CBCS SCHEME

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BPOPS103/203

First/Second Semester B.E./B.Tech. Degree Examination, June/July 2025
Principles of Programming using C

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain the components of a computer with a neat diagram.	06	L2	CO1
	b.	Explain the formatted input and output statements with suitable syntax and example.	06	L2	CO2
	c.	Illustrate an algorithm, flowchart and program to compute area of a circle.	08	L2	CO2
		OR			
Q.2	a.	What is variable? What are the rules to construct a variable?	06	L2	CO2
	b.	Identify the following as valid or invalid identifiers with justification: i) int ii) num2 iii) +add iv) a – 2 v) – sum vi) name _ _123	06	L2	CO2
	c.	Explain the structure of C program. Write a sample program to demonstrate the components in the structure of C program.	08	L2	CO2
		Module – 2			
Q.3	a.	Discuss the functioning of the following operators with example. i) Arithmetic ii) Relational	06	L2	CO2
	b.	Compare between the break and continue statement.	06	L2	CO2
	c.	Explain switch statement with syntax. Write a program to simulate simple calculator.	08	L2	CO2
		OR			
Q.4	a.	Explain for loop with syntax and example.	06	L2	CO2
	b.	Explain with syntax, if and if-else statements in C program.	06	L2	CO2
	c.	Develop a C program that takes three coefficients (a, b and c) of quadratic equation ($ax^2 + bx + c$) as input and compute all possible roots and print them with appropriate messages.	08	L3	CO5
		Module – 3			
Q.5	a.	Explain the syntax of function declaration and function definition with example.	06	L2	CO4
	b.	Write a C program to swap two integers using call by value method of passing arguments to a function.	06	L2	CO3
	c.	Explain different types of storage classes with example.	08	L2	CO3

		OR			
Q.6	a.	Explain the declaration and initialization of 1D and 2D arrays with example.	06	L2	CO3
	b.	Illustrate the concept of recursive function with example.	06	L2	CO4
	c.	Write a C program to implement Bubble sort technique (ascending order).	08	L2	CO3
		Module – 4			
Q.7	a.	Write the operations that can be performed on string using built-in functions. Explain any two functions.	08	L2	CO4
	b.	Develop a C program to concatenate 2 strings without using built-in function.	06	L3	CO5
	c.	Explain array of strings with an example.	06	L3	CO5
		OR			
Q.8	a.	Develop a program using pointer to compute the sum, mean and standard deviation of all elements stored in array of N real numbers.	08	L3	CO5
	b.	Describe the pointer concept such as initialization, declaration with suitable program example.	06	L3	CO3
	c.	Explain gets( ) and puts( ) function with example.	06	L2	CO1
		Module – 5			
Q.9	a.	What is structure? Explain the C syntax of structure declaration with example.	06	L2	CO3
	b.	Compare structures and unions with syntax and example.	06	L2	CO3
	c.	Implement structures to read, write and compute average-marks of the students. List the students scoring above and below the average marks for a class of N students.	08	L3	CO5
		OR			
Q.10	a.	Discuss the different modes of operation on files with suitable example.	08	L2	CO4
	b.	Compare between fgets( ) and gets( ).	06	L2	CO4
	c.	Discuss the enumerated data type. Explain the declaration and access of enumerated data type with a code in C.	06	L2	CO1

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