



Ganpat University
॥ विद्यया समाजोत्कर्षः ॥

Faculty of
Computer Applications



Programme		B.Sc. IT Honours (Artificial Intelligence & Machine Learning)				Branch		Computer Applications															
Semester		I				Version		1.0.0.0															
Effective from Academic Year			2026-27			Effective for the batch Admitted in			June 2026														
Subject code		U81A1P1		Subject Name		INTRODUCTION TO PROGRAMMING-I																	
Teaching scheme						Examination scheme (Marks)																	
(Per week)	Lecture (DT)		Practical (Lab.)		Total		CCE		SEE		Total												
	L	TU	P	T																			
				W																			
Credit	2	-	2	-	4	Theory	50	50			100												
Hours	2	-	4	-	6																		
Objective:																							
To introduce fundamental concepts in algorithm development and C programming, flowchart representation, basic C language features, operators, decision-making, looping, and array/string handling. This provides a foundational understanding for effective C programming and problem-solving.																							
Pre-requisites:																							
Basic understanding of mathematics, Familiarity with logical problem-solving																							
Learning Outcome:																							
<table border="1"> <thead> <tr> <th>Name of CO</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>CO1</td> <td>Demonstrate algorithm development with flowcharts for efficient problem-solving.</td> </tr> <tr> <td>CO2</td> <td>Attain proficiency in C language using fundamentals concepts.</td> </tr> <tr> <td>CO3</td> <td>Apply operators and Expression for effective problem-solving</td> </tr> <tr> <td>CO4</td> <td>Demonstrate proficiency in decision-making using conditional statements and loop structures</td> </tr> <tr> <td>CO5</td> <td>Apply array and character array for effective problem-solving</td> </tr> </tbody> </table>												Name of CO	Description	CO1	Demonstrate algorithm development with flowcharts for efficient problem-solving.	CO2	Attain proficiency in C language using fundamentals concepts.	CO3	Apply operators and Expression for effective problem-solving	CO4	Demonstrate proficiency in decision-making using conditional statements and loop structures	CO5	Apply array and character array for effective problem-solving
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Mapping of CO and PO:																							
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12											
CO1	1	1	0	0	0	0	1	0	0	0	0	0											
CO2	2	1	0	0	1	0	1	0	0	0	0	0											
CO3	2	1	0	0	1	0	1	0	0	0	0	0											
CO4	2	1	0	0	1	0	1	0	0	0	0	0											
CO5	2	1	0	0	1	0	1	0	0	0	0	0											
Content:																							
Un it	Content										Hrs.												
1	Fundamental of Algorithms: Introduction, Algorithm Development Method, Algorithms for basic human general activities focused to understand basic steps, Basic number and arithmetic Operation, Looping & Control flow statements, Series computation, Introduction to flowchart, Symbols for input/output, Processes, Decision, Begin/End, Representation of algorithms by Flowchart										06												

2	Overview of C: Brief history of C, Importance of C, Features of 'C' language, Basic Structure of C Programs, Programming Style, Steps to execute 'C' Program, Understanding the terminologies: Source Program, Object Program, Executable Program, Linker, Loader, Debug, Compilation process, Interpreter. Constants, Variables and Data Types: Character set, C tokens, keywords and identifiers, constants, variables, data types, declaration of variables, assigning value to variable, defining symbolic constants.	06
3	Operators and Expression: Operators - arithmetic, relational, logical, assignment, increment-decrement, conditional, bit wise and special, Arithmetic expressions, evaluation of expressions, precedence of arithmetic operators, type conversions in expressions, operator precedence and associativity, mathematical functions, Managing Input and Output Operators: Reading and writing a character formatted input-output	06
4	Decision Making and branching: Decision making with IF statement, simple IF statement, the IF-ELSE statement, nesting of IF ... ELSE statements, the ELSE IF ladder, Switch statement, ternary (? :) operator, Go-To statement. Looping statements – WHILE, DO-WHILE and FOR, Nesting and Jumps in loops, Break & Continue	06
5	Array and Strings: Introduction to Array, Concept of Dimensions in arrays, Initialization values in an array, Overflow and Underflow, Concepts of Multidimensional Array. Introduction to String, Declaring and initializing string variables, reading string from terminal, writing string to screen, Arithmetic operations on characters, Putting string together, String Operations: String Copy, String Compare, String Concatenation and String Length, String Handling functions, Table of strings.	06
Practical Content:		
List of programs specify by subject teacher based on above mention topics		
Reference Books:		
1	Programming in ANSI C by E Balagurusamy – TMH Publications – 2019	
2	Programming in C by Pradip deydand ManashGhosh – Oxford University Press Publication – 2018	
3	Let us 'C' by Yashwant Kanetkar – BPB Publications – 2020	
Web Reference:		
1	https://www.tutorialspoint.com/ansi_c/c_introduction.htm	
MOOC/Certificate Course:		
1	https://www.coursera.org/specializations/c-programming	
2	https://onlinecourses.nptel.ac.in/noc19_cs42/preview	
Question Paper Scheme:		
End Semester Examination Duration: (2 Hours Theory Examination)		
Note for Examiner: - Q-1 Any Five out of Seven (25 Marks) Q-2 Any Two out of Three (06 Marks) Q-3 Mandatory question (05 Marks) Q-4 Any Two out of Three (08 Marks) Q-5 Any Two out of Three(06 Marks)		
*The question paper must comprehensively address all Course Outcomes (COs), align with Bloom's Taxonomy levels, and ensure complete syllabus coverage.		