correct vocabulary to use in the given context.	R
	CO3: Demonstrate the right usage of grammar.	U
SE22A - Computer Organization	CO1: Describe the major components of a computer system and state their function and purpose.	U
	CO2: Describe the microstructure of a processor	U
	CO3: Demonstrate the ability to program a microprocessor in assembly language.	U
	CO4: Classify and describe the operation DMA and peripheral Interfaces.	U
SE221 - Computer Organization Lab	CO1: Implement the arithmetic operations in assembly language programming.	P
	CO2: Understand the programming logic of 8085 in various aspects.	U

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SM3AE - Mathematics II	CO1: Gain the knowledge about the basic concept of Differential equations, Laplace Transform, Vector Analysis and Calculus.	U
	CO2: Recall integration by parts and Bernoulli's formula to derive the reduction formulae for different kinds of functions.	U
	CO3: Illustrate how to develop Fourier Series for the given functions.	U
	CO4: Explain the methods of Solving partial differential equation and ordinary differential equations using Laplace and inverse Laplace transformations.	U
	CO5: Define gradient, curl, solenoidal and irrotational vectors.	R
	CO6: Illustrate problems in line, surface and volume integrals.	U
NLT2D - Basic Tamil II	CO1: நீதி இலக்கியங்கள் உணர்த்தும் அறங்களை அறிந்து கொள்வர்.	U
	CO2: நீதி கதைகள் உணர்த்தும் அறங்களைத் தெரிந்து கொள்வர்.	U
	CO3: தமிழ் இலக்கியம், தமிழக வரலாறு மற்றும் அலுவலகப் பெயர்கள் பற்றித் தெரிந்து கொள்வர்.	U
	CO4: பழமொழிகள் உணர்த்தும் விழுமியங்களை அறிந்து கொள்வர்.	U
TLT2D - Advanced Tamil II	CO1: கட்டுரைகளின் வழி சமுதாயச் சூழல்களை, மாறுபாடுகளை அறிந்து கொள்வர்.	U
	CO2: சங்க இலக்கியங்கள், பக்தி, காப்பிய இலக்கியங்கள் உணர்த்தும் விழுமியங்களை அறிந்து கொள்வர்.	U
	CO3: சங்க இலக்கியம், பக்தி, காப்பிய இலக்கியம், கட்டுரை இலக்கிய வரலாறுகளைத் தெரிந்து கொள்வர்.	U
	CO4: மொழியைத் திறம்படப் பயன்படுத்தும் ஆற்றலைப் பெறுவர்.	U
CC5AH - Non Major Elective I - Disaster Management	CO1: Overcome the Disaster problems.	U
	CO2: Summarise the principles of mitigation programmes and outline the policies and legislation of Disaster Management.	U
PZ1SC - Professional English Physical science	CO1: Illustrate interview skills with boldness and confidence.	U
	CO2: Show adaptability in the workplace context, having become efficient listeners and readers.	U
	CO3: Demonstrate their skills to apply to the Research & Development organisations/sections in companies and offices with winning proposals.	U
II Year - III Semester		
LA13A - Tamil III	CO1: பக்தி இலக்கியம் (சைவம், வைணவம், சித்தர், கிறித்தவம், இஸ்லாம்), சிறுநிலக்கியங்களின் பின்னணி, இலக்கிய வரலாற்றைத் தெரிந்து கொள்வர்.	U
	CO2: பக்தி இலக்கியம் (சைவம், வைணவம், சித்தர், கிறித்தவம், இஸ்லாம்), சிறுநிலக்கியங்களின் பொருண்மைகள், விழுமியங்கள், சிறப்பியல்புகளை அறிந்து கொள்வர்.	U
	CO3: மொழியைத் திறம்படப் பயன்படுத்தும் முறைகளைக் கற்றுக் கொள்வர்.	U

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CLK3V - French III	CO1: Outline the overview of the short literary texts.	U
	CO2: Explain the literary text .	U
	CO3: Make use of the rules of grammar in the texts.	P
CLE3H - Hindi III	CO1: Explain the moral of the poetry in tamil and contrast with the hindi literature.	U
	CO2: Outline the experiences of the poets and their societies.	U
	CO3: Explain the thought, ideology, expressional and artistic skills of writers.	U
CLG3H - Sanskrit III	CO1: Summarize the origin, development and characteristics of dramas in Sanskrit literature.	U
	CO2: Explain the lang lakaras of selected roots.	U
	CO3: Explain the text of Madhyamavyayoga of Bhasa and its merits.	U
LZ13B - Language through Literature I	CO1: Extend their vocabulary and use them appropriately to communicate in contexts .	U
	CO2: Infer the commonly occurring errors to avoid committing them in language use.	U
	CO3: Rephrase words and sentences by changing their forms and use them appropriately .	U
	CO4: Demonstrate improvement in their pronunciation.	U
	CO5: Demonstrate different kinds of writing – essays, emails, blogs, letters etc. - prepare resumes to face interviews .	U
	CO6: Extend short stories into plays, skit and role plays by making a dramatic script of the scenes.	U
	CO7: Show their ability to develop a webpage for themselves and others.	U
	CO8: Explain their awareness of contemporary issues and themes that are socially relevant by reading texts of different literary genres.	U
SE23A - Java and Data Structures	CO1: Develop Java Standalone applications and Applets.	P
	CO2: Choose the appropriate data structure for modeling a given problem.	P
SE231 - Data Structures using Java Lab	CO1: Write functions to implement linear and non-linear data structure operations.	P
	CO2: Suggest appropriate linear and non-linear data structure operations for solving a given problem.	P
SP3AA - Statistics I	CO1: Understand the statistics and its Applications.	U
	CO2: Recall the meaning & definition of statistics, concept of collection, tabulation and presentation of statistical data.	R
	CO3: Illustrate the concept of measures of central tendency.	U
	CO4: Analyze statistical data using measures of dispersion and location.	A
	CO5.: Relate variables by finding the coefficient of correlation and regression.	U

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TSSEB - Essentials of Language and Communication Skills	CO1: Interpret the process and concepts pertaining to listening, speaking and reading.	U
	CO2: Demonstrate their writing skills to fulfill the requirements for employment.	U
	CO3: Demonstrate their ability to use Business correspondences and its types.	U
II Year - IV Semester		
LA14A - Tamil IV	CO1: காப்பியம், சிற்றிலக்கியம், இசுலாமியம் மற்றும் கிறித்துவ இலக்கியங்களின் அமைப்பு, இலக்கிய வரலாறுகளைத் தெரிந்து கொள்வர்.	U
	CO2: காப்பியம், சிற்றிலக்கியம் ஆகியவற்றின் செல்நெறிகளை அறிந்து கொள்வர்.	U
	CO3:படைப்பாற்றலை வளர்த்துக் கொள்வர். கலைச்சொல்லாக்கம் செய்யக் கற்றுக் கொள்வர்.	U
CLK4W - French IV	CO1: Outline the overview of the short literary texts.	U
	CO2: Explain the literary text .	U
	CO3: Make use of the rules of grammar in the texts.	P
CLE4J - Hindi IV	CO1: Summarize the poetic skills of poets and their poems.	U
	CO2: Explain the modern hindi literature and its current advances.	U
	CO3: Outline the human, social, ethical and literary values.	U
CLG4J Sanskrit - IV	CO1: Explain the greatness of the two main epics and devotional lyrics in literature.	U
	CO2: Translate passages from Ramayana, Mahabharata and Didactic works.	U
	CO3: Explain the figures of speech in literature and to identify such usages.	U
LZ14B - Language through Literature - II	CO1: Show the ability to gather ideas and information to collaborate and write with clarity and ease.	U
	CO2: Demonstrate different kinds of writing.	U
	CO3: Show the ability to construct itineraries, checklists and write about social events, festivals, sports, nature and environment.	U
	CO4: Infer details from various information to write opinions, reviews and appraisals.	U
	CO5: Demonstrate basic skills of translation.	U
	CO6: Show understanding of topics/characters/ideas by writing an acrostic poem.	U
	CO7: Explain the unity and diversity in Indian cultures.	U
	CO8: Outline stories based on text and picture-based hints.	U
	CO9: Rephrase and extend the plot of a story.	U
	CO10: Illustrate their sensibility to the social and economic divisions that prevail and its consequences.	U
	CO11: Demonstrate their skills of creativity and critical thinking that will help them form opinions, make decisions and seek solutions.	U
SE24A - Web Technology	CO1: Understand the general concepts of PHP scripting language for the development of Internet websites.	U
	CO2: Understand the basic functions of MySQL database program and XML concepts.	U
	CO3: Learn the relationship between the client side and the server side scripts	U
	CO4: Describe the object oriented concepts and file handling concepts of PHP	U

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SE241 - Web Technology Lab	CO1: Obtain knowledge and develop application programs using Python.	P
	CO2: Create dynamic Web applications such as content management, user registration, and e-commerce using PHP and to understand the ability to post and publish a PHP website.	P
	CO3: Develop a MySQL database and establish connectivity using MySQL.	P
SP3B - Statistics II	CO1: Apply the basic concepts of probability in real life problems.	P
	CO2: Identify the basic characteristics of discrete distributions.	P
	CO3: Identify the basic characteristics of continuous distributions.	P
	CO4: Estimate the parameters of discrete & continuous probability distributions.	E
	CO5: Make use of hypothesis testing to draw statistical inferences.	P
ENV4B-EVS	CO1: Explain the concepts of ecosystem and biodiversity.	U
	CO2: Explain the environmental problems, policies and practices.	U
III Year - V Semester		
SE25A - Computer Network	CO1: Analyze different network models.	A
	CO2: Describe, analyze and compare a number of data link, network and transport layer.	U
	CO3: Analysing key networking protocols and their hierarchical relationship in the conceptual model like TCP/IP and OSI.	A
SE25B - Operating System	CO1: Understand the structure and functions of Operating System.	U
	CO2: Compare the performance of Scheduling Algorithms.	U
	CO3: Analyze resource management techniques.	A
SE25C - Relational Database Management System	CO1: Describe basic concepts of database system.	U
	CO2: Design a Data model and Schemas in RDBMS.	C
	CO3: Competent in use of SQL.	P
	CO4: Analyze functional dependencies for designing robust Database.	C
SE251 - Operating System Lab	CO1: Understand the process management policies and scheduling process by CPU.	U
	CO2: Analyze the memory management and its allocation policies.	A
	CO3: Evaluate the requirement for process synchronization.	E
SE252 - PL/SQL Lab	CO1: Implement the DDL , DML Commands and Constraints	P
	CO2: Create, Update and query on the database.	P
	CO3: Design and Implement simple project with Front End and Back End.	P
SE45A - Artificial Intelligence and Expert System	CO1: Gain a working knowledge of the foundations of and modern applications in artificial intelligence, heuristic search, knowledge representation and logic.	U
	CO2: Outline the heuristic search, Knowledge representation and Expert systems.	U
SE45B - Graphics and Visualization	CO1: Know the principles of Display devices.	R
	CO2: Understand various algorithms to scan, convert and basic geometrical primitives, transformations, Area filling and clipping.	U
	CO3: Capture the significances of viewing and projections.	U
	CO4: Define the fundamentals of 2D, 3D and color models.	R

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SE45C - Network Security	CO1: Compare various Cryptographic Techniques.	U
	CO2: Design Secure applications.	P
VAE5Q - Value Education	CO1: Understand the basic concept of values in life.	U
	CO2: Acquire the values oriented to education in life.	U
III Year - VI Semester		
SE26A - Software Engineering	CO1: Specify software requirements, design the software using tool.	P
	CO2: Write test cases using different testing techniques.	P
SE26B - Introduction to Data Science	CO1: Describe what Data Science is, what Statistical Inference means, identify probability distributions, fit a model to data and use tools for basic analysis and communication. science practice.	U
SE26C - Introduction to Cloud Computing	CO1: Explain and apply levels of services of Cloud	U
	CO2: Describe the security aspects in cloud.	U
SE261 - CaseTools and Testing tools Lab	CO1: Analyze and design the problem at hand.	A
	CO2: Use UML tools for the designing the software and test the correctness and soundness of their software through testing tools.	P
SE45D - Mobile Computing	CO1: Explain the basics of mobile telecommunication system.	U
	CO2: Choose the required functionality at each layer for given application.	P
	CO3: Use simulator tools and design Ad hoc networks and develop a mobile application.	P
SE45E - IOT and its Applications	CO1: Use of Devices, Gateways and Data Management in IoT.	U
	CO2: Design IoT applications in different domain and be able to analyze their performance.	A
	CO3: Implement basic IoT applications on embedded platform.	P
SE45G - Block chain Technology	CO1: State the basic concepts of block chain.	U
	CO2: Paraphrase the list of consensus and demonstrate and interpret working of Hyper ledger Fabric.	U
	CO3: Implement SDK composer tool and explain the Digital identity for government.	P
SE26Q - Mini Project	CO1: Build real time software development environment.	P
	CO2: Gain a thorough knowledge in the problem and make use of the selected language / software for solving the problem.	P