

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

Roll No

MCA-103

M.C.A. I Semester

Examination, June 2020

Programming and Problem Solving in C

Time : Three Hours

Maximum Marks : 70

- Note:** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Describe in brief about various steps involved in problem solving using C. 7
b) Write in brief about the following: 7
 - i) Stepwise refinement
 - ii) Documentation
2. a) Write difference between structure and union also write, its applications. 7
b) Explain the various file handling function with examples. 7
3. a) Describe various data types available in C with examples. 7
b) How many types of arithmetic operators are there in C? Explain each type with example. 7
4. a) What is meant by array? Write a program in C to read in an array to double each of its elements and to print the resultant array. 7
b) What is the use of ternary operator in C? Explain with the help of suitable example. 7

MCA-103

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[2]

5. a) Distinguish between the following : 7
- i) Actual and formal parameter
 - ii) Global and local variable
 - iii) Auto and static variables
 - iv) Global and extern variable
- b) Write C program that has a function max which takes three numbers as input and gives the largest of them as output. 7
6. a) Explain recursion and its types. 7
- b) Write syntax and use of the following: 7
- i) Malloc ()
 - ii) Calloc ()
 - iii) Free ()
7. a) Describe the use of the following with program code. 7
- i) Pointers to pointers
 - ii) Functions returning pointers.
- b) Write a program to read two string arguments from command line, print the size of each string and the string which is lexicographically smaller. 7
8. Write short note on following: 2×7=14
- i) Enumerated data type
 - ii) Preprocessor directives
