SDJ INTERNATIONAL COLLEGE

SYBCA Semester – 3

Practical Assignment of OOP and Data Structure

Sr.No.	Problems
1.	An electricity board charges the following rates to user. For the first 100 units → 60p per unit. For the next 200 units→80p per unit. Beyond 300 units→90p per unit. All users are charged a minimum of Rs. 50; if the total amount is more than 300 then an additional surcharges of 15% is added. Write a program to accept name of user consumed and print charges with their rates.
2.	Define a class to represent a bank account. Include the following members: a. Name of the depositor b. Account number c. Type of Account d. Balance amount in the Account Member Functions: a. To assign initial values. b. To deposit an amount. c. To withdraw an amount after checking the balance. d. To display name and balance. Write main program and handle accounts of 5 customers.
3.	Program to create a class person having members name and age. Derive a class student having member percentage. Derive another class teacher having member salary. Write necessary member function to initialize, read and write data. Also write the main function.
4.	Program to create a class name student having date member name, no & three marks. Write a member function to input name, roll no & marks & calculate percentage.
5.	Create a class called "Vehicle" which contains data members registration number and fuel type Make getdata() function to input data value. Create class "two-Wheeler" from vehicle which contains data member's distance and mileage Make getdata() function to input data. Use overloading techniques for getdata() function and display the information with fuel used.
6.	Write a program that consist of two classes Time12 and Time24. The first one maintains time on 12 hour basis, whereas the other one maintains it on 24-hour basis.
7.	Create two classes DM and DB which store the values of distance. DM stores distance in meters and centimeters. DB stores distances in feet and inches. Write a program that can read values for the class object and add one object of DM with another object of DB. Use a friend function to carry out the addition operation and this function will display answer in meter and centimeters.

8.	Write a program to maintain a telephone directory use add() and Show() methods to add new entries and display the telephone numbers of a person when the name of the person is given.
9.	Create a base class shape use the class two store double type value that could be used to compare the area. A drive to specific classes called triangle and rectangle. From the base shape and a member in get data to the base class to initialize base data member and another function display area.
10.	Write Program to implement Stack Operations like PUSH, POP, PEEP, UPDATE and DISPLAY using class and object.
11.	Write Program to convert Infix to Postfix Expression using class and object.
12.	Write Program to convert Infix to Prefix Expression using class and object.
13.	Write Program to implement Simple Queue Operations like Insert, Delete and Display.
14.	Write Program to implement Circular Queue Operations like Insert, Delete and Display using class and object.
15.	Write Program to implement Double Ended Queue Operations like Insert, Delete and Display using class and object(To Perform **Input** Restricted).
16.	Write Program to implement Double Ended Queue Operations like Insert, Delete and Display using class and object(To Perform **Output** Restricted).

Note :-

(1) Journal Submission Date will be declared later.
(2) You are requested to printout all the programs.
(3) Index is compulsory in the given format only.
(4) You are requested to submit all the programs in the given format only.

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