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Sr. N 321107

December 2023

B.Sc (Maths/Physics/MAC), 1st Semester
Fundamentals of programming (OEC-CE-101-1)

Time: 3 Hours

Max. Marks:75

- Instructions:**
1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.
 2. Answer any four questions from Part -B in detail.
 3. Different sub-parts of a question are to be attempted adjacent to each other.

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PART -A

- Q1 (a) Give examples of some C Keywords. (1.5)
(b) What is the difference between Local and Global scope of a variable? (1.5)
(c) What is Operator precedence? (1.5)
(d) How While loop is different from Do While Loop? (1.5)
(e) What are Inline Functions? (1.5)
(f) Write a program to inverse a string. (1.5)
(g) What is Constructor Overloading? (1.5)
(h) List features of Object Oriented Programming Languages . (1.5)
(i) Write a program to find sum of the squares of integers from 1 to 100. (1.5)
(j) What is Type Casting? (1.5)

PART -B

- Q2 (a) What are various operators in C? Discuss each of them with suitable illustration. (10)
(b) What are identifiers? Explain the rules for identifiers declaration. (5)
- Q3 (a) What is an array? Why they are needed? Write a program to enter n elements in an array and find second smallest number from an array. (10)
(b) Write a program in C to print Fibonacci series of first ten numbers. (5)
- Q4 (a) What is the advantage of using switch-case over nested if-else statement? Explain the use of switch case with the help of an example. (5)
(b) What is row major and column major representation of two dimensional array and state how address of any element is calculated in each, explain with suitable example. (10)
- Q5 (a) What are command line arguments? Explain with example. (5)
(b) What is function? Explain call by value and call by reference with example. (10)
- Q6 (a) What are access modifiers? How they protect the data? Explain with the help of suitable example. (10)

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(b) Write a program to demonstrate the use of Inheritance.

(5)

Q7

Write short note on three of the following

(15)

- i. Break and Continue
- ii. Data Types in C
- iii. Multidimensional Arrays
- iv. Polymorphism

PART - A

- (1.5) (a) Give examples of some C Keywords.
- (1.5) (b) What is the difference between local and Global scope of a variable?
- (1.5) (c) What is Operator precedence?
- (1.5) (d) How While loop is different from Do While loop?
- (1.5) (e) What are Inline Functions?
- (1.5) (f) Write a program to inverse a string.
- (1.5) (g) What is Constructor Overloading?
- (1.5) (h) List features of Object Oriented Programming Languages.
- (1.5) (i) Write a program to find sum of the squares of integers from 1 to 100.
- (1.5) (j) What is Type Casting?

PART - B

- (10) (a) What are various operators in C? Discuss each of them with suitable illustration.
- (5) (b) What are identifiers? Explain the rules for identifier's declaration.
- (10) (a) What is an array? Why they are needed? Write a program to enter n elements in an array and find second smallest number from an array.
- (5) (b) Write a program in C to print Fibonacci series of first ten numbers.
- (5) (a) What is the advantage of using switch-case over nested if-else statements? Explain the use of switch case with the help of an example.
- (10) (b) What is row major and column major representation of two dimensional array? and state how address of any element is calculated in each explain with suitable example.
- (5) (a) What are command line arguments? Explain with example.
- (10) (b) What is function? Explain call by value and call by reference with example.
- (10) (a) What are access modifiers? How they protect the data? Explain with the help of suitable example.

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