PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BVoc DEGREE EXAMINATION DECEMBER 2024
(First Semester)

Branch – NETWORKING AND MOBILE APPLICATIONS

PROBLEM SOLVING TECHNIQUES USING C

Time: Three Hours   Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions

ALL questions carry EQUAL marks   (10 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is NOT a characteristic of a good algorithm? a) Definiteness b) Input and Output c) Ambiguity d) Finiteness	K1	CO1
	2	What is the purpose of a flowchart? a) To display the data in graphical form b) To represent the steps involved in solving a problem c) To create a database d) To analyze a mathematical equation	K2	CO1
2	3	In which year was the C programming language developed? a) 1969 b) 1972 c) 1983 d) 1991	K1	CO1
	4	Which of the following languages influenced the development of C? a) COBOL b) Python c) B d) Fortran	K2	CO1
3	5	Which of the following is NOT a selection statement in C? a) if b) for c) switch d) if-else	K1	CO1
	6	What is the correct syntax for an if statement in C? a) if (condition) { statements; } b) if condition { statements; } c) if { condition; statements; } d) if (condition) statements;	K2	CO1
4	7	Which operator is used to get the memory address of a variable in C? a) * b) & c) % d) @	K1	CO1
	8	What does the * operator do when used with a pointer variable? a) Declares the pointer variable b) Increments the pointer c) Accesses the value stored at the pointer's address d) Assigns a new address to the pointer	K2	CO1
5	9	What is a structure in C? a) A built-in data type b) A user-defined data type that groups different data types together c) A function used for memory management d) A keyword to define constants	K1	CO1
	10	Which keyword is used to define a structure in C? a) struct b) class c) enum d) union	K2	CO1

SECTION - B (35 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Analyze the advantages and disadvantages of using algorithms in problem-solving.	K4	CO5
		(OR)		
	11.b.	Analyze the role of sequences in pseudocode when designing algorithms. Explain how sequences ensure the correct flow of execution and the importance of proper sequencing in achieving the desired outcome.		
2	12.a.	Explain the historical development of the C programming language.	K3	CO4
		(OR)		
	12.b.	Explain about storage class specifiers.		
3	13.a.	Create a C program that uses a for loop to solve a problem involving the generation and analysis of a series of numbers.	K6	CO5
		(OR)		
	13.b.	Design a C program that utilizes a switch statement to simulate a simple calculator.		
4	14.a.	Analyze the use of pointers to dynamically allocate memory for an array of integers.	K5	CO5
		(OR)		
	14.b.	Explain about functions in C with example.		
5	15.a.	Analyze and design a C program that utilizes both arrays and structures to manage a list of products in a store.	K4	CO5
		(OR)		
	15.b.	Analyze the concept of unions in C programming and explain their role in memory management and data representation.		

SECTION -C (30 Marks)
Answer ANY THREE questions
ALL questions carry EQUAL Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	Discuss the importance of translating an algorithm into code in a programming languages.	K4	CO5
2	17	Evaluate the role of identifiers in C programming by analyzing their significance in different contexts.	K5	CO5
3	18	Develop and implement a C program that effectively demonstrates the use of all four jump statements goto, break, continue, and return.	K3	CO4
4	19	Analyze the potential risks associated with recursion, such as stack overflow, and suggest strategies for mitigating these risks.	K4	CO5
5	20	Design and implement a C program that showcases advanced file handling techniques using both text and binary file operations.	K5	CO5

Z-Z-Z END