



# INDIAN SCHOOL DARSAIT DEPARTMENT OF ICT



**Subject:**Computer Science

**Topic:** Class & Object

**Worksheet No.:**4

**Resource Person(s):**Roilet Noronha

**Date:**\_\_\_\_\_

**Name of the Student :**\_\_\_\_\_

**Class &Div:**XII A

**Roll Number :**\_\_\_\_

1. Define a class Student in C++ with following description:

Private: Rollno, Name, Address, Marks in 3 subjects and average.

Public: getstudent() – Get all details of student

Calmarks() – To calculate the average

putstudent() – Display all details of student

2. Define a class ITEM in C++ with the following description :

Private Members

- Code of type integer (Item Code)
- Iname of type string (Item Name)
- Price of type float (Price of each item)
- Qty of type integer (Quantity of item in stock)
- Offer of type float (Offer percentage on the item)
- A member function GetOffer( ) to calculate Offer percentage as per the following rule :
  - If Qty <= 50            Offer is 0
  - If 50 < Qty <= 100    Offer is 5
  - If Qty >100            Offer is 10

Public Members

- A function GetStock( ) to allow user to enter values for Code, Iname, Price, Qty and call function GetOffer( ) to calculate the offer.
- A function ShowItem( ) to allow user to view the content of all the data members.

3. Define a class Applicant in C++ with following description:

Private Members

- A data member ANo ( Admission Number) of type long
- A data member Name of type string
- A data member Agg(Aggregate Marks) of type float
- A data member Grade of type char
- A member function GradeMe( ) to find the Grade as per the Aggregate Marks obtained by a student. Equivalent Aggregate marks range and the respective Grades are shown as follows

<u>Aggregate Marks</u>	<u>Grade</u>
> = 80	A
Less than 80 and > = 65	B
Less than 65 and > = 50	C
Less than 50 and > = 33	D
Less than 33	E

Public Members

- A function Enter( ) to allow user to enter values for ANo, Name, Agg & call function GradeMe( ) to find the Grade
- A function Result ( ) to allow user to view the content of all the data members.

4.

Write the definition of a class PIC in C++ with following description :

Private Members

- Pno //Data member for Picture Number (an integer)
- Category //Data member for Picture Category (a string)
- Location //Data member for Exhibition Location (a string)
- FixLocation //A member function to assign //Exhibition Location as per category //as shown in the following table

Category	Location
Classic	Amina
Modern	Jim Plaq
Antique	Ustad Khan

Public Members

- Enter() //A function to allow user to enter values //Pno, category and call FixLocation() function
- SeeAll() //A function to display all the data members

5.

Define a class Tourist in C++ with the following specification :

Data Members

- Carno - to store Bus No
- Origin - to store Place name
- Destination - to store Place name
- Type - to store Car Type such as 'E' for Economy
- Distance - to store the Distance in Kilometers
- Charge - to store the Car Fare

Member Functions

- A constructor function to initialize Type as 'E' and Freight as 250
- A function CalcCharge() to calculate Fare as per the following criteria :

Type	Charge
'E'	16*Distance
'A'	22*Distance
'L'	30*Distance
- A function Enter() to allow user to enter values for Carno, Origin, Destination, Type and Distance. Also, this function should call CalcCharge() to calculate Fare.
- A function Show() to display the content of all the data members on screen.

6.

Define a class RESTRA in C++ with following description :

**Private Members**

- FoodCode of type int
- Food of type string
- FType of type string
- Sticker of type string
- A member function GetSticker() to assign the following values for Sticker as per the given FType :

FType	Sticker
Vegetarian	GREEN
Contains Egg	YELLOW
Non-Vegetarian	RED

**Public Members**

- A function GetFood() to allow user to enter values for FoodCode, Food, FType and call function GetSticker() to assign Sticker.
- A function ShowFood() to allow user to view the content of all the data members.

7. Define a class candidate in C++ with following Description:

**Private Members**

- A data member RNo (Registration Number) of type long
- A data member Name of type string
- A data member Score of type float
- A data member Remark of type string
- A member function AssignRem( ) to assign Remarks as per the Score obtained by a candidate. Score range and the respective Remarks are shown as follows:

Score	Remarks
>=50	Selected
less than 50	Not selected

**Public members**

- A function ENTER( ) to allow user to enter values for RNo, Name, Score & call function AssignRem() to assign the remarks.
- A function DISPLAY( ) to allow user to view the content of all the data members.

8. Define a class RESORT in C++ with following description:

**Private Members:**

- Rno // Data member to store Room No
- Name // Data member to store customer name

- Charges // Data member to store per day charges
- Days // Data member to store number of days of stay
- COMPUTE( ) // A function to calculate and return Amount as Days\* Charges and if the value of Days \* Charges is more than 11000 then as 1.02 \* Days \* Charges

Public Members :

- Getinfo( ) // A function to enter the content Rno, Name, Charges and Days
- Dispinfo( ) // A function to display Rno, Name, Charges, Days and Amount (Amount to be displayed by calling function COMPUTE( ) )

9. Write the definition of a class METROPOLIS in C++ with following description :

Private Members

- MCode //Data member for Code (an integer)
- MName //Data member for Name (a string)
- MPop //Data member for Population (a long int)
- Area //Data member for Area Coverage (a float)
- PopDens //Data member for Population Density ( a float)
- CalDen() //A member function to calculate Density as PopDens/Area

Public Members

- Enter() // allow user to enter values of Mcode,MName,MPop,Area and call CalDen() function
- ViewALL() // display all the data members also display a message “Highly Populated Area” if the Density is more than 12000

10. Define a class DanceAcademy in C++ with following description:

Private Members

Enrollno of type int

Name of type string

Style of type string

Fee of type float

A member function chkfee( ) to assign the value of fee variable according to the style entered by the user according to the criteria as given below:

Style	Fee
Classical	10000
Western	8000
Freestyle	11000

Public Members

A function enrollment() to allow users to enter values for Enrollno,Name, Style and call function chkfee()to assign value of fee variable according to the Style entered by the user.

A function display() to allow users to view the details of all the data members.