ABOUT THE DEPARTMENT

The Department of Computer Science was established in the year 1987–88 with B.Sc. Computer Science Programme. Since then, the Department has been functioning successfully producing young Computer Science graduates every year, with well trained and experienced faculty members and supporting staff. So for, the Department has produced more than 1000(35 batches) Computer Science graduates and they were all well placed in India & Abroad. The Department has been producing excellent results over a period of 35 years. The Department has adequate infrastructure with a well–equipped Computer Laboratory, a well stacked Department Library, well–furnished class rooms, a separate room for power point presentation with a LCD Projector

VISION

- Apply a broad understanding of the fundamental theories, concepts, and applications of Computer Science in their career.
- Analyze a multifaceted computing problem and to apply principles of computing and other relevant disciplines to identify solutions and compare alternative solutions to computing problems.
- Apply Computer Science theory and software development fundamentals to produce computing–based solutions.
- To attain an ability to use current techniques, skills, and tools necessary for computing practice.
- To affiance in a wide range of careers and/or graduate studies in computer science or related fields with a zeal for lifelong learning.
- To communicate effectively, both orally and in writing and engaged in collaborative teamwork.
- Recognize the social and ethical errands of a professional working in the discipline**.**

MISSION

The mission of the department is to impart computer education to the students in the rural area of Madurai district, so that they become enlightened and intelligent, and to improve the standards of their life, as well as to produce graduates who excel in research and service. We also aim to inculcate the attitudes and values that will motivate them towards the continuous process of learning and leadership. We strive to educate ground–breaking skills and technology for the benefit of learners through incessant upgradation of curriculum.

GRADUATE ATTRIBUTES

1. **(KB) A knowledge base for computer science**: Demonstrated competence in university level mathematics, natural sciences, computer science fundamentals, and specialized computer science knowledge appropriate to the program.
2. **(PA) Problem analysis**: An ability to use appropriate knowledge and skills to identify, formulate, analyze, and solve complex computer science problems in order to reach substantiated conclusions
3. **(Inv.) Investigation**: An ability to conduct investigations of complex problems by methods that include appropriate experiments, analysis and interpretation of data and synthesis of information in order to reach valid conclusions.
4. **(Des.) Design:** An ability to design solutions for complex, open–ended computer science problems and to design systems, components or processes that meet specified needs with appropriate attention to health and safety risks, applicable standards, and economic, environmental, cultural and societal considerations.
5. **(Tools) Use of computer science tools**: An ability to create, select, apply, adapt, and extend appropriate techniques, resources, and modern engineering tools to a range of computer science activities, from simple to complex, with an understanding of the associated limitations.
6. **(Team) Individual and teamwork**: An ability to work effectively as a member and leader in teams, preferably in a multi–disciplinary setting.
7. **(Comm.) Communication skills**: An ability to communicate complex computer science concepts within the profession and with society at large. Such ability includes reading, writing, speaking and listening, and the ability to comprehend and write effective reports and design documentation, and to give and effectively respond to clear instructions.
8. **(Prof.) Professionalism**: An understanding of the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest.
9. **(Impacts) Impact of computer science on society and the environment**: An ability to analyze social and environmental aspects of computer science activities. Such ability includes an understanding of the interactions that computer science has with the economic, social, health, safety, legal, and cultural aspects of society, the uncertainties in the prediction of such interactions; and the concepts of sustainable design and development and environmental stewardship.
10. **(Ethics) Ethics and equity**: An ability to apply professional ethics, accountability, and equity.
11. **(Econ.) Economics and project management**: An ability to appropriately incorporate economics and business practices including project, risk, and change management into the practice of computer science and to understand their limitations.
12. **(LL) Life–long learning**: An ability to identify and to address their own educational needs in a changing world in ways sufficient to maintain their competence and to allow them to contribute to the advancement of knowledge

SOURASHTRA COLLEGE, MADURAI – 625004

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B.Sc. COMPUTER SCIENCE – SYLLABUS

(Under CBCS based on OBE)

(For the students admitted from the academic year 2025 – 2026 onwards)

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

The B.Sc. Computer Science Graduates of the Sourashtra College will:

PEO1	get professional career by acquiring knowledge in Scientific, Mathematics and Computing and Engineering principles.
PEO 2	apply, Analyse, Design, Optimize and Implement skills in order to formulate and solve Computer Science and Multidisciplinary problems.
PEO 3	implement fundamental domain knowledge of core courses for developing effective computing solutions by incorporating creativity and logical solutions by incorporating creativity and logical reasoning.
PEO 4	deliver professional services with updated technologies in Computer Science based career.
PEO 5	develop leadership skills and incorporate ethics, team work with effective communication & time management in the profession.
PEO 6	undergo higher studies, certifications and research programs as per market needs.

UNDERGRADUATE (UG) PROGRAMME OUTCOMES (POs)

Undergraduate (B.A., **B.Sc.,** B.Com., B.C.A., B.B.A., etc.,) is a 3 – year degree Programme with 6 semesters consisting the following Programme Outcomes (POs) under various criteria including critical thinking, problem solving, effective communication, societal/ citizenship/ ethical credibility, sustainable growth and employable abilities.

PO 1	**Critical Thinking**: Intellectual exploration of knowledge towards actions in clear and rational manner by understanding the logical connections between ideas and decisions.
PO 2	**Problem Solving**: Understanding the task/ problem followed by planning and narrow execution strategy that effectively provides the solution.
PO 3	**Effective Communication:** Knowledge dissemination by oral and verbal mechanisms to the various components of our society.
PO 4	**Societal/ Citizenship/ Ethical Credibility**: Realization of various value systems/ moral dimensions and demonstrate the empathetic social concern as well as equity in all the decisions, executions and actions.
PO 5	**Environmental Concern and Sustainable Growth**: Understanding the emerging environmental challenges and provide the possible contribution in sustainable development that integrates environment, economy and employment.
PO 6	**Skill Development and Employable Abilities**: Adequate training in relevant skill sector and creating employable abilities among the under graduates.

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PROGRAMME SPECIFIC OUTCOMES (PSOs)

Upon completion of **B.Sc. Computer Science – Programme**, the students are expected /will be able to

PSO 1	develop as professionally competent citizens by applying the scientific knowledge of Computer Science with the ability to think clearly, rationally and creatively to support in evolving solutions to the social/public/scientific issues with responsible democratic participation
PSO 2	enterprise resourcefulness to identify, plan, formulate, design and evaluate solutions for complex computing problems that address the specific needs with appropriate consideration for Societal, Cultural, Environmental and Industrial domains.
PSO 3	develop holistically to ignite the lateral thinking ability in problem solving, acquisition of new skills, open– minded and organized way of facing problems with self– awareness and evolving analytical solutions
PSO 4	create and initiate innovations effectively and communicate efficiently with the computing community and society at large to bridge the gap between computing industry and academia
PSO 5	understand, assess and commit to professional and ethical principles, norms and responsibilities of the cyber world through Digital Literacy and gain the ability for work efficacy as a part of a team and engage effectively with diverse stakeholders
PSO 6	acquire ability and willingness to embark on new ventures and initiatives with critical thinking and desire for more continuous learning focusing on life skills.

DISTRIBUTION OF CREDITS (UG PROGRAMME)

Part	Semester	Courses	No. of. Courses	Hrs.	Credits	Total Credit
I	**I–IV**	Language	**4**	**6**	**3**	**12**
II	**I–IV**	English	**4**	**6**	**3**	**12**
III	**I–VI**	Core	**15**	**4– 6**	**3– 5**	**61**
	I–IV	Elective and Elective/Allied	**8**	**4– 5**	**3– 5**	**32**
IV	**I–II**	SEC (Non Major Elective)	**2**	**2**	**2**	**4**
	I	Foundation Course FC	**1**	**2**	**2**	**2**
	I–IV	SEC – (Discipline Specific/ Generic)	**6**	**2**	**2**	**12**
	IV	EVS (Environmental Studies)	**1**	**2**	**2**	**2**
	V	Value Education	**1**	**2**	**2**	**2**
	V	Internship	**1**	**–**	**1**	**1**
V	**IV**	Extension Activity	**–**	**–**	**1**	**1**
	V	Soft Skills	**1**	**–**	**1**	**1**
	VI	General Knowledge (online) (Self – Study)	**1**	**–**	**1**	**1**
Additional credit will be given to any Online Course taken in SWAYAM Portal						
		Total				**143**

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B.Sc. COMPUTER SCIENCE
COURSE STRUCTURE – I – SEMESTER

S. No.	Course Code	Part	Course Title	Hrs. / Week	Exam (Hrs.)	CA	SE	Total Marks	Credits
1	25UACT11	I	**Tamil** – பொதுத் தமிழ் – I	6	3	25	75	100	3
	25UACH11		**Hindi** – General Hindi – I						
	25UACS11		**Sanskri**t – Poetry, Grammar and History of Sanskrit Literature						
2	25UACE11	II	**English** – General English – I	6	3	25	75	100	3
3	25UCSC11	III	**Core – 1:** C Programming	5	3	25	75	100	5
4	25UCSCP1		**Core – 2**: **Lab**: C Programming	5	3	40	60	100	3
5	25UCSA11		**Elective/Allied – 1**: Discrete Structures	4	3	25	75	100	4
6	25UCSN11	IV	**SEC – 1**: **NME**: Office Automation	2	3	25	75	100	2
7	25UCSFC1		**Foundation Course:** Problem Solving Techniques	2	3	25	75	100	2
			TOTAL	**30**					**22**

II – SEMESTER

S. No.	Course Code	Part	Course Title	Hrs. / Week	Exam (Hrs.)	CA	SE	Total Marks	Credits
1	25UACT21	I	**Tamil** – பொதுத் தமிழ் – II	6	3	25	75	100	3
	25UACH21		**Hindi** – General Hindi – II						
	25UACS21		**Sanskri**t – Prose, Grammar and History of Sanskrit Literature						
2	25UACE21	II	**English** – General English – II	6	3	25	75	100	3
3	25UCSC21	III	**Core – 3**: Data Structures and Algorithms	5	3	25	75	100	5
4	25UCSCP2		**Core – 4**: **Lab:** Data Structures Using C	5	3	40	60	100	3
5	25UCSA21		**Elective/Allied – 2**: Statistical Methods and its Applications	4	3	25	75	100	4
6	25UCSN21	IV	**SEC – 2: NME:** Introduction to Internet	2	3	25	75	100	2
7	25UCSS21		**SEC – 3**: **DS:** Digital Computer Fundamentals	2	3	25	75	100	2
			TOTAL	**30**					**22**

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COURSE STRUCTURE – I SEMESTER

S. No.	Course Code	Part	Course Title	Hrs. / Week	Exam (Hrs.)	CA	SE	Total Marks	Credits
1	25UACT11	I	**Tamil** – பொதுத் தமிழ் – I	6	3	25	75	100	3
	25UACH11		**Hindi** – General Hindi – I						
	25UACS11		**Sanskrit** – Poetry, Grammar and History of Sanskrit Literature						
2	25UACE11	II	**English** – General English – I	6	3	25	75	100	3
3	25UCSC11	III	**Core – 1:** C Programming	5	3	25	75	100	5
4	25UCSCP1		**Core – 2**: **Lab**: C Programming	5	3	40	60	100	3
5	25UCSA11		**Elective/Allied – 1**: Discrete Structures	4	3	25	75	100	4
6	25UCSN11	IV	**SEC – 1**: **NME**: Office Automation	2	3	25	75	100	2
7	25UCSFC1		**Foundation Course:** Problem Solving Techniques	2	3	25	75	100	2
			TOTAL	**30**					**22**

CA – Class Assessment (Internal)

SE – Summative Examination

SEC – Skill Enhancement Course

DS – Discipline Specific

NME – Non –Major Elective

T – Theory

P – Practical

Passed in the BoS Meeting held on 27/02/2025 **Signature of the Chairman**

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSC11	C PROGRAMMING	CORE – 1	5	–	5

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	25	75	100

Curriculum Design and Development	Employability		✓	Skill Oriented		✓	Entrepreneurship				
	National		Local		Regional		Global				✓
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values		✓

COURSE DESCRIPTION:

This course helps to provide the fundamental knowledge of a programming language and its features which enhances the user to write general purpose application programs

COURSE OBJECTIVES:

- To inculcate fundamental knowledge of programming
- To develop programming skills using the fundamentals and basics of C language
- To stress the importance of clarity , simplicity and the efficiency in writing programs

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	apply the basic concepts and develop program to find solutions for simple problems	Upto K3
CO 2	design programs to solve complex problems by using suitable control statements	Upto K3
CO 3	analyze the problem and design efficient program using functions	Upto K3
CO 4	use array and structure to handle volume of data	Upto K3
CO 5	use advanced data structures pointers and files for data processing	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

PROGRAMMING IN C

UNIT – I:

C fundamentals Character set – Identifier and keywords – Data types –Constants – Variables – Declarations – Expressions – Operators – Arithmetic, Unary, Relational and logical, Assignment and Conditional Operators – Library functions.

UNIT – II:

Data Input output functions – Simple C programs – Control Statements – if, if–else, nested if – Looping Statements – while, do–while, for loop, Nested control structures – Switch, break and continue, go to statements – Comma operator.

UNIT – III:

Functions –Definition – prototypes – Passing arguments – Recursions–Storage Classes – Automatic, External, Static, Register Variables

UNIT – IV:

Arrays – Defining and processing – Passing arrays to functions – Multi–dimension arrays – Arrays and String.

Structures – User defined data types – Passing structures to functions – Self–referential structures – Unions – Bit wise operations.

UNIT – V:

Pointers – Declarations – Passing pointers to Functions – Operation in Pointers– Pointer and Arrays – Arrays of Pointers – Structures and Pointers

Files: Sequential and random file Creation and Processing

TEXT BOOKS:

E.Balagurusamy, ***Programming in ANSI C***, Fifth Edition, Tata McGraw

REFERENCE BOOKS:

1. B.W. Kernighan and D M. Ritchie, ***The C Programming Language***, 2nd Edition, PHI, 1988.
2. H.Schildt, ***C: The Complete Reference***,4th Edition.TMH Edition,2000.
3. Gottfried B.S, ***Programming with C***. Second Edition, TMH Pub. Co. Ltd., New Delhi1996.
4. KanetkarY., ***Let us C***, BPB Pub.,New Delhi,1999.

DIGITAL TOOLS:

http://www.kciti.edu/wp–content/uploads/2017/07/cprogramming_tutorial.pdf
https://www.skiet.org/downloads/cprogrammingquestion.pdf
https://phy.ntnu.edu.tw/~cchen/pdf/ctutor.pdf

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	2	2	3	1	3
CO2	2	2	3	1	3	1
CO3	3	1	2	3	1	2
CO4	2	3	1	3	2	3
CO5	2	3	2	2	2	2

3. Advanced Application 2. Intermediate Development 1. Introductory Level

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSCP1	LAB: C PROGRAMMING	CORE – 2 LAB	–	5	3

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	40	60	100

Curriculum Design and Development	Employability		✓	Skill Oriented		✓	Entrepreneurship				
	National		Local		Regional		Global				✓
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values		✓

COURSE DESCRIPTION:

This course helps to provide the fundamental knowledge of a programming language and its features which enhances the user to write general purpose application programs.

COURSE OBJECTIVES:

- To inculcate fundamental knowledge of programming
- To develop programming skills using the fundamentals and basics of C language
- To stress the importance of clarity , simplicity and the efficiency in writing programs
- It aims to train the student to the basic concepts of the C–programming language
- To improve the programming skills through C language

LAB: C PROGRAMMING
LIST OF EXPERIMENTS

Basic Concepts

1. Finding Simple Interest and Compound Interest
2. Centigrade to Fahrenheit and Fahrenheit to Centigrade
3. Finding roots of a quadratic equation
4. Finding Standard Deviation and Variance

Conditional and Looping

1. EB Bill Generation
2. Print Grade of a student
3. Checking Prime Number, Armstrong Number
4. Sum of the digits of a number

Using Arrays

1. Sum of the Arrays
2. Finding largest elements
3. Search an element
4. Standard Deviation and Variance

Summation of Series

1. Sin(x),
2. Cos(x),
3. Exp(x) (Comparison with built in functions)

String Manipulation

1. Counting the number of vowels, consonants, words, white spaces in a line of text and array of lines.
2. Reverse a string and check for palindrome.
3. Substring detection, count and removal.
4. Finding and replacing substrings.

Functions

1. Basic Arithmetic Operations
2. Sorting

Recursion

1. ${}^{n}P_{r}, {}^{n}C_{r}$
2. Finding Factorial
3. GCD of two numbers

Matrix Manipulation

1. Addition
2. Subtraction
3. Sum of diagonal elements
4. Transpose

Structures

1. Mark Sheet Preparation using structure
2. Paybill Preparation using structure

Files

1. Inventory Control using files
2. Maintaining Book Information using files

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSA11	DISCRETE STRUCTURES	ELECTIVE / ALLIED – 1	4	–	4

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	25	75	100

Curriculum Design and Development	Employability			Skill Oriented		✓	Entrepreneurship				
	National	✓	Local		Regional		Global				
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values	✓	

COURSE DESCRIPTION:

This course helps to provide the fundamental knowledge of Discrete structures like Set theory, Relations, Functions, Matrices, Logic

COURSE OBJECTIVES:

- To teach the basic concepts of Set theory and Relations
- To impart knowledge on solving problems using logic
- To solve various problems using matrices.
- To give the basic concepts of Graph theory and its applications

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	identify the basic concepts Set theory & Relations	Upto K3
CO 2	know about Matrix Algebra	Upto K3
CO 3	understand the idea of Logics using Truth tables	Upto K3
CO 4	know about the basic concepts of Graph Theory and its applications	Upto K3
CO 5	use array and structure to handle volume of data	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

DISCRETE STRUCTURES

UNIT– I: SET THEORY

Sets – Notation and Description of sets – Subsets – Venn–Euler diagram –Operations on sets – Properties on Set operations – Verification of the Basic Laws of Algebra by Venn diagrams – The Principle of Duality–Worked examples – Theorems (Statements only).

Relations: Relations – Representation of a Relation – Operations on Relations –Equivalence Relation–Worked examples – Theorems (Statements only).

UNIT– II: MATRIX ALGEBRA

Introduction – Matrix operations – Inverse of a square matrix – Elementary operations and Rank of a Matrix – Simultaneous equations – Eigen values and Eigen vectors–Worked examples – Theorems (Statements only).

UNIT– III: LOGIC

Introduction – TF statements – Connectives – Atomic and Compound statements – Well formed Formulae – The Truth Table of a Formula – Tautological Implications and Equivalence of Formulae implication and equivalence of formulae–Worked examples – Theorems (Statements only).

UNIT– IV: GRAPH THEORY: BASIC CONCEPTS

Definitions – Incidence and Degree – Subgraph – Graph Isomorphisms – Some special Classes of Graphs – Paths– Cycles – Connectedness –Worked examples – Theorems (Statements only).

UNIT– V: MATRIX REPRESENTATION OF GRAPHS

The Adjacency Matrix of Undirected Graph – Incidence Matrix – Path Matrix – **Trees –** Centres in a tree – Fundamental Circuits – **Spanning Trees** – Minimum spanning tree – Kruskal's algorithm – Prim's algorithm– Worked examples –Theorems (Statements only).

(NOTE: In all UNITS, Worked examples only and Theorems (Statements only))

TEXT BOOK:

"*Discrete Mathematics*", by Dr.M.K. Venkataraman, Dr.N. Sridharan and Dr.N. Chandrasekaran, National Publishing Company, 2000.

UNIT–I : 1.1 – 1.24 , 2.6 – 2.27
UNIT–II : 6.1–6.31, 6.37–6.44
UNIT–III : 9.1–9.34
UNIT–IV : 11.1–11.33
UNIT–V : 11.34–11.39, 11.54–11.64, 11.68–11.76

REFERENCE BOOK:

Modern Algebra S. Arumugam & A. Thangapandi Issac, Scitech publications, 2005

DIGITAL TOOLS:

https://www.coursera.org/specializations/discrete–mathematics
https://www.javatpoint.com/discrete–mathematics–tutorial
https://medium.com/basecs/a–gentle–introduction–to–graph–theory–77969829ead8

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	2	2	3	1	3
CO2	2	2	3	1	3	1
CO3	3	1	2	3	1	2
CO4	2	3	1	3	2	3
CO5	2	3	2	2	2	2

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSN11	OFFICE AUTOMATION	SEC–1 NME	2	–	2

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	25	75	100

Curriculum Design and Development	Employability			Skill Oriented	✓	Entrepreneurship					
	National		Local		Regional		Global			✓	
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values	✓	

COURSE DESCRIPTION:

To train students in automating the office work using MS–WORD, MS–EXCEL, MS–POWERPOINT and MS–ACCESS

COURSE OBJECTIVES:

- To create an awareness about fundamentals of computers to Non–Comp.Sc. students
- To give knowledge about document handling using MS–WORD, creating worksheets and graphs using MS–EXCEL
- To impart knowledge on Slide presentation using MS–POWER POINT
- To impart knowledge on creating and accessing database using MS–ACCESS

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	understand about fundamentals of computers to Non–Computer Science students	Upto K3
CO 2	know about document handling using MS–WORD	Upto K3
CO 3	create worksheets and graphs using MS–EXCEL	Upto K3
CO 4	know Slide presentation using MS–POWER POINT	Upto K3
CO 5	learn to create and access database using MS–ACCESS	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

OFFICE AUTOMATION

UNIT– I:

MS Word Introduction – Saving the file – Formatting the text – Alignment of Text – Applying Fonts – Spell Checking – Character Styles – Borders and Shading –Closing the file –Save As Option – Print Document – Editing the document – Editing the tools – Find and Replace – Page Numbering – Setting Header and Footer

UNIT– II:

Mail Merge – Inserting Clip Arts, Pictures, WordArt , Date & Time, WordArt– Table Creation – inserting & deleting cells , rows, columns

MS Excel Introduction – Creating a Worksheet – Saving a file – Copying Formula – Formulas that make decision – Typing with auto fill

UNIT– III:

Adding and deleting rows and columns – changing the size of rows and columns – add or remove work sheet – Functions in Excel – Auto Calculate – Sum, Average – Maths & Trignometric Functions – Statistical Functions –Sorting

UNIT– IV:

MS Power point: Introduction to presentation – Creating – Opening new presentation, Different presentation templates, Setting backgrounds, Selecting presentation layouts,. Formatting a Presentation – Adding style, Colour, gradient ,Arranging objects, Slide Background, Slide layout.

UNIT– V:

Adding Graphics to the Presentation– Inserting pictures, movies, tables etc into presentation, insert shapes . Adding Effects to the Presentation– Setting Animation & transition effect.

TEXT BOOK:

Learning Computer Fundamentals, MS Office and Internet & Web Technology – Dinesh Maidasani – FIREWALL MEDIA, First Edition 2005.

REFERENCE BOOK:

A Beginners Guide to Computers – Alexis Leon & Mathews Leon–Vikas Publishing House Pvt Ltd.

DIGITAL TOOLS:

https://onlinecourses.swayam2.ac.in/cec20_cs05/preview
https://www.tutorialspoint.com/ms_word_online_training/index.asp
https://www.w3schools.com/excel/
https://www.javatpoint.com/ms–word–tutorial
https://www.tutorialspoint.com/powerpoint/index.htm
https://www.tutorialspoint.com/ms_access/index.htm

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	1	2	2	2	1
CO2	1	1	1	2	2	1
CO3	1	1	2	2	1	1
CO4	1	1	2	2	2	1
CO5	1	1	2	1	1	1

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSFC1	PROBLEM SOLVING TECHNIQUES	FOUNDATION COURSE	2	–	2

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	25	75	100

Curriculum Design and Development	Employability			Skill Oriented	✓	Entrepreneurship					
	National	✓	Local		Regional		Global				
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values	✓	

COURSE DESCRIPTION:

This course helps students to acquire knowledge about Problem Solving, decomposition of problems into functions, use data flow diagrams

COURSE OBJECTIVES:

- Familiarize with writing of algorithms, fundamentals of C and philosophy of problem solving.
- Implement different programming constructs and decomposition of problems into functions.
- Use data flow diagram, Pseudo code to implement solutions.
- Define and use of arrays with simple applications
- Understand about operating system and their uses

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	study the basic knowledge of computers, analyse the programming languages	Upto K3
CO 2	study the data types and arithmetic operations, know about the algorithms, develop program using flow chart and pseudo code	Upto K3
CO 3	determine the various operators, explain about the structures, illustrate the concept of loops	Upto K3
CO 4	study about numeric data and character–based data, analyze about arrays	Upto K3
CO 5	explain about dfd, illustrate program modules, create and read files	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

PROBLEM SOLVING TECHNIQUES

UNIT– I: INTRODUCTION

History, characteristics and limitations of Computer. Hardware/Anatomy of Computer: CPU, Memory, Secondary storage devices, Input Devices and Output devices. Types of Computers: PC, Workstation, Minicomputer, Main frame and Supercomputer. Software: System software and Application software. Programming Languages: Machine language, Assembly language, High– level language–4 GL and 5GL.

UNIT– I: DATA

Data types, Input, Processing of data, Arithmetic Operators, Hierarchy of operations and Output. Different phases in Program Development Cycle (PDC). Structured Programming: Algorithm: Features of good algorithm, Benefits and drawbacks of algorithm. Flowcharts: Advantages and limitations of flowcharts, when to use flowcharts, flowchart symbols and types of flowcharts.

UNIT– III: SELECTION STRUCTURES

Relational and Logical Operators – Selecting from Several Alternatives – Applications of Selection Structures. Repetition Structures: Counter Controlled Loops –Nested Loops

UNIT– IV: DATA

Numeric Data and Character Based Data. Arrays: One Dimensional Array – Two Dimensional Arrays – Strings as Arrays of Characters.

UNIT– V: DATA FLOW DIAGRAMS

Definition, DFD symbols and types of DFDs. Program Modules: Subprograms–Value and Reference parameters– Scope of a variable–Functions– Recursion.

TEXT BOOKS:

1. Stewart Venit, ***Introduction to Programming: Concepts and Design***, Fourth Edition, 2010, Dream Tech Publishers.
2. Dr.H. Salome Hemachitra, Dr.P. Mahizharuvi, Dr.M.Vithya, ***Problem Solving Techniques***, First Edition, 2024, SK Research group of Companies–SKRGC Publications

REFERENCE BOOKS:

1. R. G. Dromey, ***How to Solve it by Computer***, Pearson India, 2007.
2. George Polya, Jeremy Kilpatrick, ***The Stanford Mathematics Problem Book: With Hints and Solutions,*** Dover Publications, 2009 (Kindle Edition 2013).
3. Greg W. Scragg, ***Problem Solving with Computers***, Jones & Bartlett 1st edition, 1996.

DIGITAL TOOLS:

https://www.codesansar.com/computer–basics/problem–solving–using–computer.htm
http://www.nptel.iitm.ac.in/video.php?subjectId=106102067
http://utubersity.com/?page_id=876

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	2	2	1	2	1
CO2	2	3	3	2	2	2
CO3	1	3	2	2	2	3
CO4	3	2	1	3	2	2
CO5	2	3	2	2	2	1

3. Advanced Application 2. Intermediate Development 1. Introductory Level

SOURASHTRA COLLEGE, MADURAI – 625004

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B.Sc. COMPUTER SCIENCE – SYLLABUS

(Under CBCS based on OBE)

(For the students admitted from the academic year 2025 – 2026 onwards)

COURSE STRUCTURE – II SEMESTER

S. No.	Course Code	Part	Course Title	Hrs. / Week	Exam (Hrs.)	CA	SE	Total Marks	Credits
1	25UACT21	I	**Tamil** – பொதுத் தமிழ் – II	6	3	25	75	100	3
	25UACH21		**Hindi** – General Hindi – II						
	25UACS21		**Sanskrit** – Prose, Grammar and History of Sanskrit Literature						
2	25UACE21	II	**English** – General English – II	6	3	25	75	100	3
3	25UCSC21	III	**Core – 3**: Data Structures and Algorithms	5	3	25	75	100	5
4	25UCSCP2		**Core – 4**: **Lab:** Data Structures Using C	5	3	40	60	100	3
5	25UCSA21		**Elective/Allied – 2**: Statistical Methods and its Applications	4	3	25	75	100	4
6	25UCSN21	IV	**SEC – 2: NME:** Introduction to Internet	2	3	25	75	100	2
7	25UCSS21		**SEC – 3**: **DS:** Digital Computer Fundamentals	2	3	25	75	100	2
			TOTAL	**30**					**22**

CA – Class Assessment (Internal)

SE – Summative Examination

SEC – Skill Enhancement Course

DS – Discipline Specific

NME – Non –Major Elective

T – Theory

P – Practical

Passed in the BoS Meeting held on 27/02/2025 **Signature of the Chairman**

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSC21	DATA STRUCTURES AND ALGORITHMS	CORE – 3	5	–	5

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	II	25	75	100

Curriculum Design and Development	Employability		✓	Skill Oriented		✓	Entrepreneur ship					
	National		Local		Regional		Global				✓	
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values	✓		

COURSE DESCRIPTION:

This course aims to impart fundamental knowledge on application of data structures in problem solving using several predefined algorithms

COURSE OBJECTIVES:

- To impart knowledge and skill on identifying apt data structures to solve problems efficiently.
- To impart skill to write time and space efficient algorithms.
- To give knowledge on the concepts and applications of (i) linear data structures viz., arrays, stacks, queues (ii) linked linear data structures viz., linked lists, linked stacks and linked queues and (iii) Non–linear data structures viz.,trees, binary trees
- To give knowledge on various sorting and searching algorithms
- To impart knowledge on solving problems using algorithmic techniques viz., Divide and Conquer, Greedy Approach

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	identify data structures needed to solve specific problems	Upto K3
CO 2	analyze the data structures for effective use in problem solving	Upto K3
CO 3	design and develop efficient algorithms in terms of space and time	Upto K3
CO 4	troubleshoot algorithms	Upto K3
CO 5	analyze time complexity of algorithms	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

DATA STRUCTURES AND ALGORITHMS

UNIT – I: INTRODUCTION

Basic Terminology; Elementary data organization – Data structure operations – Complexity of algorithms – other asymptotic notations for complexity of algorithms

Arrays – Introduction – Linear Arrays – Representation of Linear Arrays in memory – Traversing Linear Arrays –Inserting and Deleting – Searching – Linear Search– Binary Search – Multi dimensional arrays

UNIT – II: LINKED LIST

Introduction – Representation on Linked list in memory – Traversing a linked list – searching in a linked list

Memory Allocation: Garbage Collection – Inserting into a linked list – Deletion from a linked list

UNIT – III: STACK

Introduction – Array representation of stacks – Linked list representation of stacks – **Arithmetic Expression** : Polish Notation – Evaluation of a Postfix expression – transforming infix expression to postfix expression – **Recursio**n : Factorial , Fibonacci – Towers of Hanoi

Queue – Linked Representation of Queues – DeQueue

UNIT – IV: TREES

Binary Trees – Representing binary trees in memory – Traversing binary trees – Binary Search Trees –Searching and inserting in binary search trees – deleting a binary search tree

Algorithms – Introduction– What is an Algorithm – Algorithms Specification – Performance Analysis

Divide and Conquer – Genera Methods – Sorting–Insertion sort – Selection sort – Merge Sort – Quick Sort

UNIT – V: GREEDY METHOD

Knapsack problem – Job Sequencing with deadlines **Minimum Cost Spanning Tree –** Prim's Algorithm – Krushkal's Algorithm – Optimal Storage on Tapes – Optimal Merge Patterns – Dijikstra 's Single source shortest path

TEXT BOOKS:

1. ***Data Structures*** by Seymour Lipschutz, Schaum's outlines, Tata McGraw Hill Education Private Limited, New Delhi. edition 2006.
2. ***Fundamentals of Computer Algorithms***, Ellis Horowitz, Sartaj Shani, Galgotia publications Pvt Ltd, New Delhi

REFERENCE BOOKS:

1. ***Data structures Using C*** Aaron M. Tenenbaum, Yedidyah Langsam, Moshe J.Augenstein, Kindersley (India) Pvt.Ltd.,
2. ***Data structures and Algorithms***, Alfred V. Aho, John E. Hopcroft, Jeffrey D. Ullman, Pearson Education Pvt.Ltd.,

DIGITAL TOOLS:

https://www.computer–pdf.com/programming/781–tutorial–data–structure–and–algorithm–notes.html
https://www.cs.princeton.edu/courses/archive/spr11/cos247/lectures/08DsAlg.pdf
https://www.iare.ac.in/sites/default/files/lecture_notes/IARE_DS_LECTURE_NOTES_2.pdf

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	2	3	3	2	2
CO2	2	2	3	2	3	3
CO3	3	2	2	3	1	2
CO4	2	3	2	2	3	3
CO5	2	3	3	2	1	3

3. Advanced Application 2. Intermediate Development 1. Introductory Level

COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSCP2	LAB: DATA STRUCTURES USING C	CORE – 4 LAB	–	5	3

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	II	40	60	100

Curriculum Design and Development	Employability		✓	Skill Oriented		✓	Entrepreneur ship				
	National		Local		Regional		Global				✓
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values		✓

COURSE DESCRIPTION:

This course aims to impart fundamental knowledge to organize and structure data to the design and implementation of efficient algorithms and program development. And also learn on application of data structures in problem solving using several predefined algorithms.

COURSE OBJECTIVES:

- To impart knowledge and skill on identifying apt data structures to solve problems efficiently.
- To impart skill to write time and space efficient algorithms.
- To give knowledge on the concepts and applications of (i) linear data structures viz., arrays, stacks, queues (ii) linked linear data structures viz., linked lists, linked stacks and linked queues and (iii) Non–linear data structures viz.,trees, binary trees
- To give knowledge on various sorting and searching algorithms
- To impart knowledge on solving problems using algorithmic techniques viz., Divide and Conquer, Greedy Approach

LAB: DATA STRUCTURES USING C

LIST OF EXPERIMENTS

1. MERGE TWO ARRAYS
2. LINEAR SEARCH
3. BINARY SEARCH
4. BUBBLE SORT
5. QUICK SORT
6. MERGE SORT
7. LINEAR ARRAY – INSERTION
8. LINEAR ARRAY – DELETION
9. LARGEST, SMALLEST ELEMENT IN AN ARRAY
10. MATRIX MULTIPLICATION
11. CHECK SPARSE MATRIX
12. DIAGONAL, TRANSPOSE OF A MATRIX
13. STACK REPRESENTATION
14. POLYNOMIAL ADDITION
15. INFIX TO POSTFIX
16. QUEUE REPRESENTATION
17. LINKDED LIST REPRESENTATION
18. TREE TRAVERSAL
19. HASH TABLE REPRESENTATION

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSA21	STATISTICAL METHODS AND ITS APPLICATIONS	ELECTIVE / ALLIED–2	4	–	4

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	25	75	100

Curriculum Design and Development	Employability	✓	Skill Oriented	✓			Entrepreneurship	✓			
	National	✓	Local	✓	Regional	✓	Global	✓			
Curriculum Enrichment	Professional Ethics	✓	Gender	✓	Environment and Sustainability	✓	Human Values	✓	Other Values	✓	

COURSE DESCRIPTION:

To give knowledge about probability and Statistical methods and its applications

COURSE OBJECTIVES:

- To give knowledge about graphical representation of data in the form of Histogram, Frequency Polygon, etc.,
- To give knowledge about the various measures of Central Tendency like, Mean, Median, Mode, Geometric Mean and Harmonic Mean
- To give knowledge about the various measures of dispersion like, Range, Standard deviation, Quartile deviation, Mean deviation
- To give knowledge About Correlation and regression between two sets of data
- To give knowledge about Probability, Baye's theorem, Mathematical expectations

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	know about graphical representation of data in the form of Histogram, Frequency Polygon, etc.,	Upto K3
CO 2	know about the various measures of Central Tendency like, Mean, Median, Mode, Geometric Mean and Harmonic Mean	Upto K3
CO 3	know about the various measures of dispersion like, Range, Standard deviation, Quartile deviation, Mean deviation	Upto K3
CO 4	know About Correlation and regression between two sets of data	Upto K3
CO 5	know about Probability, Baye's theorem, Mathematical expectations	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

STATISTICAL METHODS AND ITS APPLICATIONS

UNIT– I: DIAGRAMMATIC AND GRAPHIC PRESENTATION

Introduction: Significance of diagrams and graphs – General rules for constructing diagrams. Types of diagrams: Two–dimensional diagrams – Pie diagrams – Graphs of frequency Distributions: – Histogram – Frequency polygon – Ogives [Worked out Problems only].

UNIT– II: MEASURES OF CENTRAL VALUE

Introduction: Types of averages – Arithmetic mean–Discrete and continuous series: Correcting incorrect values–weighted arithmetic mean – median – Computation of Quartiles – Percentiles, etc,.– Mode –Geometric Mean – Harmonic mean [Worked out problems only].

UNIT– III: MEASURES OF DISPERSION

Introduction: Methods of studying variation–Range, Quartile deviation, Mean deviation, Standard deviation–Combined standard deviation, Coefficient of variation: [Worked out problems only].

UNIT– IV: CORRELATION AND REGRESSION

Introduction: Types of correlation–Methods of studying correlation–Correlation of grouped data–Rank correlation coefficient: Regression lines: – Regression equations. [Worked out problems only]

UNIT– V: PROBABILITY AND EXPECTED VALUE

Introduction: –Classical or Priori probability–Calculation of probability–Theorems of probability – Conditional probability – Bayes' theorem (Statement only) –Mathematical expectation [Worked out problems only].

TEXT BOOK:

Statistical Methods by S.P. Gupta, Sultan Chand and Sons, 39th Edition, 2010**.**

Unit I: Pages 127 – 145, 164 – 175 **Unit II:** Pages 177 – 263

Unit III: Pages 267 – 327 **Unit IV:** Pages 377 – 398, 404 – 411,

Unit V: Pages 751 – 799 419 – 474

REFERENCE BOOKS:

1. ***Elements of Mathematical Statistics*** by S.P. Gupta
2. ***Fundamentals of Mathematical Statistics*** by S.C. Gupta, V.K. Kapoor

DIGITAL TOOLS:

https://www.dcpehvpm.org/E–Content/Stat/FUNDAMENTAL%20OF%20MATHEMATICAL%20STATISTICS–S%20C%20GUPTA%20&%20V%20K%20KAPOOR.pdf
https://minerva.it.manchester.ac.uk/~saralees/statbook2.pdf
https://www.utstat.toronto.edu/mikevans/jeffrosenthal/book.pdf

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	2	2	1	1	3
CO2	2	2	1	1	1	1
CO3	1	1	2	3	1	1
CO4	1	3	1	1	1	3
CO5	1	1	2	2	2	2

3. Advanced Application 2. Intermediate Development 1. Introductory Level

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSN21	INTRODUCTION TO INTERNET	SEC – 2 NME	2	–	2

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	I	25	75	100

Curriculum Design and Development	Employability		✓	Skill Oriented		✓	Entrepreneurship				
	National	✓	Local		Regional		Global				
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values	✓	

COURSE DESCRIPTION:

This course aims to impart skills to design and develop web pages using HTML and to design website using open source package

COURSE OBJECTIVES:

- To give knowledge on the basic concepts of Internet
- To prepare the students to design their own web pages.
- To use and to customize the templates as per the requirement.
- To enable the students to develop dynamic web pages and to upload the documents.
- To give basic knowledge on social networks

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	understand the basic concepts of Internet and Create simple web page using physical tags of HTML	Upto K3
CO 2	present the information in standard form in a web page using structure tags supported by the browsers	Upto K3
CO 3	design the layout for a web page using browser support tags	Upto K3
CO 4	develop a web site with the provision to go around all pages	Upto K3
CO 5	design a website using a theme available in Frame and Forms	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

INTRODUCTION TO INTERNET

UNIT– I:

Introduction – Internet – History – How the Web Works – Web Server and Clients – Connections – ISDN – Dialup or leased – DNS – Registering – Intranet – Overview of Web Browsers

UNIT– II:

HTML – Basic Components of HTML – Formatting – URL – PROTOCOL – Server Name – Linking to other HTML Documents – Linking Inside the same document – FTP – GOPHER – FTP Commands

UNIT– III:

Lists – Ordered lists – Unordered lists – Directory lists – Definition lists – Combining List types – Graphics and Web pages

UNIT– IV:

Image Formats – Graphics In HTML – Images and Hyper link anchors – Image Maps. Tables –Frames In HTML – Frame set Container

UNIT– V:

HTML Forms – Input tag – Form elements – Background graphics and color – MS Internet – Extensions – Font Tag – Scrolling Marquees – Introduction to social network – Face book , Twitter, WhatsApp–Introduction to E–shopping

TEXT BOOK:

Computer Fundamentals and Windows with Internet Technology. By N.KRISHNAN, PUBLISHER SCITECH

REFERENCE BOOKS:

1. ***The Internet Book***, Douglas E. Comer Fourth Edition, PHI Learning Pvt. Ltd, New Delhi–2009.
2. ***Using the Internet the easy way***, Young Kai Seng Minerva Publications, First Edition, 2000.

DIGITAL TOOLS:

www.Wikipedia.Com
www.W3Schools.Com
www.webopedia.com

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	2	2	2	2	2
CO2	1	1	1	1	2	2
CO3	1	2	2	2	2	2
CO4	1	2	2	2	2	2
CO5	1	2	2	2	2	2

3. Advanced Application 2. Intermediate Development 1. Introductory Level

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COURSE CODE	COURSE TITLE	CATEGORY	T	P	CREDITS
25UCSS21	DIGITAL COMPUTER FUNDAMENTALS	SEC – 3 DS	2	–	2

YEAR	SEMESTER	INTERNAL	EXTERNAL	TOTAL
I	II	25	75	100

Curriculum Design and Development	Employability			Skill Oriented	✓	Entrepreneurship					
	National	✓	Local		Regional		Global				
Curriculum Enrichment	Professional Ethics		Gender		Environment and Sustainability		Human Values		Other Values	✓	

COURSE DESCRIPTION:

The course enables the students to design Digital Circuits using basic logic gates and simplified Boolean functions and to understand concepts of sequential circuits and combinational circuits

COURSE OBJECTIVES:

- To give knowledge about basic number systems like Binary, Octal, Decimal, Hexadecimal number system
- To inculcate knowledge on basic logic gates and Boolean algebra
- To give knowledge on the physical internal components of computers like Multiplexers, Decoders, Encoders, Flip flops, Registers and Counters

COURSE OUTCOMES (COs):

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

No.	Course Outcomes	Knowledge Level (According to Bloom's Taxonomy)
CO 1	describe the basics of Number Systems, Codes and logic gates	Upto K3
CO 2	understand the concepts of Boolean Algebra and Karanaugh Maps	Upto K3
CO 3	analyze the purpose and applications of Combinational and Sequential Logic	Upto K3
CO 4	discuss the various types of Combinational and Sequential Logic	Upto K3
CO 5	explain the purpose, working principles and timing diagram of Registers and Counters	Upto K3

K1– KNOWLEDGE (REMEMBERING), K2–UNDERSTANDING, K3–APPLYING

DIGITAL COMPUTER FUNDAMENTALS

UNIT – I:

Binary number system – Binary to Decimal conversions – Decimal to Binary – Octal – Hexadecimal numbers – ASCII code–Excess–3 code – The basic gates – Inverter – OR Gates – AND Gates – Universal logic gates–NOR Gates–NAND Gates

UNIT – II:

Boolean laws and theorems–Sum of Products method–Truth tables to Karnaugh map–Pairs, Quads, Octets – Karnaugh map simplifications–Don't care conditions—Product of sum methods–Simplifications.

UNIT – III:

Multiplexers–De–Multiplexers–1–of–16–Decoders–BCD–to–Decimal Decoders– 7–segment decoders–Encoders

UNIT – IV:

Binary Addition–Binary Subtraction–2's & 1's complement representation–2'sComplement Arithmetic–Arithmetic building blocks–Half adder and Full adder–RS–flip flop–Clocked D–Flip Flop–Edge triggered JK Flip Flop

UNIT – V:

Types of Registers–Serial in Serial out–Serial in Parallel out–Ripple Counter–Synchronous Counter–Mod–8 parallel binary counter

TEXT BOOKS:

Digital Principles and Applications by Albert Paul Malvino and Donald P.Leach , Sixth Edition Tata McGraw–Hill–Edition

UNIT I: Chapters: 2.1 to 2.3, 5.1 to 5.7
UNIT II: Chapters: 3.1 to 3.8
UNIT III: Chapters: 4.1 to 4.6
UNIT IV: Chapters: 6.1 to 6.7, 8.1, 8.3, 8.5
UNIT V: Chapters: 9.1 to 9.3, 10.1, 10.3

REFERENCE BOOKS:

1. ***Digital Computer Fundamentals***, by Thomas C. Bartee TMH 2007.
2. ***Digital Circuits and Design***, by S. Salivahanan and S. Arivazhagan ,Vikas Publishers.2005

DIGITAL TOOLS:

https://www.mheducation.co.in/digital–principles–and–applications–sie–9789339203405–india
http://jnujprdistance.com/assets/lms/LMS%20JNU/B.Sc.(IT)/Sem%20I/Digital%20Computer%20Fundamentals/Version%201/Digital%20Computer%20Fundamentals.pdf

Mapping of CO with PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	1	1	1	1	1	2
CO2	2	2	1	2	1	3
CO3	3	2	1	1	2	2
CO4	2	1	2	2	2	3
CO5	1	1	1	1	1	1

3. Advanced Application 2. Intermediate Development 1. Introductory Level