

MCA (DUAL DEGREE)
(SEM I) THEORY EXAMINATION 2018-19
COMPUTER CONCEPT & PROGRAMMING IN C

Time: 3 Hours

Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 10 = 20
- a. Why operating system is necessary for a computer system?
 - b. Write any four desirable characteristics of an algorithm.
 - c. Briefly explain logical operators used in C language.
 - d. Write a short note on the concept of storage classes.
 - e. Why if-else statement is used? Explain in brief.
 - f. Give syntax of for and while loop with example.
 - g. Compare pass-by-value and pass-by-reference methods of parameter passing.
 - h. What is an array? How array elements are accessed?
 - i. Differentiate between actual and formal parameters with suitable example.
 - j. What do you mean by searching? Briefly explain any one searching technique.

SECTION B

2. Attempt any *three* of the following: 10 x 3 = 30
- a. Discuss any five commands of UNIX and Windows operating system.
 - b. Explain basic data types **int**, **float** and **char** with proper example. Also discuss different forms of **int** data type.
 - c. What is do-while loop? Write a C program to illustrate the concept of do-while loop.
 - d. How a structure is declared and initialized? Also give syntax to access elements of a structure with example.
 - e. What is a macro and how is it different from a variable name? What are the advantages of using macro definitions in a program?

SECTION C

3. Attempt any *one* part of the following: 10 x 1 = 10
- (a) Discuss the procedure to convert a binary number to octal and hexadecimal form with example.
 - (b) What is a flowchart? What are its advantages and disadvantages? Explain.
4. Attempt any *one* part of the following: 10 x 1 = 10
- (a) Explain the concept of type conversion? Differentiate between implicit and explicit type conversion with proper example.
 - (b) What are enumeration variables? How are they declared? What is the advantage of using them in a program?
5. Attempt any *one* part of the following: 10 x 1 = 10
- (a) Discuss **strcat()**, **strlen()** and **strcmp()** functions with suitable example.
 - (b) Write a C program to print Fibonacci series up to n terms.

6. Attempt any *one* part of the following: 10 x 1 = 10
- (a) Write a C program to illustrate the concept of multidimensional array.
 - (b) What is a linked list? How is it represented? Discuss advantages of using a linked list.
7. Attempt any *one* part of the following: 10 x 1 = 10
- (a) What do you mean by dynamic memory allocation? Explain. Compare **malloc** and **calloc** functions.
 - (b) Write a C program that copies the contents of one file into another.

