

AQ - 2621

First Year First Semester MCA / PGDCS Examination

PROBLEM SOLVING USING C++

Paper - 1 MCA 2 / 1 CS 2

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

- Note :** (1) All question carry marks as indicated.
(2) Assume suitable data wherever necessary.
(3) Illustrate your answer wherever necessary with the help of neat sketches.
(4) Use pen of Blue/Black ink/refill only for writing the answer book.

1. (A) State and explain the characteristics of an Object Oriented Programming. 5

(B) Explain :—

- (i) Static data member.
(ii) Copy constructor. 8

OR

2. (A) How data members of an object can be initialized ? Explain with example. 6

(B) Write a program in C++ using class circle having radius as data member, PI as constant. Use area, circumference and diameter as the member functions. 7

3. (A) Create a class length having feet and Inches as the data members. Overload + operator to add two objects of the class length. 8

(B) Explain :—

- (i) New
(ii) Delete. 6

OR

4. (A) Write a C++ program to overload ++ and---- operator which increment and decrement the data members of an object respectively. 8
(B) State and explain the advantages and disadvantages of operator overloading. 6
5. (A) How constructor calling is done in an inheritance ? Explain. 6
(B) Write a C++ program to overload small () function which find out the smallest number among two, three and four arguments passed by the user. 8

OR

6. (A) Write a program in C++ to demonstrate the use of multilevel inheritance. 8
(B) Explain :—
(i) Nested class.
(ii) Base class.
(iii) Private inheritance. 6
7. (A) What is friend function ? Explain with example. 7
(B) Explain :—
(i) Virtual function.
(ii) Pure virtual function. 6

OR

8. (A) Write a program in C++ to find out largest among two objects. Using function(The largest object is find out on the basis of data members of an object). 8
(B) What is an Abstract class? Explain with example. 5
9. (A) Write a program in C++ to count the vowels in a text file. 8

(B) How error handling is done in File ? Explain.

5

OR

10. (A) Explain :—

(i) tellg / ()

(ii) seekg / ()

(iii) tellp / ()

(iv) backp / ().

4

(B) Write a program in C++ to copy the contents of text file "Source. Txt" into another file "Destination. Txt".

9

11. (A) What is an exception ? What is the need of handling an exception ? Explain.

5

(B) Write a program in C++ to create a function using function template for addition of two numbers of any type.

8

OR

12. (A) Explain :—

(i) STL

(ii) Containers.

6

(B) Create a generic function in C++ to find out smallest among two numbers of any type (Int, float or double).

7

