



Dr. N.G.P. ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)
Approved by Government of Tamilnadu & Accredited by NAAC with 'A++' Grade(3rd Cycle-3.64 CGPA)
Dr. N.G.P.- Kalapatti Road, Coimbatore-641048, Tamilnadu, India
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REGULATIONS 2026-27 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit System)

Bachelor of Science in Computer Science Degree

(For the students admitted during the academic year 2026-2027 and onwards)

Programme:B.Sc. Computer Science

Eligibility

Candidates for admission to the first year of the **Bachelor of Science (Computer Science)** Degree Programme shall be required to have passed in the Higher Secondary Examinations conducted by the Government of Tamil Nadu in the relevant subjects or an Examination accepted as equivalent thereto by the Academic Council. Subject to such other conditions as may be prescribed there to are permitted to appear and qualify with any one of the following subjects: Mathematics / Computer Science / Statistics / Business Mathematics and wherever the students have not studied Mathematics, the necessary Mathematics knowledge be imparted through Tutorial/ Bridge Course.

Programme Educational Objectives

The Curriculum is designed to attain the following learning goals which students shall accomplish by the time of their graduation:

1. To provide adequate basic understanding about Computer Science and its applications.
2. To exploit emerging technologies in Computer Science and its related discipline.
3. To expose adequate training to the computing environment in Software Development, Graphics, Data Mining etc.
4. To inculcate training & practical approach, internship is given to be trained among the students in the field of Computer Science.
5. To equip the students with sufficient exposure and skills to enable them in attaining a deserving position in Software Industry.



PROGRAMME OUTCOMES

On the successful completion of the program, the following are the expected outcomes.

PO Number	PO Statement
PO1	An ability to apply knowledge of computing and mathematics appropriate to the program's student outcomes and to the discipline.
PO2	An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.
PO3	An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
PO4	An understanding of professional, ethical, legal, security and social issues and responsibilities.
PO5	An ability to communicate effectively with a range of audiences.



B.Sc. Computer Science

Credit Distribution

Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil / Hindi / French/Malayalam	4	4 x 3 = 12	I to IV
II (12 Credits)	English	4	4 x 3 = 12	I to IV
III (108 Credits)	Core (Credits 3)	2	2 x 3 = 6	I to VI
	Core (Credits 4)	10	10 x 4 = 40	I to VI
	Core Practical (Credits 5) (Embedded)	2	2 x 5 = 10	III to IV
	Core Project (Credits 4)	1	1 x 4 = 4	VI
	Core Practical (Credits 2)	5	5 x 2 = 10	I to VI
	Inter Departmental Course (IDC)	4	4 x 4 = 16	I to IV
	Discipline Specific Elective (DSE)	3	3 x 4 = 12	V & VI
	Skill Enhancement Course (SEC)	4	4 x 2 = 8	III, IV, V & VI
	Industrial Training	1	1 x 2 = 2	V
IV (8 Credits)	Environmental Studies (AECC)	1	2	I
	Basic Tamil/Advance Tamil/Human Rights, & Women's Rights (AECC)	1	2	II
	Generic Elective (GE)	1	1 x 2 = 2	V
	Innovation & IPR/ Innovation, IPR & Entrepreneurship (AECC)	1	2	VI
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/Health and Wellness	-	2	I - II
TOTAL CREDITS			142	



Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
First Semester												
Part- I												
26TLU1TA	Language - I	Tamil-I	4	1	-	5	60	3	25	75	100	3
26TLU1HA		Hindi-I										
26TLU1MA		Malayalam-I										
26TLU1FA		French -I										
Part- II												
26ELU1EA	Language - II	English - I	4	-	1	5	60	3	25	75	100	3
Part- III												
26AIU1CA	Core - I	Programming in C	4	1	-	5	60	3	25	75	100	4
26ITU1CA	Core - II	Digital Computer Fundamentals	4	-	-	4	48	3	25	75	100	4
26CSU1CP	Core Practical - I	C Programming	-	-	4	4	48	3	40	60	100	2
26MTU1IC	IDC - I	Numerical Methods and Statistics	4	1	-	5	60	3	25	75	100	4
Part-IV												
26CEU1AA	AECC - I	Environmental Studies	2	-	-	2	24	-	50	-	50	2
Part-V												
26CSU1XA	Extension Activity	NSS/NCC/YRC/RRC/Yoga/Sports/Clubs	-	-	-	-	-	-	50	-	50	1
Total			22	3	5	30	360	-	-	-	700	23



Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
		Second Semester										
Part-I												
26TLU2TA	Language - I	Tamil-II	4	1	-	5	60	3	25	75	100	3
26TLU2HA		Hindi-II										
26TLU2MA		Malayalam-II										
26TLU2FA		French -II										
Part- II												
26ELU2EA	Language - II	English - II	4	-	1	5	60	3	25	75	100	3
Part - III												
26CAU2CA	Core - III	Data Structures	4	1	-	5	60	3	25	75	100	4
26CSU2CA	Core - IV	Python Programming	4	-	-	4	48	3	25	75	100	4
26CSU2CP	Core Practical - II	Python Programming	-	-	4	4	48	3	40	60	100	2
26MTU2IC	IDC - II	Discrete Mathematics	4	1	-	5	60	3	25	75	100	4
Part-IV												
26TLU2AA	AECC - II	Basic Tamil	2	-	-	2	24	-	50	-	50	2
26TLU2AB		Advanced Tamil										
26CMU2AA		Human Rights and Women's Rights										
Part-V												
26CSU2XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs/ Health and Wellness	-	-	-	-	-	-	50	-	50	1
Total			22	3	5	30	360	-	-	-	700	23



Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Theory		CIA	ESE	Total	
Third Semester												
Part - I												
26TLU3TA	Language - I	Tamil -III	3	1	-	4	48	3	25	75	100	3
26TLU3HA		Hindi-III										
26TLU3MA		Malayalam-III										
26TLU3FA		French -III										
Part - II												
26ELU3EA	Language - II	English - III	3	1	-	4	48	3	25	75	100	3
Part - III												
26CAU3CA	Core - V	Java Programming	4	-	-	4	48	3	25	75	100	4
26CSU3CA	Core - VI	Operating Systems	3	-	-	3	36	3	25	75	100	3
26CTU3CM	Core Practical - III	Database Management Systems	3	-	4	7	84	3	40	60	100	5
26CSU3SP	SEC Practical-I	Programming in Java	-	-	4	4	48	3	40	60	100	2
26MTU3IC	IDC - III	Operations Research	4	-	-	4	48	3	25	75	100	4
Total			20	2	08	30	360	-	-	-	700	24



Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fourth Semester												
Part - I												
26TLU4TA	Language - I	Tamil -IV	3	1	-	4	48	3	25	75	100	3
26TLU4HA		Hindi-IV										
26TLU4MA		Malayalam-IV										
26TLU4FA		French -IV										
Part - II												
26ELU4EA	Language - II	English -IV	3	1	-	4	48	3	25	75	100	3
Part - III												
26CTU4CA	Core - VII	Data Communication and Networks	4	-	-	4	48	3	25	75	100	4
26CSU4CB	Core - VIII	Data Mining	3	-	-	3	36	3	25	75	100	3
26CSU4CM	Core Practical - IV	Web Application Development	3	-	4	7	84	3	40	60	100	5
26CSU4SP	SEC Practical - II	Linux	-	-	4	4	48	3	40	60	100	2
26CRU4IC	IDC - IV	Digital Marketing	4	-	-	4	48	3	25	75	100	4
Total			20	2	08	30	360	-	-	-	700	24

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fifth Semester												
Part-III												
26CSU5CA	Core - IX	Big Data Technologies	4	-	-	4	48	3	25	75	100	4
26CSU5CB	Core - X	Cyber Security	4	-	-	4	48	3	25	75	100	4
26CSU5CC	Core - XI	Software Engineering	4	-	-	4	48	3	25	75	100	4
26CSU5CP	Core Practical - V	Big Data Technologies	-	-	4	4	48	3	40	60	100	2
26CSU5CQ	Core Practical - VI	Data Visualization	-	-	4	4	48	3	40	60	100	2
26CSU5SP	SEC Practical - III	Multimedia	-	-	4	4	48	3	40	60	100	2
26CSU5DA	DSE - I	Introduction to Artificial Intelligence	4	-	-	4	48	3	25	75	100	4
26CSU5DB		Fundamentals of Cloud Computing										
26CSU5DC		Distributed Computing										
26CSU5TA	IT	Industrial Training	-	-	-	-	-	3	40	60	100	2
Part-IV												
	GE		2	-	-	2	24	-	50	-	50	2
Total			18	-	12	30	360	-	-	-	850	26



Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Sixth Semester												
Part-III												
26CSU6CA	Core - XII	Full Stack Development	4	-	-	4	48	3	25	75	100	4
26CSU6CP	Core Practical - VII	Full Stack Development	-	-	4	4	48	3	40	60	100	2
26CSU6SP	SEC Practical - IV	R Programming	-	-	4	4	48	3	40	60	100	2
26CSU6CV	Core - XIII	Project and Viva Voce	-	-	8	8	96	3	40	60	100	4
26CSU6DA	DSE - II	Machine Learning	4	-	-	4	48	3	25	75	100	4
26CSU6DB		Internet of Things										
26CSU6DC		Information Security										
26CSU6DD	DSE -III	Deep Learning	4	-	-	4	48	3	25	75	100	4
26CSU6DE		DevOps										
26CSU6DF		Fundamentals of Blockchain Technologies										
Part - IV												
26BTU6AA	AECC - III	Innovation, IPR and Entrepreneurship	2	-	-	2	24	-	50	-	50	2
Total			14	-	16	30	360	-	-	-	650	22
*Grand total											4300	142

*Total Credit Should not exceed 142 credits



DISCIPLINE SPECIFIC ELECTIVE

Students shall select the desired course of their choice in the listed elective course during Semesters V & VI

Semester V (Elective I)

List of Elective Courses

S. No.	Course Code	Name of the Course
1.	26CSU5DA	Introduction to Artificial Intelligence
2.	26CSU5DB	Fundamentals of Cloud Computing
3.	26CSU5DC	Distributed Computing

Semester VI (Elective II)

List of Elective Courses

S. No.	Course Code	Name of the Course
1.	26CSU6DA	Machine Learning
2.	26CSU6DB	Internet of Things
3.	26CSU6DC	Information Security

Semester VI (Elective III)

List of Elective Courses

S. No.	Course Code	Name of the Course
1.	26CSU6DD	Deep Learning
2.	26CSU6DE	DevOps
3.	26CSU6DF	Fundamentals of Blockchain Technologies

GENERIC ELECTIVE COURSE (GE)

The following is the course offered under Generic Elective Course

Semester V (GE)

S. No.	Course Code	Name of the Course
1	26CSU5GA	Social Media Engagement

EXTRA CREDIT COURSES

The following are the courses offered under self study to earn extra credits:

Semester III

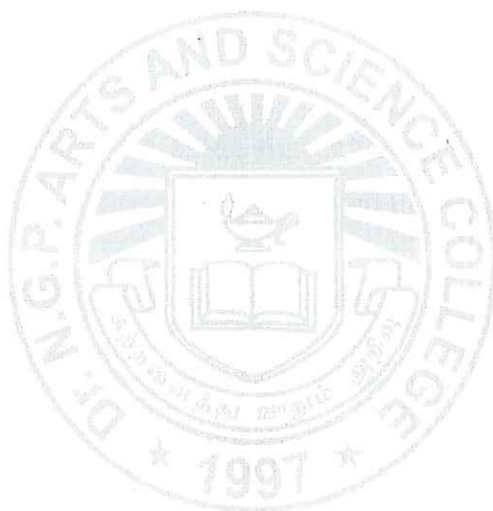
S. No.	Course Code	Name of the Course
1	26CSUSSA	Social Media Analytics
2	26CSUSSB	E-Commerce



CERTIFICATE PROGRAMMES

The following are the programme offered to earn extra credits:

S. No.	Programme Code and Name	Course Code	Name of the Course
1	4CS6A Diploma in Web Designing	26DWD1A	Fundamentals of Web Designing
2		26DWD1B	Web Design and Development
3		26DWD1P	Practical: Fundamentals of Web Designing
4		26DWD1Q	Practical: Web Design and Development



Mues
BoS Chairman/HoD
 Department of Computer Science
 Dr N. G. P. Arts and Science College
 Coimbatore – 641 048

Dr.N.G.P. Arts and Science College		
APPROVED		
BoS- 218f 02.04.26	AC -	GB -

Semester – I CORE I: PROGRAMMING IN C							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26AIU1CA	PROGRAMMING IN C	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand - the C language fundamentals - the programs using functions, arrays and strings - the representation and working of pointers, structures and files
Prerequisite	Knowledge on Logical Thinking

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the fundamentals of C Language	K2
CO2	Implement decision making using branching and looping.	K3
CO3	Develop programs using arrays and functions.	K3
CO4	Analyze the use of Strings and pointers.	K4
CO5	Assess programs using structures and files.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	M	S	M
CO2	M	S	S	M	S
CO3	M	M	S	M	M
CO4	S	M	M	M	S
CO5	M	S	S	M	S

26AIU1CA	PROGRAMMING IN C
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Syllabus

Unit	Content	Hrs	Resources
I	C Programming Introduction to C - Structure of C program - C Tokens- Character set - Keywords -Data types - Variables - Constants - Input/Output statements - Operators - Type Conversion and Type casting.	12	Text Book/ Reference Books/NPTEL
II	Decision making and Iterative statements Conditional and Branching Statements: if statement - if-else statements - if-else-if statement - switch statement - Iterative statements: while loop - do-while loop - for loop - Nested loops - Break and Continue statements - goto.	12	Text Book/ Reference Books/NPTEL
III	Function and Arrays Function: Need for functions - Elements of functions - Function declaration and prototypes- parameter passing- scope of variables - Storage Classes - recursive function. Arrays: Introduction - Types of arrays - Declaration and Initialization of Arrays -Passing arrays to functions.	12	Text Book/ Reference Books/NPTEL
IV	Strings and Pointers Declaring and Initializing the string variables - String handling functions. Pointers: Understanding Pointers - Declaration and Initialization of pointer variables - Accessing variables through pointers - Pointers and arrays - Pointers and Strings - Dynamic memory allocation.	12	Text Book/ Reference Books/NPTEL
V	Structures and Files Structures - Nested structures - Pointer and Structures - Array of structures -Structures and functions- Union. Files: Defining and opening a File - Closing a file - I/O Operations on files - Command Line Arguments.	12	Text Book/ Reference Books/NPTEL
Total		60	

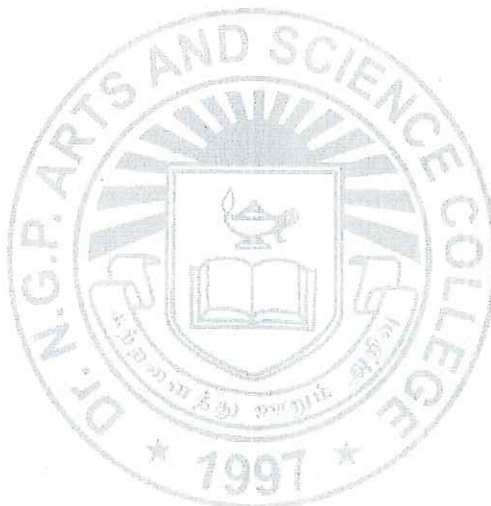
Text book	1.	Reema Thareja, 2016, "Programming in C", 2 nd Edition, Oxford University Press.
Reference Books	1.	E. Balagurusamy, 2017, "Programming in ANSI C", 7 th Edition, TMH.
	2.	Paul Deitel, Harvey Deitel, 2019, "C How to Program", 8 th Edition, Pearson
	3.	Ashok N. Kamthane, 2009, "Programming and Data Structures", 1 st Edition, Pearson Education.
	4.	Anita Goel, Ajay Mittal, 2016, "Computer Fundamentals and Programming in C", 1 st Edition, Pearson.

	5.	Byron Gottfried, 2018, "Schaum's Outline of Programming with C", 4 th Edition, McGraw Hill Education.
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Journal and Magazines	-
E-Resources and Website	https://nptel.ac.in

Learning Method	Chalk and Talk/Assignment/Seminar/ Group Discussion/Case Study
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Focus of the Course	Skill Development/ Employability/ Entrepreneurial Development/ Innovations
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Semester – I							
CORE II: DIGITAL COMPUTER FUNDAMENTALS							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26ITU1CA	DIGITAL COMPUTER FUNDAMENTALS	CORE	48	-	-	4

Preamble	This course has been designed for students to learn and understand - the concepts of number system and circuits - the principles of logic gates and memory - the design and architecture of microprocessors and microcontrollers
Prerequisite	Knowledge on basic digital system

Course Outcomes (COs)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the types of number systems, Boolean Algebra.	K2
CO2	Understand and analyze Logic gates.	K2
CO3	Illustrate the concepts of combinational circuits.	K3
CO4	Analyze different types of sequential logic and memory organization.	K4
CO5	Evaluate and compare the architecture of microprocessors and microcontrollers.	K5

Mapping with Program Outcomes:					
COs / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	S	S	M
CO2	S	M	M	S	M
CO3	S	S	S	S	S
CO4	S	M	S	S	M
CO5	S	M	S	S	M

26ITU1CA	DIGITAL COMPUTER FUNDAMENTALS
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Syllabus

Unit	Content	Hrs	Resources
I	Binary systems and Boolean functions Binary Numbers- Number base conversions- Octal and Hexadecimal conversions- Compliments- Binary codes. Basic Definitions-Boolean functions- Canonical and standard forms: Minterms and Maxterms - Sum of Minterms-Product of Minterms-conversion between canonical forms, standard forms.	10	Text Book 1 / Reference Book
II	Digital Logic Gates & Map methods AND, OR, Inverter, Buffer, NAND, NOT, Exclusive-OR, Exclusive-NOR. The Map Method-Two and three-variable Maps-Four variable Map - Five and Six-Variable Maps- Product of Sum simplification - Don't care conditions.	08	Text Book 1 /Reference Book
III	Combinational Logic Adders: Half-Adder, Full-Adder. Subtractors Half-Subtractor, Full-Subtractor. Multilevel NAND Circuits: Universal Gate. Multilevel NOR Circuits: Universal Gate. Binary Parallel Adder- Decimal Adder - BCD Adder. Decoders: Demultiplexers-Encoders - Multiplexer.	10	Text Book 1 / Reference Book
IV	Flip flops and Memory Introduction- Flip-flops-Clocked RS Flip-flop - D Flip-flop - JK Flip-flop - Design of Counters- Registers -Ripple Counters. The Memory Unit - Random Access Memories: Integrated-circuit Memory- Magnetic-core Memory.	10	Text Book 1 & NPTEL
V	Microprocessor and Microcontrollers Introduction - Microprocessor- Microcomputer- Architecture of Microprocessors- History- Evolution- Microprocessor Applications- Evolution of Microcontrollers- Application of Microcontrollers. Architecture of 8085 Microprocessor- Pin diagram of 8085 Microprocessor.	10	Text Book 2 / Reference Book & You Tube Videos
Total		48	

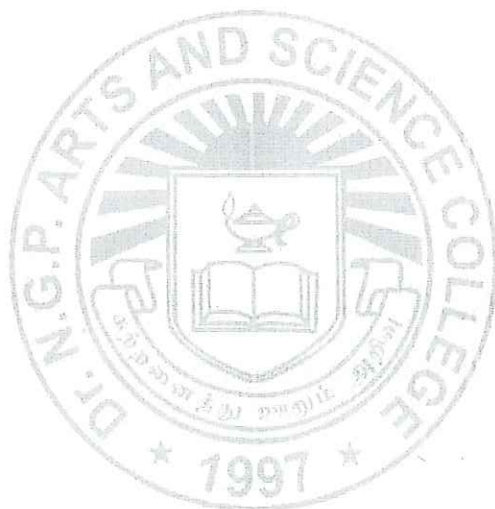
Text book	1.	M.Morris Mano, 2019, "Digital Logic and Computer Design", 2 nd Edition, Pearson India Education.
	2.	Soumitra Kumar Mandal, 2018, "Microprocessors and Microcontrollers - Architecture, Programming and Interfacing using 8085, 8086, 8051", 15 th Edition, Tata Mc Graw Hill Education.
Reference Books	1.	S. Salivahanan and S Arivazhagan, 2018, "Digital Circuits and Design", 5 th Edition, Oxford University Press, Noida.
	2.	Thomas Floyd L., 2015, "Digital Fundamentals", 11 th Edition, Pearson Publication Ltd, New Delhi

	3.	Aditya P Mathur, 2016, "Introduction to Microprocessor", 3 rd Edition, McGraw Hill Education.
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Journal and Magazines	https://journal.uob.edu.bh/handle/123456789/12?id=about https://www.pcmag.com/
E-Resources and Website	https://nptel.ac.in https://www.coursera.org/learn/digital-systems/ https://www.nesoacademy.org/ec/05-digital-electronics

Learning Method	Lecture/Simulation/Demo/Mind Mapping
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Focus of the Course	Skill Development/Employability
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Semester - I							
CORE PRACTICAL-I: C PROGRAMMING							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26CSU1CP	C PROGRAMMING	CORE	-	-	48	2

Preamble	This course has been designed for students to learn and understand • basic concepts of C programming including data types, operators and control structures through practical programs • implementation of loops, functions, arrays and pointers in problem-solving • Problem-solving and coding skills
Prerequisite	Basic Understanding of computers and programming concepts

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Recall basic programming concepts to solve simple computational problems using C.	K1
CO2	Demonstrate decision-making and looping constructs to develop structured programs.	K2
CO3	Apply functions, arrays, strings and pointers for efficient problem solving.	K3
CO4	Analyze and develop programs using structures, recursion and sorting techniques.	K4
CO5	and develop programs involving file handling and line arguments for data processing.	K5

Mapping with Program Outcomes:

Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	S	S	S	S
CO2	S	M	S	S	M
CO3	S	S	S	M	S
CO4	S	S	S	S	S
CO5	S	M	M	S	M

26CSU1CP

C PROGRAMMING

S.No

List of Programs

1. Develop a program to solve simple computational problems using arithmetic expressions.
2. Create a program to demonstrate decision-making.
3. Design a program that uses loops to validate a number based on given conditions.
4. Write functions to implement string operations such as compare, concatenate and string length.
5. Create a program to illustrate recursion techniques.
6. Develop a program to illustrate sorting technique.
7. Develop a program using arrays to perform basic computations.
8. Develop a program using structures to perform data processing.
9. Develop a program using pointers and array to perform computations.
10. Compute the command line operations and display it.
11. Write a program to demonstrate file operations.
12. Develop a program to perform file copying.

Reference Books	1.	Ashok N. Kamthane, 2009, "Programming and Data Structures", 1st Edition, Pearson Education.
	2.	Anita Goel, Ajay Mittal, 2016, "Computer Fundamentals and Programming in C", 1st Edition, Pearson.
	3	Yashwant Kanetkar, 2025, "Let us C", 21 st edition, BpB publications.

Learning	Demonstration/ Hands on Experiments
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Focus of the Course	Skill Development/ Employability
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Semester – I IDC – I : NUMERICAL METHODS AND STATISTICS							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26MTU1IC	NUMERICAL METHODS AND STATISTICS	IDC	48	12	-	4

Preamble	This course has been designed for students to learn and understand - the method of solving linear system of equations - the relation between two attributes and measure their efficiency - the method of checking the validity of parameters through test statistic
Prerequisite	Knowledge on Basic Mathematics

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain Newton-Raphson and various direct and iterative methods.	K2
CO2	Apply interpolation and numerical integration methods to solve problems.	K3
CO3	Recall concepts of frequency distribution, mean, median, mode, and dispersion.	K1
CO4	Analyze relationships between variables using correlation and regression.	K4
CO5	Evaluate hypotheses and draw conclusions based on statistical tests.	K5

Mapping with Program Outcomes:					
Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1	S	M	S	M	M
CO2	S	M	S	S	M
CO3	M	S	S	S	M
CO4	M	M	S	S	S
CO5	S	S	S	S	S



26MTU1IC	NUMERICAL METHODS AND STATISTICS
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Syllabus

Unit	Content	Hrs	Resources
I	Solution of Algebraic, Transcendental and Linear systems of Equations Introduction - Newton-Raphson method- direct methods - matrix inversion method - Gaussian elimination method - Gauss Jordan method - iterative methods - Gauss Seidel method - Gauss Jacobi method.	13	Text Book 1
II	Interpolation, Numerical Differentiation and Integration Introduction - Finite difference - Newton's formula for forward and backward interpolation - Interpolation with unevenly spaced points: Lagrange's interpolation- Numerical differentiation - maximum and minimum values of a tabulated Function - Numerical integration - Trapezoidal rule - Simpson's 1/3 Rule - Simpson's 3/8 Rule.	12	Text Book 1
III	Classification, Measures of Central tendency and Dispersion Frequency distribution - Characteristics of a good measure of central tendency - Mean - Arithmetic Mean - pooled mean - Geometric Mean - Harmonic Mean -Median - Mode. Measures of Dispersion - purposes - properties -Range - Inter quartile range -Mean deviation - Variance - Standard Deviation - coefficient of variation.	13	Text Book 2
IV	Correlation and Regression Scatter diagram - Least square method of fitting a regression line - properties - regression line of X on Y- Correlation methods - determination of correlation by graphical method - Correlation Coefficient - Correlation in grouped bivariate data - relationship between correlation coefficients and regression coefficient - Rank correlation.	11	Text Book 2
V	Test of Significance and Chi-square Test Test of hypothesis for population variance -two types of error - level of significance - critical region - one and two tailed test - size and power of a test -randomized test - non-randomized test - degrees of freedom - student's t-test - test of equality of two population means - paired t- test. Chi-square Test: test of hypothesis for population variance - test of goodness of fit - test in one way classification - Contingency table - Test of independence of factors - Yate's correction.	11	Text Book 2
	Total	60	

Note: 20% Theory and 80% Problem



Text book	1.	Sastry S.S., 2012, "Introductory methods of Numerical Analysis", Prentice-Hall of India, New Delhi (Unit I to II).
	2.	Agarwal B L, 2013, "Basic Statistics", New age International (P) Limited publishers, New Delhi. (Unit III to V).
Reference Books	1.	Gupta C.B. and Vijay Gupta, 2007, "Introduction to Statistical Methods", S.Chand & Co, New Delhi.
	2.	Sanchetti D C, Kapoor V K, 2010, "Statistics", S.Chand & Co, New Delhi.
	3.	Venkataraman M K, 2004, "Numerical Methods in Science and Engineering", 4 th Edition, NPC.
	4.	Veerarajan T, Ramachandran T, 2004, "Theory and Problems in Numerical Methods with Programs in C and C++", 10 th Edition, Tata Mc- Graw Hill Publishing Company Limited, New Delhi.

Journal and Magazines	https://www.worldscientific.com/worldscinet/bms
E-Resources and Website	https://nptel.ac.in

Learning Method	Chalk and Talk/ Assignment/Seminar
Focus of the Course	Skill Development/ Employability

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