Question Paper

Exam Date & Time: 26-Dec-2018 (08:30 AM - 11:30 AM)

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

FIRST SEMESTER B.TECH END SEMESTER MAKE-UP EXAMINATIONS, DEC 2018

Problem Solving using Computers [CSE 1051 - 2018 -CHM]

Marks: 50 **Duration: 180 mins.**

A

Answer all the questions.

Instructions to Candidates:
Missing data may be suitably assumed
Indicate all the steps where ever necessary.
Do not seek any clarification from invigilator

1)		Write any four differences between main memory and secondary memory. Name two language translators with an example for each.	(3)
	A)		
	B)	Describe any four properties of an algorithm. Draw a flowchart to display the largest of given three numbers.	(4)
	C)	Describe all the phases of a typical C program development environment.	(3)
2)		Write a C program to convert a given decimal number to an octal number using "for" loop. Write any two differences between "for" loop and "do while" loop. [Note: Octal is a term that describes a base-8 number system], Eg: Given decimal 79 its octal equivalent is 117. (3+1)M	(4)
	A)		
	B)	Explain "else-if ladder" statement with proper syntax and flowchart.	(4)
	C)	Write the differences between "break" and "continue" statements using an example for each.	(2)
3)		Write a C program to read an interger 1D array with N elements and swap the adjacent elements of the array (consider N to be an even number).	(3)
	A)		
	B)	Write two differences between selection sort and bubble sort techniques. Illustrate the working of bubble sort for the given array { 5, 12, 3 , 9, 6 }. (1+3)M	(4)
	C)	Explain the strcmp() function with proper syntax. Write a C	(3)

Program to input a string & store the ASCII values of the characters in an integer array & print the array. (1+3)M

4) A) Write a C program to read an integer 2D array and compute the sum of elements of 2D-array using recursive function. (5)

B) Write the differences between "reference" and "dereference" operators. Using these operators write a C program to swap two integer numbers. (1+2)M (3)

C) What do you mean by modularization? Write the advantages of modularization. (2)

5) A) Create a structure called time with *hours*, *minutes* and *seconds* as its member and write a C program to read start and end times and print the time difference using a function **findDifference()** that accepts two structure variables of type time as input and computes the time difference. (3)

B) With an example, write & explain the general format for opening and closing a file using file pointers. Describe any four modes for opening a file. (4)

C) Describe the consequences of cyber security violations and simple measures to be followed to prevent them. (3)

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