



THE LAWRENCE SCHOOL, LOVEDALE
XII - COMPUTER SCIENCE
SECOND UNIT TEST - 2011

M.MARKS: 35

TIME: 1 1/2 HRS

- Q1. a) Write names of different types of inheritance. 2
b) Rewrite the following program after removing the syntactical errors (if any).
Underline each correction. 2

```
#include [iostream.h]
class MEMBER
{
int Mno; float Fees;
PUBLIC:
void Register(){cin>>Mno>>Fees;}

void Display{cout<<Mno<<": "<<Fees<<endl;}
};
void main()
{
MEMBER M;
Register();
M.Display();
}
```

- c) Answer the questions (i) and (ii) after going through the following class: 2

```
class Seminar
{int Time;
public:
Seminar() //Function 1
{
Time=30;cout<<"Seminar starts now"<<endl;
}
```

```
void Lecture() //Function 2
{
cout<<"Lectures in the seminar on"<<end1;
}
Seminar(int Duration) //Function 3
{
Time=Duration;cout<<"Seminar starts now"<<end1;
}
~Seminar() //Function 4
{
cout<<"Vote of thanks"<<end1;
}
};
```

- i) In Object Oriented Programming, what is Function 4 referred as and when does it get invoked/called?
- ii) In Object Oriented Programming, which concept is illustrated by Function 1 and Function 3 together? Write an example illustrating the calls for these functions.
- d) Define a class TEST in C++ with following description: 4

Private Members

- TestCode of type integer
- Description of type string
- NoCandidate of type integer
- CenterReqd (number of centers required) of type integer
- A member function CALCNTR() to calculate and return the number of centers as (NoCandidates/100+1)

Public Members

- A function SCHEDULE() to allow user to enter values for TestCode, Description, NoCandidate & call function CALCNTR() to calculate the number of Centres
- A function DISPTTEST() to allow user to view the content of all the data members

- e) Answer the questions (i) to (iv) based on the following: 4

```
class PUBLISHER
{
char Pub[12];
double Turnover;
```

```
protected:
void Register();
public:
PUBLISHER();
void Enter();
void Display();
};
class BRANCH
{
char CITY[20];
protected:
float Employees;
public:
BRANCH();
void Haveit();
void Giveit();
};
class AUTHOR : private BRANCH, public PUBLISHER
{
int Acode;
char Aname[20];
float Amount;
public: AUTHOR();
void Start();
void Show();
};
```

- (i) Write the names of data members, which are accessible from objects belonging to class AUTHOR.
- (ii) Write the names of all the member functions which are accessible from objects belonging to class BRANCH.
- (iii) Write the names of all the members which are accessible from member functions of class AUTHOR.
- (iv) How many bytes will be required by an object belonging to class AUTHOR?

- Q2. a) Differentiate between private and public class members. 1
b) What is the name of (::) operator? Illustrate the use of (::) operator with example. 2
c) Define class and object with an example. 2
d) What is constructor? Explain all types of constructors with example. 4
e) What is destructor? When it will get executed? 2
- Q3. a) Define a class TRAVEL with following specifications: 4
Private members are:
Tcode, no_of_pass integer variable
Place string
Public members are:
 - A constructor to assign initial values of Tcode as 101, place as "MYSORE", no_of_pass as 10.
 - A function INDETAILS() to input all information
 - A function OUTDETAILS() to display all information.
- b) Answer the questions i and ii after going through the following class. 2
- ```
class number
{
 float M;
 char str[20];
 public:
 number()
 {
 M=0;
 str= '\0';
 }
};
```
- i. What type of constructor is used in this class?  
ii. Write a main() function to call the constructor function.
- c) Define a class BANK with following specifications: 4  
Private members are:  
  - Name of depositor char[20]
  - Account number integer
  - Type of account char[1] (S for saving, C for Current)
  - Balance amount float

Public members are:

- Deposit() to deposit money
- Withdraw() for withdraw of money (money can be withdraw if minimum balance $\geq$ 1000)
- Display() to display all data members.

Public members are:

- A constructor to assign initial values of Tcode as 101, place as "MYSORE", no\_of\_pass as 10.
- A function INDETAILS() to input all information
- A function OUTDETAILS() to display all information.