



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

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)
Approved by Government of Tamilnadu and Accredited by NAAC with 'A++' Grade (3rd Cycle)
Dr. N.G.P.- Kalapatti Road, Coimbatore-641048, Tamilnadu, India
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Bachelor of Science in Computer Science with Cognitive Systems

(For the student admitted during the academic year 2026-27)

Dr. N.G.P. ARTS AND SCIENCE COLLEGE (Autonomous)

REGULATIONS 2026-27 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit System)

Bachelor of Science in Computer Science with Cognitive Systems

(For the students admitted during the academic year 2026-27)

Programme: B.Sc. Computer Science with Cognitive Systems

Eligibility

Candidates for admission to the first year of the **Bachelor of Science (Computer Science with Cognitive Systems)** 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 anyone of the following subjects: Mathematics / Computer Science 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. Showcase cognitive skills in identifying challenges and provide solutions to address professional issues.
2. To engage in a wide range of careers in computer science related fields with a passion for life-long learning.
3. Discover social and environmental aspects with professional values and ethics to expertise the society.
4. To apply current tools and technologies to enhance research for solving industry-oriented problems.
5. Demonstrate technical and entrepreneurial skills to adapt rapid changes in work environment.

PROGRAMME OUTCOMES

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

PO Number	PO Statement
PO1	To understand and apply knowledge of computing and mathematical fundamentals, cognitive skills to develop, analyze and provide solutions
PO2	To apply computing principles, skills and practices to develop automated for complex problems.
PO3	To apply methodologies and cutting-edge tools for resolving challenges in cognitive domain.
PO4	Ability to Communicate scientific concepts and theories effectively to fulfil the evolving demands of the industry and society.
PO5	To understand and assess ethical standards, societal, environmental and a sense of social concern within local and global contexts.

Programme: B.Sc. Computer Science with Cognitive Systems 2026-2027 Scheme

Credit Distribution

Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil / Hindi / French/Malayalam	4	$4 \times 3 = 12$	I to IV
II (12 Credits)	English	4	$4 \times 3 = 12$	I to IV
III (108 Credits)	Core (Credits 4)	11	$11 \times 4 = 44$	I to VI
	Core (Credits 3)	2	$2 \times 3 = 6$	III & IV
	Core Practical (Credits 5)	2	$2 \times 5 = 10$	III & IV
	Core Practical (Credits 2)	5	$5 \times 2 = 10$	I to VI
	Inter Departmental Course (IDC)	4	$4 \times 4 = 16$	I to IV
	Discipline Specific Elective (DSE)	3	$3 \times 4 = 12$	V & VI
	Skill Enhancement Course (SEC)	4	$4 \times 2 = 8$	III, IV, V & VI
	Industrial Training	1	$1 \times 2 = 2$	V
IV (8 Credits)	Environmental Studies (AECC)	1	$1 \times 2 = 2$	I
	Basic Tamil/ Advanced Tamil/Human Rights and Women's Rights (AECC)	1	$1 \times 2 = 2$	II
	Innovation & IPR, Innovation, IPR & Entrepreneurship (AECC)	1	$1 \times 2 = 2$	VI
	Generic Elective (GE)	1	$1 \times 2 = 2$	V
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/ Clubs/Health and Wellness	-	$2 \times 1 = 2$	I to II
TOTAL CREDITS			142	

B.Sc. Computer Science with Cognitive Systems

For the Students admitted during academic year 2026-27 onwards

Course Code	Course Category	Course Name	L	T	P	Duration		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
26CGU1CP	Core Practical - I	Programming in C	-	-	4	4	48	3	40	60	100	2
26CYU1CA	Core -II	Computer Organization and Architecture	4	-	-	4	48	3	25	75	100	4
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												
26CGU1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports	-	-	-	-	-	-	50	-	50	1
Total			22	3	5			-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Duration		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
26CGU2CP	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												
26CGU2XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs/Health and Wellness	-	-	-	-	-	-	50	-	50	1
Total			22	3	5			-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		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
26CGU3CA	Core - VI	Cognition and Problem Solving	3	-	-	3	36	3	25	75	100	3
26CGU3CM	Core Practical III	Operating Systems	3	-	4	7	84	3	40	60	100	5
26CGU3SP	SEC Practical -I	Programming in Java	-	-	4	4	48	3	40	60	100	2
26BPU3IA	IDC -III	Industrial Psychology	4	-	-	4	48	3	25	75	100	4
Total			20	2	8	-	-	-	-	-	700	24

Course Code	Course Category	Course Name	L	T	P	Duration		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												
26CGU4CA	Core -VII	Computer Networks	4	-	-	4	48	3	25	75	100	4
26CGU4CB	Core VIII	Cyber Security	3	-	-	3	36	3	25	75	100	3
26CGU4CM	Core Practical IV	Database Management Systems	3	-	4	7	84	3	40	60	100	5
26CGU4SP	SEC Practical -II	Network Programming	-	-	4	4	48	3	40	60	100	2
26MTU4IC	IDC-IV	Operations Research	4	-	-	4	48	3	25	75	100	4
Total			20	2	8	-	-	-	-	-	700	24

Course Code	Course Category	Course Name	L	T	P	Duration		Exam h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fifth Semester												
Part III												
26CGU5CA	Core - IX	Digital Technologies	4	-	-	4	60	3	25	75	100	4
26CGU5CB	Core -X	Cloud and Virtualization	4	-	-	4	60	3	25	75	100	4
26CGU5CC	Core -XI	Software Testing	4	-	-	4	60	3	25	75	100	4
26CGU5CP	Core Practical -V	Digital Technologies	-	-	4	4	48	3	40	60	100	2
26CGU5CQ	Core Practical -VI	Selenium Automation Testing	-	-	4	4	48	3	40	60	100	2
26CGU5SP	SEC Practical-III	Virtualization Tools	-	-	4	4	48	3	40	60	100	2
26CGU5DA	DSE -I	Artificial Intelligence and Machine Learning	4	-	-	4	60	3	25	75	100	4
26CGU5DB		Internet of Things										
26CGU5DC		Natural Language Processing										
26CGU5TA	IT	Industrial Training	-	-	-	-	-	3	40	60	100	2
Part IV												
	GE-I	-	2	-	-	2	24	3	50	-	50	2
Total			18		12	-	-	-	-	-	850	26

Course Code	Course Category	Course Name	L	T	P	Duration		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Sixth Semester												
Part – III												
26CGU6CA	Core -XII	Client Relationship Management	4	-	-	4	48	3	25	75	100	4
26CGU6CP	Core Practical VII	ServiceNow Automation	-	-	4	4	48	3	40	60	100	2
26CGU6SP	SEC Practical-IV	Infrastructure Monitoring and Automation	-	-	4	4	48	3	40	60	100	2
26CGU6CV	Core -XIII	Project and Viva-Voce	-	-	8	8	96	3	40	60	100	4
26CGU6DA	DSE -II	Cognitive Computing	4	-	-	4	48	3	25	75	100	4
26CGU6DB		Infrastructure Management										
26CGU6DC		Human Computer Interaction										
26CGU6DD	DSE -III	Deep Learning	4	-	-	4	48	3	25	75	100	4
26CGU6DE		Process Management										
26CGU6DF		Robotics										
Part IV												
26BCU6AA	AECC-III	Innovation, IPR and Entrepreneurship	2	-	-	2	24	3	50	-	50	2
Total			14	-	16	-	-	3	-	-	650	22
*Grand Total											4300	142

DISCIPLINE SPECIFIC ELECTIVE

Students shall select the desired course of their choice in the listed elective courses semesters V & VI

Semester V (Elective I)**List of Elective Courses**

S. No.	Course Code	Name of the Course
1	26CGU5DA	Artificial Intelligence and Machine Learning
2	26CGU5DB	Internet of Things
3	26CGU5DC	Natural Language Processing

Semester VI (Elective II)**List of Elective Courses**

S. No.	Course Code	Name of the Course
1	26CGU6DA	Cognitive Computing
2	26CGU6DB	Infrastructure Management
3	26CGU6DC	Human Computer Interaction

Semester VI (Elective III)**List of Elective Courses**

S. No.	Course Code	Name of the Course
1	26CGU6DD	Deep Learning
2	26CGU6DE	Process Management
3	26CGU6DF	Robotics

GENERIC ELECTIVE COURSES (GE)

The following are the courses offered under Generic Elective Course

Semester V (GE)

S. No.	Course Code	Name of the Course
1	26CGU5GA	Smart Living with IoT

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	26CGUSSA	Software Project Management
2	26CGUSSB	Data Center Management

[Signature]

Bos Chairman / HoD

Dept. of Computer Science with Cognitive Systems

Dr. N. G. P. Arts and Science College

Coimbatore - 641 048

B.Sc. Computer Science with Cognitive Systems (Students admitted during the A.Y. 2026-27)

 Dr.N.G.P Arts and Science College		
APPROVED		
BoS- 12 th 02/04/2026	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	S	M	M	M
CO2	S	S	S	M	M
CO3	S	S	S	M	M
CO4	S	S	S	M	S
CO5	S	S	S	M	S

26AIU1CA	PROGRAMMING IN C
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Syllabus

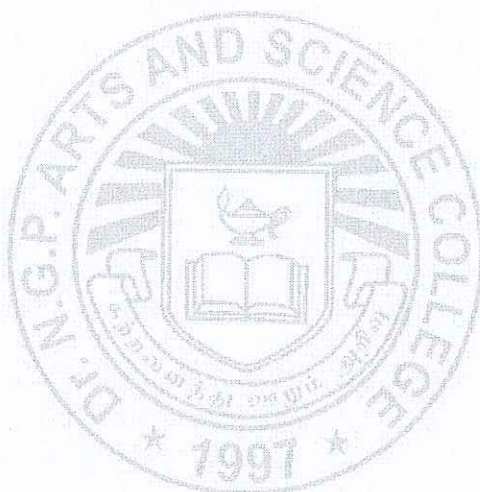
Unit	Content	Hrs	Resources
I	C Programming: Introduction to C - Structure of C program - C Tokens- Character set - Keywords -Data types - Variables - Constants - Input/Output statements - Operators - Type Conversion and Type casting.	12	Text Book/ Reference Books/NPTEL
II	Decision making and Iterative 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", 2nd Edition, Oxford University Press.
Reference Books	1.	E. Balagurusamy, 2017, "Programming in ANSI C", 7th Edition, TMH.
	2.	Paul Deitel, Harvey Deitel, 2019, "C How to Program", 8th Edition, Pearson
	3.	Ashok N. Kamthane, 2009, "Programming and Data Structures", 1st Edition, Pearson Education.
	4.	Anita Goel, Ajay Mittal, 2016, "Computer Fundamentals and Programming in C", 1st Edition, Pearson.
	5.	Byron Gottfried, 2018, "Schaum's Outline of Programming with C", 4th Edition, McGraw Hill Education.

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 PRACTICAL I: PROGRAMMING IN C							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26CGU1CP	PROGRAMMING IN C	CORE PRACTICAL		-	48	2

Preamble	This course has been designed for students to implement • I/O statement and arithmetic operators • Decision-making and looping statements • Working of arrays, pointers, functions and files.
Prerequisite	-

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the fundamentals of C Language	K3
CO2	Implement decision making using branching and looping.	K2
CO3	Demonstrate programs using arrays and functions	K3
CO4	Analyze programs using 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	S	M	M	M
CO2	S	S	S	M	M
CO3	S	S	S	M	M
CO4	S	S	S	M	S
CO5	S	S	S	M	S

26CGU1CP	PROGRAMMING IN C
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S.No	List of Programs
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- | | |
|----|---|
| 1 | Program using formatted I/O statements and expressions. |
| 2 | Program to demonstrate arithmetic operations. |
| 3 | Program using decision-making constructs |
| 4 | Program using Looping Statements |
| 5 | Program to implement String Handling Functions |
| 6 | Program to demonstrate array operations |
| 7 | Program using Functions |
| 8 | Program to implement Structure |
| 9 | Program to implement Union |
| 10 | Program to demonstrate graphics application |
| 11 | Program to perform file operations |
| 12 | Program to demonstrate command line arguments |

Text Book	1.	Reema Thareja, 2016, "Programming in C", 2nd Edition, Oxford University Press..
	2.	Byron Gottfried, 2018, "Schaum's Outline of Programming with C", 4th Edition, McGraw Hill Education.

Learning Method	Demonstration/ Hands on Experiments
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Focus of the Course	Skill Development/ Employability
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Semester - I							
CORE II: COMPUTER ORGANIZATION AND ARCHITECTURE							
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	26CYU1CA	COMPUTER ORGANIZATION AND ARCHITECTURE	CORE	48	-	-	4

Preamble	This course has been designed for students to learn and understand • The fundamental digital logic concepts. • The combinational logic circuits and sequential logic circuits. • The concepts behind memory design and its memory types.
Prerequisite	A basic understanding of mathematics and logical reasoning

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the functionality of basic logic gates and Boolean Algebra.	K2
CO2	Describe the principles of combinational and sequential logic circuits.	K3
CO3	Demonstrate proficiency in binary number representation, base conversions and operations	K3
CO4	Understand key concepts of Computer Organization.	K4
CO5	Interpret the basic concepts of memory hierarchy and its components.	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

26CYU1CA	COMPUTER ORGANIZATION AND ARCHITECTURE
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Syllabus

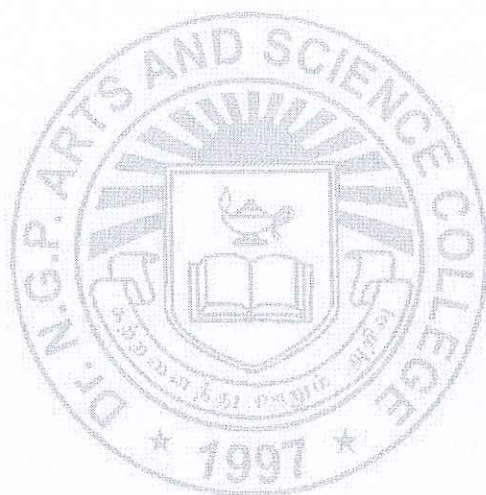
Unit	Content	Hrs	Resources
I	Digital Logic Circuits Digital Computers-Logic Gates- Boolean Algebra: Boolean Function-Boolean Expression-DeMorgans Theorem- Complement of a function- Map Simplification: Product of Sums Simplification-Don't Care Conditions.	8	Text Book
II	Combinational and Sequential Circuits Combinational Circuits: Half Adder-Full Adder- Sequential Circuits: Flip Flops: SR, JK, T, Edge Triggered. Digital Components: Integrated Circuits-Decoders-Encoder-Multiplexer- Registers -Demultiplexer.	10	Text Book
III	Data Representation Number Systems: Decimal-Binary-Octal-Hexadecimal- Conversion. Complements: $r-1$'s complements, r 's complements - Subtraction of unsigned numbers - Arithmetic Addition - Arithmetic Subtraction - Other binary codes.	10	Text Book
IV	Computer Organization Instruction codes - Computer registers - Computer instructions - Timing and control - Instruction Cycle - Input/Output configuration - Input/Output instructions - Program interrupt - Interrupt cycle	10	Text Book
V	Memory Organization Central Processing Unit: Instruction formats and Addressing Modes. Memory Hierarchy - Main Memory - Auxillary Memory - Associative memory - Cache memory.	10	Text Book
Total		48	

Text book Reference Books	1.	M. Morris Mano, 2022, "Computer System Architecture", 3 rd edition, Pearson India Education.
	1.	M. Morris Mano, 2019, "Digital Logic and Computer Design", Pearson India Education.
	2.	S. Salivahanan and S Arivazhagan, 2018, "Digital Circuits and Design", 5 th Edition, Oxford University Press, Noida.
	3.	Thomas Floyd L., 2015, "Digital Fundamentals", 11 th Edition, Pearson Publication Ltd, New Delhi

Journal and Magazines	https://ieeexplore.ieee.org/document/1641522
E-Resources and Website	https://onlinecourses.nptel.ac.in/noc22_cs88/preview https://www.youtube.com/channel/UC2GUBG_WsP0OQ5tXXocwp3Q/videos

Learning Method	Chalk and Talk/Assignment/Seminar/ Group Discussion/Case Study
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Focus of the Course	Skill Development
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Semester - I IDC: 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	✓				
CO2	✓			✓	
CO3	✓		✓		✓
CO4			✓	✓	
CO5		✓	✓		✓

26MTU1IC	IDC: 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



Bos Chairman / HoD
Dept. of Computer Science with Cognitive Systems
Dr. N. G. P. Arts and Science College
Coimbatore - 641 048

 Dr.N.G.P. Arts and Science Co		
APPROVED		
BoS- 12 th 02/04/2026	AC -	GB -