

Roll No.

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220102

December, 2019
MCA- I SEMESTER
Computer Fundamentals and Programming C
(MCA-17-103)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

- 1. It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
- 2. Answer any four questions from Part-B in detail.*
- 3. Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) What are Data types? Name different data types available in C. (1.5)

(b) Define Pointer. (1.5)

(c) Name any two protocols used for transferring data from one computer to another. (1.5)

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- (d) Define String with syntax. (1.5)
- (e) Differentiate between High Level Languages and Low Level Languages. (1.5)
- (f) What is function prototype? (1.5)
- (g) Write the output of following program:

```
main()
{ int x=5,*p;
  p=&x;
  printf("%d",*p+1);
  getch();
}
```

(1.5)

- (h) Write the function of gets() and puts() commands in strings. (1.5)
- (i) Convert the following:
 $(10110111.1101)_2 = (\quad)_8$ (1.5)
- (j) Write the syntax for fopen and fclose commands in C file system. (1.5)

PART - B

2. (a) Draw and Explain the bus oriented architecture of computer system. Also explain memory hierarchy in a computer system. (7)

(b) Explain all types of loops available in C with their syntax. Write a program to find out whether a number "n" being entered by a user is prime or not. (8)

3. (a) Define array. WAP to find out the smallest element in 2D array. (5)

(b) What is Recursion? WAP to calculate Factorial of a number using recursion. (10)

4. (a) Draw the flowchart for finding out the greatest between three numbers. (5)

(b) WAP to copy one string into another without using string inbuilt function. (10)

5. (a) Draw and explain OSI network model. (5)

(b) WAP for creating structure of an employee of a company having following data elements : employee id, employee name, employee date of joining and employee salary. The program should take input and also print the output for the same. (10)

6. (a) WAP to copy the contents of one file into another. (5)

(b) What is an Operating System? Write down various functions of an Operating System. Explain Memory management in detail. (10)

7. Write short note on following:

(i) Linker and Loader.

(ii) Storage Classes.

(iii) Compiler and Interpreter. (15)