

Model Question Paper-I with effect from 2021 (CBCS Scheme)

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First/Second Semester B.E. Degree Examination
PROBLEM-SOLVING THROUGH PROGRAMMING

TIME: 03 Hours**Max. Marks: 100**

- Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.
 02. Use C code snippet to illustrate a specific code design or a purpose.

Module -1			Marks
Q.01	a	Describe the evolution of Computers by mentioning how computers in one generation are better than their predecessors.	8
	b	Define the following with suitable example. i. Bit ii. Nibble iii. Byte iv. Word v. Kilo byte	5
	c	How primary memory is different from secondary memory? Explain	7
OR			
Q.02	a	What are enumeration variables? How are they declared? What are the advantages of using them in a program?	6
	b	Explain the various rules for forming identifier's names. Give examples for valid and invalid identifiers names for the same.	8
	c	Write a C program to calculate area of a circle.	6
Module-2			
Q.03	a	How similar and different <i>while</i> & <i>for</i> loops are? Give example	8
	b	Write a C program to print numbers from m to n. (where n > m)	6
	c	Demonstrate the working of <i>break</i> and <i>continue</i> statement with a suitable example	6
OR			
Q.04	a	Develop a C program to plot a Pascal's triangle	8
	b	Compare <i>if..else</i> with <i>switch</i> statement	7
	c	List various commonly used format specifiers. Explain any two of them.	5
Module-3			
Q.05	a	How 2D array is represented in memory? Explain with a suitable example	8
	b	For a array declared as int a[50], compute the address of a[35] if a's base address is 1000 and word size=2	2
	c	What are strings? Write a C program to swap two strings	10
OR			
Q.06	a	Write a C program to implement Bubble sort technique (ascending order) and trace the program for the following input: 58 42 10 25 60	10
	b	Mention various operations that can be performed on strings using built-in functions. Explain any two functions.	8
	c	Mention the purpose of a Null Character in C strings.	2
Module-4			
Q.07	a	Demonstrate the use of C user-defined functions with a suitable example	10
	b	What is recursion? Write a C program to computer factorial using recursion	10
OR			
Q.08	a	Differentiate between call by value and call by reference using suitable examples	10
	b	Define a function. List various advantages of a function.	5
	c	How actual parameters are different from formal parameters? Explain	5
Module-5			
Q.09	a	How does a structure differ from an array?	5
	b	Define a structure by name DoB consisting of three variable members dd, mm and yy of type integer. Develop a C program that would read values to the individual member and display the date in mm/dd/yy form.	10

	c	Write the result of the following C code: <pre>int num1=10, num2=20; int *p=&num1, *q=&num2; *p++=*q++; printf("%d %d", num1, num2);</pre>	5
OR			
Q. 10	a	How structure in C is different from <i>union</i> ? Give example	6
	b	What is a pointer? Discuss Pointer arithmetic with suitable C code	7
	c	Narrate the purpose of various C language Pre-processor Directives	7

