

Code: 17F00102

MCA I Semester Supplementary Examinations May/June 2019  
**INTRODUCTION TO PROBLEM SOLVING & PROGRAMMING**  
(For students admitted in 2017 & 2018 only)

Time: 3 hours

Max. Marks: 60

Answer all the questions

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- 1 (a) Write and explain an algorithm for exchanging the values of two variables.
- (b) Describe an approach to find the efficiency of algorithms.

**OR**

- 2 (a) Describe an algorithm for finding the sum of a set of numbers.
- (b) Explain the notations used for analysis of algorithms.

- 3 Describe an algorithm for generating prime numbers and illustrate with an example.

**OR**

- 4 Explain an algorithm for raising a number to a large power.

- 5 Explain the various conditional statements in C language with syntax and examples.

**OR**

- 6 (a) Explain the structure of a C program and describe the process of executing a C program.
- (b) Explain the declaration and initialization of strings in C language.

- 7 (a) Explain the parameter passing methods in C language.
- (b) Describe array of structures with an example.

**OR**

- 8 (a) Explain the storage classes in C language and discuss the scope and lifetime of variables.
- (b) Explain the syntax for declaration of union and accessing union members with an example.

- 9 (a) Explain the syntax and use of malloc and calloc with a suitable example.
- (b) Write a C program to copy the contents of one text file (containing empid, name, age, net salary) to another text file.

**OR**

- 10 (a) Explain pointer to pointer with an example.
- (b) Explain the functions for file handling in 'C'.

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