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Total No. of Pages : 03

Total No. of Questions : 18

PGDCA (2019 Batch) (Sem.-2)
OBJECT ORIENTED PROGRAMMING USING C++
Subject Code : PGCA-1911
Paper ID : 77840

Time : 3 Hrs.

Max. Marks : 70

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION - B & C. have FOUR questions each.
3. Attempt any FIVE questions from SECTION B & C carrying TEN marks each.
4. Select atleast TWO questions from SECTION - B & C.

SECTION-A

Please answer the questions given below in brief :

Q1 What are the basic features of object-oriented programming?

Q2 What are the basic requirements to execute a C++ program? Write steps to execute a C++ program without using any IDE.

Q3 Write a program in C++ to check the given input number for being odd or even.

Q4 What are arrays in C++? Explain with example in C++.

Q5 What are functions in C++? Explain with example.

Q6 What is multilevel inheritance? Explain with example.

Q7 Differentiate between unary and binary operator in C++.

Q8 What is abstract class in C++? Explain with example.

Q9 Explain the concept of overloading with the help of a programming example in C++.

Q10 What are the various modes of opening file in C++?

SECTION-B

Q11 a) What is the difference between procedure-oriented programming language and object-oriented programming language? Give a suitable real-world example to demonstrate the difference.

b) What is the basic structure of a C++ program? Write a C++ program to display the percentage of marks obtained. Take maximum marks and obtained marks as an input from user.

Q12 a) What do you understand by data type in C++? Explain about the various kind of data types available in C++.

b) Write a C++ program to the grade of student based on the following conditions :

- if the score $\geq 90\%$ than grade = A
- if the score $\geq 70\%$ and $< 90\%$ than grade = B
- if the score $\geq 50\%$ and $< 70\%$ than grade = C
- if the score is $< 50\%$ than grade = F

Q13 a) Write a C++ program to do any two of the following operation on strings :

- i. To find the most frequent character in a string.
- ii. To count number of words in string.
- iii. To check a string is palindrome or not.

b) How multidimensional arrays are represented in memory? Write a program in C++ to sort the elements of a two-dimensional arrays in ascending order.

Q14 Write C++ program to do any four of the following operations on matrix of size $m \times n$:

- a) Sum of all elements of matrix of size $m \times n$.
- b) To display row-wise sum of matrix of size $m \times n$.
- c) To display column-wise sum of matrix of size $m \times n$.
- d) To create transpose of matrix B of size $n \times m$.
- e) To sort element by frequency

SECTION-C

Q15 a) Explain about the role of access specifier in C++. How many kinds of access specifier are available in C++?

b) What are classes and objects in object-oriented programming? Write a program in C++ to demonstrate the concept of data abstraction in C++.

Q16 a) What is the role of constructor and destructor in C++? Explain with the help programming example.

b) What is parameterized constructor in C++? Write a program in C++ to demonstrate the concept of copy constructor in C++.

Q17 a) What is operator overloading? Explain about the operator overloading using friend function in C++.

b) What is virtual function in C++? Differentiate between virtual and friend function in C++.

Q18 How file handling is done in C++? Write a C++ program to create two text files by taking input from the user. Display the content of both files on console. Also, write the content of first file followed by second file into a third file and display the content of third file on console.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student