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Uni. Roll No.

Program: B.Tech.

Semester: 1st

Name of Subject: Programming for Problem Solving

Subject Code: ESC-104

Paper ID: 15935

21-01-2022(E)

Time Allowed: 02 Hours

Max. Marks: 60

NOTE:

- 1) Each question is of 10 marks.
- 2) Each sub question is of 5 marks.
- 3) Attempt any six questions out of nine
- 4) Any missing data may be assumed appropriately

- Q1.** Illustrate the concept of an array with the help of examples. How multidimensional arrays are declared in C. Write a program to add two matrices in C.
- Q2.** Differentiate between call by value and call by reference with the help of programs. Write a program to find the factorial of a number using recursion.
- Q3.** Explain in detail the various data types in C. Write a program to check whether a number is odd or even.
- Q4.** (a) How is an algorithm different from a flowchart? Can pseudocode be used to represent an algorithm?
(b) Explain the structure of a C program. Also differentiate between compiler and interpreter.
- Q5.** (a) How do you read a file in C program? What are the various file opening statements available in C?
(b) Differentiate between primary and secondary memory.
- Q6.** How to declare and initialize a string? Write a program to find length of a string, compare and concatenate two strings.
- Q7.** (a) Write a note on evolution of internet. What are few applications of internet?

- (b) Explain the components of a computer system.
- Q8.** (a) How are pointers declared? Explain with help of an appropriate program.
(b) Explain the syntax of FOR statement and SWITCH statement with the help of a program.
- Q9.** Which operator is used to compare two variables? Explain the precedence of operators in C. Write a C program to swap two numbers.
