



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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REGULATIONS 2026-27 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit System)

Bachelor of Computer Applications

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

Programme : BCA

Eligibility

Candidates for admission to the first year of the **Bachelor of Computer Applications 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 there to 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 / Computer Applications 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. Demonstrating a substantial understanding of concepts in key areas of information technology and its applications.
2. Analysis and synthesis involved in computer system, information system and computer applications.
3. To develop a software and in its design and implementation for professional competence
4. To equip and train the students to meet the requirement of the IT Industries and public sectors.
5. To stimulate an interest in computing as an academic discipline with a view to encouraging progression to research and higher studies.

PROGRAMME OUTCOMES

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

PO Number	PO Statement
PO1	Understand the concepts of key areas in Computer Applications.
PO2	Develop student's profession and ethical attitudes, effective communication, team work and logical proficiency.
PO3	Apply knowledge of mathematical, algorithmic and computing skills.
PO4	Make use of modern tools and techniques to develop software.
PO5	Develop practical skills to fulfill the needs of industry and society.

BCA 2026-27 SCHEME

Credit Distribution

Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil / Hindi / French/Malayalam	4	4 x 3 = 12	I - IV
II (12 Credits)	English	4	4 x 3 = 12	I - IV
III (108 Credits)	Core (Credits 3)	2	2 x 3 = 6	III - IV
	Core (Credits 4)	11	11x4 = 44	I - VI
	Core Practical (Credits 2)	5	5x2=10	I - VI
	Core Practical (Credits 5)	2	2x5=10	III-IV
	Inter Departmental Course (IDC)	4	4x4=16	I - IV
	Discipline Specific Elective (DSE)	3	3x4=12	V - VI
	Skill Enhancement Course (SEC)	4	4x2=8	III - VI
	Industrial Training	1	1X2=2	V
IV (8 Credits)	Environmental Studies(AECC)	1	1x2=2	I
	Basic Tamil/Advanced Tamil/Human Rights and Women's Rights (AECC)	1	1x2=2	II
	Innovation, IPR and Entrepreneurship (AECC)	1	1x2=2	VI
	Generic Elective(GE)	1	1x2=2	V
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/ Clubs/ Health and Wellness	-	2X1=2	I - II
TOTAL CREDITS			142	

UG CURRICULUM

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PROGRAMME NAME : COMPUTER APPLICATIONS A.Y. 2026-27

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
26CAU1CP	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												
26CAU1XA	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
26CAU2CP	Core Practical-II	Programming in Python	-	-	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												
26CAU2XA	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	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	
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	
26CAU3SP	SEC Practical-I	Java Programming	-	-	4	4	48	3	40	60	100	2	
26PAU3IA	IDC-III	Business Accounting	4	-	-	4	48	3	25	75	100	4	
Total			20	2	8	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	
26CGU4CB	Core-VIII	Cyber Security	3	-	-	3	36	3	25	75	100	3	
26CAU4CM	Core Practical-IV	R Programming	3	-	4	7	84	3	40	60	100	5	
26CAU4SP	SEC Practical-II	Big Data Technologies	-	-	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	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												
26CAU5CA	Core-IX	Artificial Intelligence and Expert Systems	4	-	-	4	48	3	25	75	100	4
26CAU5CB	Core-X	Full stack Development	4	-	-	4	48	3	25	75	100	4
26CAU5CC	Core-XI	Software Engineering	4	-	-	4	48	3	25	75	100	4
26CAU5CP	Core Practical-V	Software Testing	-	-	4	4	48	3	40	60	100	2
26CAU5CQ	Core Practical-VI	Full stack Development	-	-	4	4	48	3	40	60	100	2
26CAU5SP	SEC Practical - III	Linux Programming	-	-	4	4	48	3	40	60	100	2
26CAU5DA	DSE -I	Computer Graphics	4	-	-	4	48	3	25	75	100	4
26CAU5DB		Data Mining										
26CAU5DC		Internet of Things and Applications										
26CAU5TA	IT	Industrial Training	-	-	-	-	-	3	40	60	100	2
Part -IV												
	GE		2	-	-	2	24	3	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												
26CAU6CA	Core-XII	Open Source Technologies	4	-	-	4	48	3	25	75	100	4
26CAU6CV	Core-XIII	Project and Viva Voce	-	-	8	8	96	3	40	60	100	4
26CAU6CP	Core Practical - VII	Open Source Technologies	-	-	4	4	48	3	40	60	100	2
26CAU6SP	SEC Practical - IV	Multimedia Technologies	-	-	4	4	48	3	40	60	100	2
26CAU6DA	DSE-II	Computer Vision	4	-	-	4	48	3	25	75	100	4
26CAU6DB		Machine Learning and Applications										
26CAU6DC		Cloud Technologies										
26CAU6DD	DSE-III	Human Computer Interaction	4	-	-	4	48	3	25	75	100	4
26CAU6DE		Deep Learning										
26CAU6DF		Fundamentals of Blockchain and Applications										
PART IV												
26BTU6AA	AECC - III	Innovation, IPR and Entrepreneurship	2	-	-	2	24	3	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	26CAU5DA	Computer Graphics
2	26CAU5DB	Data Mining
3	26CAU5DC	Internet of Things and Applications

Semester VI (Elective II)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	26CAU6DA	Computer Vision
2	26CAU6DB	Machine Learning and Applications
3	26CAU6DC	Cloud Technologies

Semester VI (Elective III)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	26CAU6DD	Human Computer Interaction
2	26CAU6DE	Deep Learning
3	26CAU6DF	Fundamentals of Blockchain and Applications

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	26CAU5GA	Spreadsheet Applications

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	26CAUSSA	Intelligent Low-Code Application Development
2	26CAUSSB	Digital Marketing

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APPROVED		
BoS-2/SE 1.4.26	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	S
CO2	S	M	M	S	S
CO3	S	S	S	S	S
CO4	S	S	S	S	S
CO5	S	S	S	S	S

26AIU1CA	PROGRAMMING IN C
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Syllabus

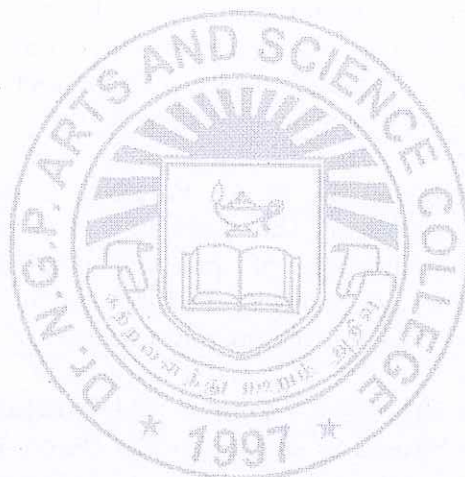
Unit	Content	Hrs	Resources
I	C Programming Introduction to C - Structure of C program - C Tokens- Character set - Keywords -Data types - Variables - Constants - Input/Output statements - Operators - Type Conversion and Type casting.	12	Text Book/ Reference Books/NPTEL
II	Decision making and Iterative 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.
	1.	E. Balagurusamy, 2017, "Programming in ANSI C", 7 th Edition, TMH.
Reference Books	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.

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	M	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 Book1 /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	

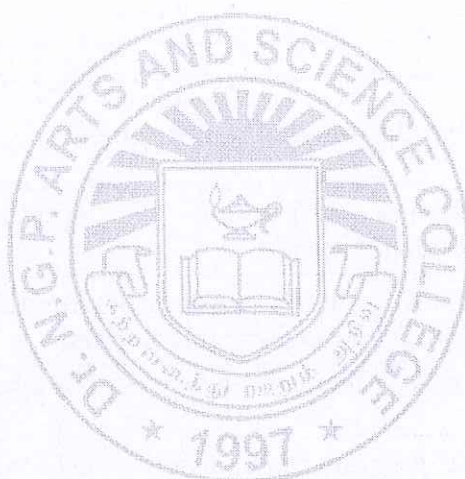
Text book	1.	M.Morris Mano, 2019, "Digital Logic and Computer Design", 2 nd Edition, Pearson India Education.
	2.	Soumitra Kumar Mandal, 2018, "Microprocessors and Microcontrollers - Architecture, Programming and Interfacing using 8085, 8086, 8051", 15 th Edition, Tata Mc Graw Hill Education.
Reference 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	International Journal of Computing and Digital System- 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	26CAU1CP	C PROGRAMMING	CORE PRACTICAL	-	-	48	2

Preamble	This course has been designed for students to implement - foundational programming skills including operators, control structures, and core constructs - looping constructs and user-defined functions for solving real-world problems - advanced programming concepts such as dynamic memory allocation, pointers and file handling to enable robust software development.
Prerequisite	Knowledge on Computer Programming language and Logical Thinking

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Demonstrate the use of operators and input output statements for solving problems.	K3
CO2	Apply decision making and control structures to solve conditional and iterative programming problems.	K3
CO3	Illustrate basic data structures and string manipulation techniques.	K2
CO4	Examine modular programs using user-defined functions, structures, unions, and preprocessor directives.	K4
CO5	Evaluate and justify the use of pointers, dynamic memory allocation, file handling, and command-line arguments.	K5

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

26CAU1CP	C PROGRAMMING
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S.No	List of Programs
1	Program to illustrate the functionality of Operators.
2	Program to perform Conditional Statements.
3	Program to demonstrate Looping Statements.
4	Program to demonstrate storage classes.
5	Program to implement Arrays.
6	Program to demonstrate String Handling Functions.
7	Program to demonstrate User Defined Functions.
8	Program to implement Structure and Union.
9	Program to demonstrate Pre-processor Directives.
10	Program to demonstrate Pointers and Dynamic Memory Allocation.
11	Program to implement Files.
12	Program to illustrate Command Line Arguments.

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

Learning Method	Demonstration/ Hands on Experiments
Focus of the Course	Skill Development/Employability

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 statistics.
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	S	S	M	M
CO2	S	M	S	S	M
CO3	S	M	S	S	M
CO4	M	M	S	S	S
CO5	S	M	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 DC, Kapoor VK, 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
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Focus of the Course	Skill Development/ Employability
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	BoS-2/SE 1.4.26	AC -