

MCA 1st Semester Examination, 2019

MCA

(Programming in C)

PAPER –MCA-104

Full Marks : 100

Time : 3 hours

Answer Q.No. 1 and any four from the rest

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

1. Answer any five questions : 2 × 5

(a) What are the benefits of using array ?

(b) What is the difference between ++n and n++ ?

- (c) What is recursion ?
- (d) Distinguish between structure and union.
- (e) Why a pointer variable needs a data type ?
- (f) What is preprocessor directive ?
- (g) Distinguish between local and global variable.
- (h) What do you mean by FILE pointer ?

2. (a) Explain different types of storage classes used in C.
- (b) What is type def declaration ? Give suitable example.
- (c) Write a C program to calculate the factorial of a given number. (6 + 3 + 6)
3. (a) Explain different types of loops with an example.
- (b) Give an example to show the usability of break and continue statement in a loop.

(c) Write a program in C to check whether a given number is a prime number. (6 + 3 + 6)

4. (a) What is the use of sizeof and comma operator ?

(b) Explain the declaration and initialization of one and two dimensional arrays using examples.

(c) Show the working of switch-case statement using a program. 3 + 6 + 6

5. (a) What is a string ? Explain various string handling functions.

(b) Write a program in C to calculate the length of a string without using any built-in function.

(c) Explain the difference between call by value and call by reference with a suitable example. (1 + 4) + 6 + 4

6. (a) Is '*' a unary or binary operator or both ? Justify your answer with example.

(b) A pointer can store an address. Then why the type of pointer is important in pointer declaration ?

(c) Write a program using structure to show how it is declared and initialized and accessed.

$$(2 + 2) + (2 + 3) + 6$$

7. (a) Describe function pointer with example.

(b) What is the necessity of dynamic memory allocation ? Differentiate between calloc() and malloc().

(c) Can we compare two pointers by relational expressions ? If yes, give an example.

$$3 + (3 + 3) + (2 + 4)$$

[Internal Assessment : 30 Marks]
