PRACTICAL ASSIGNMENT FOR CLASS XII (PYTHON) – 2015

Q1. Write a program using user defined function which accepts an integer list and its size as arguments and swap the elements of every even location with its following odd locations.

Q2. Write a program to read a Time class object storing hours and minutes. Raise a user defined error if values other than 0..24 is entered for hours and other than 0..59 is entered for minutes.

Q3. Write a program to store few sentences in a file SENT.TXT then count and print number of "to" and "the" present in a file.

Q4. Write a program to demonstrate use of Single Inheritance using class STUDENT (name, house) and class MARKS (eng, phy, chem, maths, cs).

Q5. Write a program to accept any 10 integers and print the list in descending order using Bubble sort. Write UDFs to accept, sort and print sorted data.

Q6. Write a program to create a data file STD.TXT which will store name and phone numbers of any 5 students and then ask the user to enter name and print his/her phone number if it is available in the file otherwise display a message "Not found in the directory".

Q7. Define a class student in Python with the given specifications:
Instance variables:
Roll number, name
Methods:
Getdata()- To input roll number and name
Printdata()- To display roll number and name

Define another class marks, which is derived from student class
Instance variable
Marks in five subjects
Methods:
Inputdata() - To call Getdata() and input 5 subjects marks.
Outdata() - To call printdata() and to display 5 subjects marks.
Implement the above program in python.

Q8. Write a program to accept employee's name and his basic salary of any five Employees and store in a file EMP.TXT and print the given output:

SALARY REGISTER

S.No	Name	Basic	Da	Hra	Total	PF	Net-pay

(DA is 30% of basic, HRA is 10 % of Basic, PF is 10% of Basic+DA)

Q9. A class STUDENT has three data members: name, roll number, marks of 5 subjects. Write a program to accept the data and print his Stream according to given conditions:

%age	Stream
96% or more	Computer Science
91%-95%	Electronics
86%-90%	Mechanical
81%-85%	Electrical
76%-80%	Chemical
71% - 75%	Civil

Q10. Write a program to accept name, amount collected from student and house (Chenab, Ganges and Jhelum) of any 5 students, store in a file STUDENT.TXT then print the given output of the given house:

```
-----------------------------------------------------------------
Name of the student          House              Amount collected
-----------------------------------------------------------------
```

Q11. Write a program to store any five login and password to a Tuple then ask the user to inter login name and password and display "access allowed" if both are correct otherwise display "Access denied".

Q12. Write a program using class Travel with data members (people visited, amount collected). Write the following methods:
a) To assign initial value to data members
b) To increase no. of people in case ticket is not sold
c) To increase the people, if ticket is sold (Ticket is Rs. 50 per person)
d) To display no. of people visited and total amount collected

Q13. Write a program to store any 10 names in the list then and print all names in alphabetical order using selection sort.

Q14. Write a program to calculate electricity bill and print the output in the given format: (store 5 records in a file CGEB.TXT)

```
-----------------------------------------------------------------------
Consumer's name   Current_Reading   Prev_reading  Consumed_unit  Bill amount
-----------------------------------------------------------------------
```

Conditions:

Upto 100 units	Rs. 0.75 per unit
Next 100 units	Rs. 1.25 per unit
Next 100 units above 200	Rs. 1.75 per unit
Above 300 units	Rs. 2.25 per unit

Q15. Write a program to store 10 numbers in a linear queue and design the given menu to access queue.
1. Add 2. Delete 3. View 4. Quit

Q16. Write a program to accept any date in dd mm yy format and print it as given example using structure: (Input can be any date from user). Use Dictionary.
Input   22 5 2002
Output   22nd May 2002

Q17. Write a program using CLASS to accept name of a person and Total income and Print the income tax from the given table.

Income Slab	
Upto 35000	Nil
From 35001 to 60000	20%
From 60001 to 120000	30%
Above	40%

Q18. Write a generator function to generate fibonacci series and call function in the program to print series (max. upto 10 terms)

Q19. Write a program to accept roll numbers and percentage of 10 students and store in a file RESULT.TXT then print the merit list in a suitable format.

Q20. Write a program to prepare the given output for any 5 records. (use data file)

```
------------------------------------------------------------
Name            class      Cat (BSP/NBSP)        Sex
------------------------------------------------------------
------------------------------------------------------------
Total BSP    :
Total NBSP   :
Total Boys   :
Total Girls  :
```

Q21. Write a program to accept any 10 integers and search any given number using Binary Search Method. Write user defined functions to input_data() and Bsearch() to search data.

Q22. Write a program to access elements of STACK using given menu :
1. Push 2. Pop 3. View stack contents 4. Quit

Q23. Write a function IS_SORT(list) to check whether the given list is in sorted order or not. Also write program to call user defined function.

Q24. Write a program to accept 3x3 array of integers and check whether it forms a magic square or not. (Horizontal, vertical and diagonal sum will be same).

Q25. Write a program to store name and phone number of any 5 students in a file PHONE.DAT and search the name in the file and display phone number if present otherwise display a message "NOT FOUND" in the directory.

Q26. Write a program to implement QUEUE to store city names and display the given menu to access queue: 1. Add 2. Delete 3. View 4. Exit

Q27. Write a Quiz program using to store the country and its capital of any five countries in a file QUIZ.DBF and display the capital of that country which the user wants.

Q28. Write a program using to enter the date in dd, mm, yyyy format using INPUT_DATE() and call ADD_DAYS() to add 10 days to entered date then display new date in a suitable format using DISP_DATE() after adding 10 days. (Use class)

Q29. Write a program to create a text file named WORDS. TXT which will have collection of words and display all words which are palindrome using user defined function List_palindrome().

Q30. Define a class ITEMINFO in Python with the following description:
ICode (Item Code), Item (Item Name), Price (Price of each item), Qty (quantity in stock), Discount (Discount percentage on the item), Netprice (Final Price)
Methods
A member function FindDisc( ) to calculate discount as per the following rule:
If Qty<=10 Discount is 0
If Qty (11 to 20) Discount is 15
if Qty>=20 Discount is 20
A constructor(__init__ method) to assign the value with 0 for ICode, Price, Qty, Netprice and Discount
and null for Item respectively
A function Buy( ) to allow user to enter values for ICode, Item, Price, Qty and call function FindDisc( )
to calculate the discount and Netprice(Price*Qty-Discount).
A Function ShowAll( ) to allow user to view the content of all the data members