CBCS SCHEME

USN

18CPS13/23

First/Second Semester B.E. Degree Examination, Jan./Feb. 2023
C Programming for Problem Solving

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. Explain the generations of computer. **(05 Marks)**
b. Classify and explain the different types of computers based in size and storage. **(06 Marks)**
c. Explain the following :
i) Input devices (any two)
ii) Output devices (any two)
iii) Primary memory and Secondary memory. **(09 Marks)**

OR

2 a. Explain the basic structure of C program with an example. **(05 Marks)**
b. Define data type. List the different types of data type. Explain the primitive (Basic) data types with size and ranges. **(07 Marks)**
c. Classify operators. Explain the following operator with example:
i) Arithmetic operator
ii) Increment and Decrement operator
iii) Conditional operator. **(08 Marks)**

Module-2

3 a. Explain about printf( ) and scanf( ) statements. **(06 Marks)**
b. With simple program explain the following statement:
i) if else statement
ii) Nested if statement **(08 Marks)**
c. Write a program that uses three coefficients (a, b & c) of a quadratic equation ($ax^2 + bx + c = 0$) as input and find the root of quadratic equation and print them with appropriate message. **(06 Marks)**

OR

4 a. Explain switch statement and develop a program to solve simple computational problem using arithmetic expression and use of each operator leading to simulation of a commercial calculator (No built in math function). **(08 Marks)**
b. Differentiate between while and do while loop. **(05 Marks)**
c. Explain how to build a Pascal's triangle. Write a C program to print Pascal's triangle. **(07 Marks)**

Module-3

5 a. Define Array. Explain how to declare, initialize and access the elements of one dimensional and two dimensional array with example. **(08 Marks)**
b. Explain any five string manipulation library function with example. **(06 Marks)**
c. Write a C program to read two matrices and find the multiplication of two matrices. **(06 Marks)**

10 a. Explain the principle of operation of a 3 ϕ Induction motor. **(05 Marks)**

b. Explain the various losses in transformer. How these losses can be minimized. **(05 Marks)**

c. A 3 phase induction motor with 4 poles is supplied from an alternator having 6 pole and running at 1000 rpm. Calculate

i) Synchronous speed of the I.M.

ii) If speed when slip is 0.04.

iii) Frequency of the rotor emf when speed is 600 rpm. **(06 Marks)**

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