Code No: MC1611/R16

MCA I Semester Regular/Supplementary Examinations, January-2018

C PROGRAMMING AND DATA STRUCTURES

Time: 3 Hours **Max. Marks: 60**

Answer Any **FIVE** *Questions*
All Questions Carry Equal Marks

1.	a	Write an algorithm and flowchart to compute roots of quadratic equation	6m
	b	Define a data type. Mention the different data types supported by C language, giving an example to each.	6m
2.	a	Compare and contrast between if-else and switch –case statements	6m
	b	What is an array? Explain different methods of initialization of single dimensional arrays	6m
3.	a	List four differences between while loop and do-while loop along with syntax and example	4m
	b	How string is declared and initialized? Explain any FOUR string manipulator function with example	8m
4.	a	Compare and contrast actual and formal parameters.	6m
	b	Develop a C program to read two number and a function to swap these number using pointers	6m
5.	a	How to pass arrays as parameters to functions? Explain with an example.	6m
	b	How structure is different from an array? Explain declaration of a structure with an example	6m
6.	a	Write and explain an algorithm for the implementation of binary search.	6m
	b	Sort the following sequence of numbers using Insertion sort : 14,18,1,2,9,6,7,3	6m
7.	a	Give the advantages and disadvantages of doubly linked lists over single linked lists.	6m
	b	Write an algorithm to convert infix expression to postfix expression.	6m
8.	a	Compare and contrast DFS and BFS.	6m
	b	Write Kruskals algorithm to find the minimum cost spanning tree	6m

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