

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
