Model Question Paper-II 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	Define Computer. Broadly classify the computers based on their Speed, Storage and Price.	7
	b	Classify the following into application or system software and justify. i. C Compiler ii.Word-processor iii.Web-browser iv.Operating system	8
	c	List any three input and three output devices of a computer and explain any one each.	5
		OR	
Q.02	a	List the basic data types available in C. Explain with example.	8
	b	What is typecasting? Mention its use with a suitable example	5
	c	Write a C program to swap two integers without using temporary variable	7
		Module-2	
Q. 03	a	Explain the syntax and working of *switch* case statement. Mention in which situation it is desirable.	7

	b	Write the output of the following C code:
		 `int n=0, m;`
		 `for(m=1;m<=n+1;m++)`
		 `printf("%d  %d",++m, m++);`
			3

	c	Compare the working of *for*, *while* and *do..while* along with their syntax.	10
		OR	
Q.04	a	Write a C program to compute the roots of a quadratic equation by accepting the coefficients and print the appropriate message along with the values.	8
	b	Explain the working of *goto* statement in C programming	6
	c	Give the syntax and working of simple *if..else*	6
		Module-3	
Q. 05	a	How 1Dimension integer array is represented in memory? with the help of suitable example demonstrate the initializing the array elements	6
	b	Write a C program to transpose a m *x* n matrix	6
	c	With the help of suitable example explain the working of Binary Search technique	8
		OR	
Q. 06	a	Write a C program to implement Selection Sort technique (ascending order). Trace the steps for the input: 9, 1, 6, 3, 2, 0, 5	10
	b	Using suitable code, discuss the working of the following string functions: i.`strcat` ii.`strcmp` iii.`strcpy` iv.`strlen` v.`strstr`	10
		Module-4	
Q. 07	a	Discuss the implementation of user-defined function with a suitable example	8
	b	What is Recursion? Discuss its working with the help of a suitable example	5
	c	Write a C function that can be called to find the largest element of an integer array of size n	7
		OR	
Q. 08	a	Discuss the various ways of passing parameter to the functions	8
	b	Write a C program to find factorial of a given number using recursion function.	7
	c	List any five built-in functions and explain any two of them.	5

		Module-5	
Q. 09	a	Write a C program to swap two integer values using pointers	5
	b	Give the general syntax to initialize a structure to store a Book information	7
	c	How *union* is different from *struct*? Give example	8
		OR	
Q. 10	a	Discuss the use of #define and #include in C programming	8
	b	Give the syntax for declaring and initializing a *union* with a suitable example	5
	c	When we need Self-referential structure? Discuss its implementation	7