

**CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS)**  
Nationally Accredited with 'A+' Grade by NAAC  
**TIRUCHIRAPPALLI**

**PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE**



**B.Sc. COMPUTER SCIENCE**

**SYLLABUS**

**2025 -2026 and Onwards**

**CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)**  
**PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE**

**VISION**

To create an ambience for a quality academic erudition which drives technologically adept, innovative and globally competent graduates with ethical values

**MISSION**

- To have a breadth of knowledge across the subject areas of Computer Science
- To professionally enrich the students for successful career in Academia, Industry and Research
- To promote and inculcate ethics and code of professional practice among students

## PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEOs	Statements
<b>PEO1</b>	<b>LEARNING ENVIRONMENT</b> To facilitate value-based holistic and comprehensive learning by integrating innovative learning practices to match the highest quality standards and train the students to be effective leaders in their chosen fields.
<b>PEO2</b>	<b>ACADEMIC EXCELLENCE</b> To provide a conducive environment to unleash their hidden talents and to nurture the spirit of critical thinking and encourage them to achieve their goal.
<b>PEO3</b>	<b>EMPLOYABILITY</b> To equip students with the required skills in order to adapt to the changing global scenario and gain access to versatile career opportunities in multidisciplinary domains.
<b>PEO4</b>	<b>PROFESSIONAL ETHICS AND SOCIAL RESPONSIBILITY</b> To develop a sense of social responsibility by formulating ethics and equity to transform students into committed professionals with a strong attitude towards the development of the nation.
<b>PEO5</b>	<b>GREEN SUSTAINABILITY</b> To understand the impact of professional solutions in societal and environmental contexts and demonstrate the knowledge for an overall sustainable development.

**PROGRAMME OUTCOMES FOR B.Sc. Computer Science,**

**B.Sc. Computer Science with Cognitive Systems, BCA,**

**B.Sc. Information Technology**

<b>PO NO.</b>	On completion of B. Sc Computer Science / B. Sc Computer Science with Cognitive Systems / BCA/ B. Sc Information Technology Programme, the students will be able to
<b>PO 1</b>	<b>ACADEMIC SKILLS &amp; SOCIAL RESPONSIBILITY</b> Apply Computing, Mathematical and Scientific Knowledge in Various disciplines by understanding the concerns of the society.
<b>PO 2</b>	<b>CRITICAL THINKING AND INNOVATIVE PROGRESS</b> Design the software applications with varying intricacies using programming languages for innovative learning in techno world to meet the changing demands.
<b>PO 3</b>	<b>PERSONALITY DEVELOPMENT</b> Perceive Leadership skills to accomplish a common goal with effective communication and understanding of professional, ethical, and social responsibilities.
<b>PO 4</b>	<b>LIFELONG LEARNING</b> Identify resources for professional development and apply the skills and tools necessary for computing practice to gain real life experiences.
<b>PO 5</b>	<b>CREATIVITY AND HOLISTIC APPROACH</b> Create a scientific temperament and novelties of ideas to support research and development in Computer Science to uphold scientific integrity and objectivity.

## **PROGRAMME SPECIFIC OUTCOMES FOR B.Sc. COMPUTER SCIENCE**

<b>PSO NO.</b>	<b>The students of B.Sc. Computer Science will be able to</b>	<b>POs Addressed</b>
<b>PSO 1</b>	Identify, analyze, design an optimized solution using appropriate algorithms of varying complexity using cutting edge technologies	PO 1 PO 2 PO 5
<b>PSO 2</b>	Attain a solid foundation in the Programming languages and to formulate computational solutions to real life problems	PO 1 PO 2 PO 4 PO 5
<b>PSO 3</b>	Equip the skills to utilize tools and technologies in computer science to meet the industrial needs and to communicate effectively among peers	PO 3 PO 4
<b>PSO 4</b>	Develop skills in software and hardware so as to enable them to establish a productive career in industry, research, academia and also as an entrepreneur	PO 1 PO 4 PO 5
<b>PSO 5</b>	Implement independent projects of their own choice using latest tools and also work as an effective team member to attain the predefined goals.	PO 3 PO 4 PO 5



**Cauvery College for Women(Autonomous), Trichy**

PG & Research Department of Computer Science

B.Sc Computer Science

**LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK(CBCS – LOCF)**

(For the Candidates admitted from the Academic year 2025-2026 and onwards)

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam			Total
							Hrs.	Marks		
								Int	Ext	
I	I	Language Course-I (LC)	தமிழ் இலக்கிய வரலாறு-I	25ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I - French I	23ULF1						
	II	English Language Course -I (ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	Programming in C	24UCS1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	C Programming (P)	24UCS1CC1P	3	3	3	40	60	100
		First Allied Course- I (AC)	Essential Mathematics	22UCS1AC1	4	3	3	25	75	100
		First Allied Course- II (AC)	Numerical Analysis and Statistics	22UCS1AC2	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal- Universal Human Values	25UGVE	2	2	-	100	-	100
Total					30	22				700

**The Internal and External marks for theory and practical courses are as follows:**

<b>Course</b>	<b>Internal Marks</b>	<b>External Marks</b>
Theory	25	75
Practical	40	60

**For Theory Courses:**

- a) The passing minimum for CIA shall be 40% out of 25 marks (i.e. 10 marks)
- b) The passing minimum for End Semester Examinations shall be 40% out of 75 marks (i.e. 30 marks)

**For Practical Courses:**

- a) The passing minimum for CIA shall be 40% out of 40 marks(i.e. 16 marks)
- b) The passing minimum for End Semester Examinations shall be 40%out of 60 marks (i.e. 24 marks)

Semester: I	Internal Mark: 25		External Mark: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS / WEEK	CREDITS
23UIT1CC1/ 24UCS1CC1	PROGRAMMING IN C	CC	5	5

### Course Objectives

- To familiarize the students with the understanding of code organization
- To improve the programming skills
- Learning the basic programming constructs.

### Course Outcomes and Cognitive Level Mapping

CO Number	Course Outcome	Cognitive Level
CO1	Outline the fundamental concepts of C programming languages, and its features	K1
CO2	Demonstrate the programming methodology	K2
CO3	Identify suitable programming constructs for problem solving	K3
CO4	Select the appropriate data representation, control structures, functions and concepts based on the problem requirement	K4
CO5	Evaluate the program performance by fixing the errors	K5

### Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	3	2	1	2	2	2	3	2
CO2	3	2	3	2	2	3	3	2	3	2
CO3	3	3	3	2	2	3	3	2	3	3
CO4	3	2	3	2	3	2	2	2	3	3
CO5	3	3	3	2	3	3	3	2	2	3

“1” – Slight (Low) Correlation

“3” – Substantial (High) Correlation

“2” – Moderate (Medium) Correlation

“-” indicates there is no correlation.



## Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	<b>Studying Concepts of Programming Languages-</b> Language Evaluation Criteria - Language design - Language Categories - Implementation Methods – Programming Environments - Overview of C: History of C- Importance of C- Basic Structure of C Programs- Executing a C Program- Constants, Variables and Data types - Operators and Expressions - Managing Input and Output Operations	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
II	<b>Decision Making and Branching:</b> Decision making with If, simple IF, IF ELSE, nested IF ELSE , ELSE IF ladder, switch, GOTO statement. Decision Making and Looping: While, Do-While, For, Jumps in loops. Arrays - Character Arrays and Strings	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
III	<b>User Defined Functions:</b> Elements of User Defined Functions- Definition of Functions- Return Values and their Types- Function Call- Function Declaration- Categories of Functions- Nesting of Functions-Recursion	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
IV	<b>Structures and Unions:</b> Introduction- Defining a Structure- Declaring Structure Variables Accessing Structure Members- Structure Initialization- Arrays of Structures- Arrays within Structures- Unions- Size of Structures	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
V	<b>Pointers:</b> Understanding Pointers- Accessing the Address of a Variable- Declaring Pointer Variables- Initializing of Pointer Variables- Accessing a Variable through its Pointer- Chain of Pointers- Pointer Expressions- Pointer and Scale Factor- Pointer and Arrays- Pointers and Character Strings- Array of Pointers- Pointer as Function Arguments- Functions Returning Pointers- Pointers to Functions-Memory model-File Management in C	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
VI	<b>Self Study for Enrichment</b> <b>(Not included for End Semester Examinations)</b> Algorithm- Flowchart- Develop algorithms for real time scenario- Simple expressions- Conversion programs- swapping numbers (with and without using temporary variable). Programs for checking eligibility-Triangle formation- Sum of series-Array manipulations (Sorting, searching, insert, delete and merging)-String handling programs- Dynamic memory management using pointers- Employee pay bill preparation, Student mark list using Files.	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5

### **Text Books**

1. Robert W. Sebesta, (2012), —Concepts of Programming LanguagesI, Fourth Edition, Addison Wesley (Unit I : Chapter – 1)
2. E. Balaguruswamy, (2010), —Programming in ANSI CII, Fifth Edition, Tata McGraw Hill Publications.

### **References**

1. Ashok N. Kamthane, Amit Ashok Kamthane(2015). Programming in C, 3<sup>rd</sup> Edition, Pearson India Education Services Pvt. Ltd.
2. Byron Gottfried, (2010), —Programming with CII, Schaums Outline Series, Tata McGraw Hill Publications

### **Web References**

1. <https://www.learn-c.org/>
2. <https://www.cprogramming.com/>
3. <https://www.tutorialspoint.com/cprogramming/index.html>
4. <http://www.programiz.com/c-programming>
5. <http://www.programmingsimplified.com/c-program-examples>
6. <https://archive.nptel.ac.in/courses/106/104/106104128/>

### **Pedagogy**

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

### **Course Designer**

Dr. M. Anandhi, Associate Professor, Department of Information Technology.

Semester: I	Internal Mark: 40		External Mark: 60	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS / WEEK	CREDITS
23UIT1CC1P / 24UCS1CC1P	C PROGRAMMING (P)	CP	3	3

### Course Objectives

- The Course aims to provide exposure to problem-solving through C programming
- It aims to train the student to the basic concepts of the C -Programming language
- Apply different concepts of C language to solve the problem

### Course Outcomes and Cognitive Level Mapping

CO Number	Course Outcome	Cognitive Level
CO1	Demonstrate the understanding of syntax and semantics of C programs.	K1
CO2	Identify the problem and solve using C programming techniques.	K2
CO3	Identify suitable programming constructs for problem solving.	K3
CO4	Analyze various concepts of C language to solve the problem in an efficient way.	K4
CO5	Develop a C program for a given problem and test for its correctness.	K5

### Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	2	3	1	2	3
CO2	3	2	3	2	3	3	2	2	2	3
CO3	3	2	2	2	2	3	3	2	3	2
CO4	3	3	2	3	2	3	3	2	3	3
CO5	3	3	3	2	3	3	3	3	2	3

“1” – Slight (Low) Correlation

“3” – Substantial (High) Correlation

“2” – Moderate (Medium) Correlation

“-” indicates there is no correlation.

## **Syllabus**

1. Programs using Input/ Output functions
2. Programs on conditional structures
3. Command Line Arguments
4. Programs using Arrays
5. String Manipulations
6. Programs using Functions
7. Recursive Functions
8. Programs using Pointers
9. Files
10. Programs using Structures & Unions

## **Text Book**

1. E. Balagurusamy, Programming in ANSI C, Fifth Edition, Tata McGraw-Hill, 2010.

## **Reference Books**

1. Byron Gottfried, Schaum's Outline Programming with C, Fourth Edition, Tata McGraw-Hill, 2018.
2. Kernighan and Ritchie, The C Programming Language, Second Edition, Prentice Hall, 1998.
3. Yashavant Kanetkar, Let Us C, Eighteenth Edition, BPB Publications, 2021

## **Web References**

1. <https://www.tutorialspoint.com/cprogramming>
2. <https://www.javatpoint.com/c-programming-language-tutorial>
3. <https://www.w3schools.in/category/c-tutorial>

## **Course Designer**

Dr. M. Anandhi, Associate Professor, Department of Information Technology.

**FIRST ALLIED COURSE –I (AC)**  
**ESSENTIAL MATHEMATICS**

(For B.Sc Computer Science , B.Sc Information Technology & BCA)

**(2022-2023 and Onwards)**

Semester I	Internal Marks:25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs/Week	CREDITS
22UCS1AC1/ 22UCA1AC1/ 22UIT1AC1	ESSENTIAL MATHEMATICS	ALLIED	4	3

**Course Objective**

- **Apply** the basic concepts of Differentiation, Integration and their applications.
- **Compute** mathematical quantities using ordinary and partial differential equations.
- **Explore** fundamental concepts in graph theory.

**Course Outcomes**

**Course Outcome and Cognitive Level Mapping**

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Remember and recall the basic concept of essential mathematics.	K1
CO2	Illustrate the various notions in the respective streams .	K2
CO3	Apply the different terminologies of essential mathematics.	K3
CO4	Classify the solution of mathematical problems using various techniques.	K4
CO5	Examine the solution of mathematical problems.	K4

**Mapping of CO with PO and PSO**

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	3	3	3	3	3	2	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	3	3	3	3	3	3	2
CO5	3	2	3	3	3	3	3	3	2	2

“1” – Slight (Low) Correlation  
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“2” – Moderate (Medium) Correlation  
“-” indicates there is no correlation.

## Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	<b>Matrices</b> Matrix – Special types of matrices – Scalar multiplication of a matrix – Equality of matrices – Addition of matrices – Subtraction – Multiplication of Matrices – Inverse matrix– Relation between adjoint and inverse matrices – Solution of simultaneous equations – Rank of a matrix – A system of $m$ homogeneous linear equations in $n$ unknowns – System of non-homogeneous linear equations – Eigen values and Eigenvectors – Similar matrices – Cayley-Hamilton Theorem (proof not needed) – Simple applications only	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	<b>Differentiation</b> Maxima and Minima (Problems Only) –Points of inflexion. <b>Partial differentiation</b> Functions of function rule – Total Differential Coefficient – A Special case – Implicit Functions – Homogeneous functions – Euler's Theorem (proof not needed) – Simple problems only.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	<b>Integration</b> Integration of Rational algebraic functions – Rule (a) – Rule (b): Type i: $\int \frac{dx}{ax^2+bx+c}$ , Type ii: $\int \frac{lx+m}{ax^2+bx+c} dx$ – Integration of Irrational functions : Case (ii) Integration of the form $\int \frac{px+q}{\sqrt{ax^2+bx+c}}$ – Type $\int \frac{dx}{a+b\cos x}$ – Properties of definite integrals.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	<b>Differential Equations</b> Linear Differential Equation with constant coefficients – The Operators $D$ and $D^{-1}$ – Particular Integral – Special methods of finding P.I.: $X$ is of the form (a) $e^{ax}$ (b) $\cos ax$ or $\sin ax$ , where $a$ is a constant (c) $x^m$ (a power of $x$ ), $m$ being a positive integer (d) $e^{ax}V$ , where $V$ is any function of $x$ .	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	<b>Graph Theory</b> Introduction – Definition of Graphs – Applications of Graphs – Finite and infinite graphs – Incidence and Degree – Isolated Vertex, Pendant Vertex and Null Graph. <b>Path and Circuits</b> Isomorphism – Subgraphs – Walks, Paths and Circuits – Connected Graphs, Disconnected Graphs and Components – Euler graphs.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	<b>Self-Study for Enrichment</b> <b>(Not included for End Semester Examination)</b> Symmetric matrix – Skew symmetric matrix – Hermitian and skew Hermitian matrices Concavity and Convexity– Integration by parts – Linear equation – Hamiltonian Paths and Circuits.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

### Text Books

1. T.K.Manicavachagom Pillay, T.Natarajan, K.S.Ganapathy.(2015). *Algebra, Volume II*. S. Viswanathan (Printers & Publishers) Pvt., Ltd.
2. S.Narayanan, T.K.Manicavachagom Pillay.(2015).*Calculus,Volume I*. S. Viswanathan (Printers & Publishers) Pvt., Ltd.
3. S.Narayanan, T.K.Manicavachagom Pillay.(2015).*Calculus,Volume II*. S. Viswanathan (Printers & Publishers) Pvt., Ltd.
4. S.Narayanan, T.K.Manicavachagom Pillay.(2015).*Calculus,Volume III*. S. Viswanathan(Printers & Publishers) Pvt., Ltd.
5. Narsingh Deo. (2003). *Graph Theory with applications to Engineering and Computer*. Prentice Hall of India Private Limited

UNIT-I	Chapter 2: Section 1 to 5, 7, 8, 10 to 16[1]
UNIT-II	Chapter V: Section 1.1 to 1.5[2] Chapter VIII: Section 1.2 to 1.6[2]
UNIT-III	Chapter 1: Section 7.1 to 7.3, 8 (CASE II), 9, 11[3]
UNIT-IV	Chapter 2: Section 1 to 4[4]
UNIT-V	Chapter 1: Section 1.1 to 1.5[5] Chapter 2: Section 2.1, 2.2, 2.4 to 2.6[5]

### Reference Books

1. A.Singaravelu. (2003). *Allied Mathematics*. A.R.Publications
2. P.R.Vittal. (2014). *Allied Mathematics*. Margham Publications, Chennai.
3. S.Arumugam and S.Ramachandran.(2006). *Invitation to Graph Theory*. Sci Tech Publications (India) Pvt Ltd., Chennai

### Web links

1. <https://youtu.be/rowWM-MijXU>
2. <https://youtu.be/TQvxWaQnrqI>
3. <https://youtu.be/pvLj1s7SOtk>
4. [https://youtu.be/Gxr3AT4NY\\_Q](https://youtu.be/Gxr3AT4NY_Q)
5. <https://youtu.be/xlbbeffbYLzg>
6. <https://youtu.be/b0RJkIBhfEM>
7. <https://youtu.be/s5KZw1EpBEo>

### Pedagogy

Assignment, Seminar, Lecture, Quiz, Group discussion, Brain storming, e-content.

### Course Designers

1. Dr. V. Geetha
2. Dr. S. Sasikala

**FIRST ALLIED COURSE-II (AC)**  
**NUMERICAL ANALYSIS AND STATISTICS**  
 (For B.Sc. Computer Science , B.Sc. Information Technology &  
 BCA)(2022-2023 and Onwards)

Semester I	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs / Week	CREDITS
22UCS1AC2/ 22UCA1AC2/ 22UIT1AC2	NUMERICAL ANALYSIS AND STATISTICS	ALLIED	4	3

### Course Objective

- **Understand** the implementation of various methods of Numerical Analysis.
- **Organize** and **summarize** the statistical data.
- **Analyze** and **evaluate** the strengths of the conclusions based on data.

### Course Outcomes

#### Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
	On the successful completion of the course, students will be able to	
CO1	Understand the list of basic ideas of Numerical Methods and Statistics.	K1, K2
CO2	Solve the problems using various methods and also classify the given datas.	K2, K3
CO3	Identify the conceptual collection and classification of variables.	K3
CO4	Analyze the accuracy and graphical representation of statistical datas.	K4
CO5	Support the implementation of numerical methods and statistical datas.	K4

#### Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	2	3	2
CO2	3	3	2	2	2	3	2	3	2	3
CO3	2	3	3	2	2	2	3	3	2	3
CO4	3	2	3	2	2	3	3	2	3	2
CO5	3	3	2	3	3	3	2	2	3	3

1” – Slight (Low) Correlation

3” – Substantial (High) Correlation

“2” – Moderate (Medium) Correlation

“-” indicates there is no correlation.



## Syllabus

UNIT	CONTENT	HOURS	Cos	COGNITIVE LEVEL
I	<b>Solution of Algebraic &amp; Transcendental Equations:</b> Introduction – The Bisection Method – The Iteration Method – Newton-Raphson Method (Problems Only) <b>Interpolation:</b> Finite Differences: Forward Differences, Backward Differences – Newton's Formulae for Interpolation – Interpolation with unevenly spaced Points: Lagrange's Interpolation formula	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	<b>Numerical Integration:</b> Numerical Integration: Simpson's 1/3-Rule – Simpson's 3/8-Rule (proof not needed). <b>Linear Systems of Equations:</b> Solution of Linear Systems–Direct Methods: Gaussian Elimination Method – Solutions of Linear Systems – Iterative Methods (Problems Only)	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	<b>Numerical solution of Ordinary Differential Equations:</b> Introduction – Euler's Method – Modified Euler's Method – Runge-Kutta Methods – Predictor - Corrector Methods : Adams-Moulton Method	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	<b>Measures of Central Tendency:</b> Arithmetic Mean – Median – Mode – Geometric Mean – Harmonic Mean. <b>Measures of Dispersion:</b> Mean Deviation – Standard Deviation (Simple Problems Only)	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	<b>Correlation:</b> Introduction – Meaning of Correlation – Scatter Diagram – Karl Pearson's co-efficient of Correlation – Rank Correlation: Spearman's Rank Correlation Coefficient (Derivation not needed and Simple Problems Only). <b>Linear Regression:</b> Introduction – Linear Regression (Derivation not needed and Simple Problems Only)	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	<b>Self Study for Enrichment:</b> <b>(Not included for End Semester Examination)</b> The method of False Position & Central Differences - Trapezoidal rule - Solution by Taylor's Series and Milne's Method - Range – Quartile Deviation - Rank Correlation (Repeated Ranks).	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

### **Text Books**

1. Sastry S. S. (1998). Introductory methods of Numerical Analysis, Third Edition. Prentice Hall of India Private Limited.
2. Gupta. S.C & Kapoor, V.K (2007). Fundamentals of Mathematical Statistics. Sultan Chand & sons, New Delhi.

UNIT – I Chapter 2: Sections 2.1 - 2.3(Omit 2.3.1), 2.5(Omit 2.5.1) [1]

Chapter 3: Sections 3.3 (Omit 3.3.4), 3.6, 3.9(3.9.1 only) [1]

UNIT – II Chapter 5: Sections 5.4(5.4.2 & 5.4.3 only) [1]

Chapter 6: Sections 6.3(6.3.2 only) & 6.4 [1]

UNIT – III Chapter 7: Sections 7.1, 7.4- 7.6 (Omit 7.4.1 & 7.6.2) [1]

UNIT – IV Chapter 2: Sections 2.5 - 2.9, 2.13 (Omit 2.13.1 & 2.13.2) [2]

UNIT –V Chapter 10: Sections 10.1 - 10.4, 10.7(10.7.1 Only) [2]

Chapter 11: Sections 11.1 & 11.2 [2]

### **Reference Books**

1. Jain M. K, Iyengar S. R.K. and Jain R.K. (1999). Numerical Analysis Numerical Methods for Scientific and Engineering Computations. New Age International Private Limited.
2. Froberg C.E. (1979). Introduction to Numerical Analysis. II Edition. Addison Wesley

### **Web Link**

1. <https://youtu.be/qCzUXav5Nk>
2. <https://youtu.be/r6MTvrI8SQ4>
3. <https://youtu.be/s05dONL4xAs>
4. <https://youtu.be/XaHFNhHfXwQ>
5. <https://youtu.be/zPG4NjIkCjc>

### **Peadogogy**

Power point presentations, Group Discussions, Seminar, Quiz, Assignment.

### **Course Designers**

1. Dr.R.Buveneswari
2. Ms.A.Gowri Shankari