Reg. No. : | | | | | | | | | | |

Question Paper Code: 94803

B.E./B.Tech. DEGREE EXAMINATION, NOV 2024

Fourth Semester

Information technology

19UIT403- Object Oriented Programming in C++

(Regulations 2019)

Duration: Three hours Maximum: 100 Marks

Answer All Questions

PART A - (10x 2 = 20 Marks)

1. Why are the words such as cin and cout not supported as keywords? CO1- U
2. What are default arguments? What is their user? Give example. CO1- U
3. Discuss the use of public, private and protected access specifies and their visibility in the class. CO1- U
4. Write a C++ program that has a class containing the following: CO2- App

   (i) Private and Public members
   (ii) Constructor

   You should also use the main function of your program to demonstrate the use of your class.
5. What is the output of the following code? CO1- U

```
#include<string.h>
void main()
{
cout<<strlen("Hello, World.\n")<<"\n";
}
```

6. When used in prefix form, what does the overloaded ++ operator do differently from what it does in postfix form? CO3- Ana
7. How can the members of base class be accessed in derived class?. CO1- U

8. Assume a class Derv derived from a base class Base. Both classes contain a member function func() that takes no arguments. Write a statement to go in a member function of Derv that calls func() in the base class. CO2- App

9. Write a syntax of template class and function CO1- U

10. Write a C++ program that will read the contents of an ifstream object called ifile into an array called buff. CO2- App

PART – B (5 x 16= 80Marks)

11. (a) Develop a C++ program to print the perfect cubes and perfect squares in a given range. Perfect cubes are number obtained by multiplying a number thrice. Perfect squares are number obtained by multiplying a number twice. CO2-App (16)

Or

(b) Suppose you give a dinner party for six guests, but your table seats only four. In how many ways can four of the six guests arrange themselves at the table? Any of the six guests can sit in the first chair. Any of the remaining five can sit in the second chair. Any of the remaining four can sit in the third chair, and any of the remaining three can sit in the fourth chair. (The last two will have to stand.) So the number of possible arrangements of six guests in four chairs is 6*5*4*3, which is 360. Write a program that calculates the number of possible arrangements for any number of guests and any number of chairs. (Assume there will never be fewer guests than chairs.) Don't let this get too complicated. A simple for loop should do it. CO2-App (16)

12. (a) Develop a program using classes and objects hat calculates the power value of given two numbers using a method called calpower() and create another method called powercheck() that check whether the obtained power value is divisible by 3 or not. CO2-App (16)

Or

(b) Write a C++ program that create class customer with customer name, account number and account type and provides below operation on customer account such as deposit, withdraw and display balance then use constructor to display full details. CO2-App (16)

13. (a) Write a C++ program to accept item details (Imo, Iname, Iprice) of five items. Display item name with the highest price. (Use array of objects) CO2-App (16)

Or

	(b)	Create a class Student. Include data members roll no, name, city and age. Write member functions: (i) To accept information of 'n' students (ii) To display information of 'n' students (iii) To search details of a student using roll no (use array of objects)	CO2-App	(16)
14.	(a)	Write a C++ program demonstrating use of the pure virtual function with the use of base and derived classes	CO1- U	(16)
		Or		
	(b)	Write a C++ program to initialize base class members through a derived class constructor	CO1- U	(16)
15.	(a)	Write a C++ program using function template to find the maximum among two number in integer, float & double.	CO2- App	(16)
		Or		
	(b)	Write a C++ program to sort n numbers using templates	CO2- App	(16)

94803