

12/8/87

Full Marks : 70

Time : 3 hours

Answer Q. No. 1, which is compulsory and
any five of the rest questions

The figures in the right-hand margin indicate marks

1. Answer the following :

2 × 10

(a) The ability of a function to act in different
ways on different data types is called function

overloading

(b) What will be the output of the following
codes :

function polymorph

X = 6;

cout << x << x++ << ++x;

8 7 7

(c) Find errors, if any, in the given function
prototypes void display (float mark[],
size = 20);

datatype int required for size (Turn Over.)
no body of function display.

(4)

3. (a) Explain the difference between an instance class and an abstract class. 5
(b) Discuss the basic use of virtual class. 5
multiple inheritance
4. (a) Write a program to find out simple interest using multiple constructors. 5
(b) Discuss the different types of inheritance. 5
5. (a) Write a program using operator overloading to find out the summation of complex numbers. 5
(b) Define prototypes and linkages. 5
6. (a) Write a program to read two double type numbers from keyboard and a function to calculate the division of these two numbers. A try block to throw an exception when a wrong type of data is entered and another try block to throw an exception if the condition "division occurs". Appropriate catch block to handle the exceptions thrown. 5

(5)

- (b) When do we use multiple catch handlers ?
What will happen several handlers match the type of exception thrown ? *only 1st matching one will be executed!* 5
7. (a) Distinguish between overloaded functions and function templates. *funcⁿ of ✓* 5
(b) What is generic programming ? How is it implemented in C++ ? 5
8. (a) What is meant by software development method ? Explain in details. 5
(b) What do you mean by analysis and design ?
What are the steps involved in designing ? 5

(2)

when we need only one copy of that member for the entire class, when it

(d) When do we declare a member of a class static? *is common to class*

using overloaded constructors or using new operators
(e) How is dynamic initialization of objects achieved? *in C++ any where in program variable can be declared (data type and initialized)*

(f) What is the output of the following program. Explain your answer.

```
#include<iostream.h>
class some{
public :
~ some()
{
    cout<<"some's destructor"<<endl;
}
};

void main()
{
    some s;
    s.~some();
}
```

abstract
(g) An _____ class is one that is not used to create objects.

*some's destructor
some's destructor
after program execution*

(3)

(h) Virtual functions are used to create pointer to base class.

Dynamic object
(i) _____ can be used without using its constructor.

(j) What are the different blocks used in exception handling? *try block, throw block, catch block*

2. (a) Write a program to find out the 2nd largest and 2nd smallest number in an array of n numbers. *atn-2*

(b) Create a class called Volume that uses three data members of type distance to model the volume of a room and initialize a variable of type Volume to specific dimensions, then calculate the volume it represents and print out the result. To calculate the volume, convert each dimension from a distance variable to a variable of type float representing feet and fractions of a foot, and then multiply the resulting three numbers.

class Volume
distance → float
distance b₁
distance b₂
distance b₃