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IT201

Enrol. No.

[ET]

END SEMESTER EXAMINATION : NOV.-DEC., 2021

JAVA PROGRAMMING

Time : 3 Hrs.

Maximum Marks : 60

Note: Attempt questions from all sections as directed.

SECTION – A (24 Marks)

Attempt any four questions out of five.

Each question carries 06 marks.

1. Write a program to perform the following functions using classes, objects, constructors and destructors wherever necessary
 - (i) Read 5 subjects marks of 5 students
 - (ii) Calculate the total and print the result on the screen
2. Creates a package called mypack that contains interface named employee. Interface employee has two methods- input() and calculateInterest().

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Implement interface into another class named- InterestDemo. Write a program to implement the above program.

3. Define Thread. Write a program to create two threads, one thread will print odd numbers and second thread will print even numbers between 1 to 20 numbers.
4. Write code for the event handler of a radio button so that when it is selected/un selected, its text changes to "I am selected" or "I am un selected".
5. Describe Some Useful Annotations from the Standard Library. How Can You Create an Annotation?

SECTION - B (20 Marks)

Attempt any two questions out of three.

Each question carries 10 marks.

6. (a) Why String is immutable or final in Java? Explain your answer with the help of example. (5)
- (b) Discuss the role of thread synchronization in inter-thread communication? Explain your answer with the help of example. (5)

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7. (a) Write a Java program that handles all mouse events and shows the event name at the center of the window when a mouse event is fired. (6)
- (b) What are Layout managers? Discuss different type of layout managers used in Java. (4)
8. (a) Explain with the help of example how maven works. What is the method and installing process of Maven?
- (b) Write a short note on the followings :-
- (i) Method Overloading and Overriding
 - (ii) Project Object Model

SECTION - C (16 Marks)
(Compulsory)

9. (a) Explain the need of exception handling in Java. Write a program to handle user define exception "Marks out of bound". The exception is fired if marks is >100 . (6)
- (b) A base class **Detail** has been defined to store the details of a customer. Define a subclass **Bill** to

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compute the monthly telephone charge of the customer as per the chart given below : (10)

Number of Calls	Rate
1 – 100	Only Rental charge
101 – 200	60 paisa per call + rental charge
201 – 300	80 paisa per call + rental charge
Above 300	1 rupee per call + rental charge

The details of both the classes are given below :-

Class Name: Detail

Data members :

name : to store the name of the customer.

address : to store the address of the customer.

telno : to store the phone number of the customer.

rent : to store the monthly rental charge.

Member functions:

Detail(...): parameterized constructor to assign values to data members.

void show(): to display the detail of the customer.

Class Name : Bill

Data members :

no_of_calls : to store the number of calls.

amt : to store the amount to be paid by the customer.

Member functions :

Bill(...) : parameterized constructor to assign values to data members of both classes and to initialize amt = 0.0.

void cal() : calculates the monthly telephone charge as per the charge given above.

void show() : to display the detail of the customer and amount to be paid.

Using the concept of inheritance compute the total bill to be paid.

Example :

Enter the name : XYZ

Enter the address : AIIT

Enter the telephone number : 1234567890

Enter the monthly rental: 180

Enter the number of calls : 270

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*** Output ***

Name of customer = XYZ

Address = AIIT

Telephone Number = 1234567890

Monthly Rental = Rs. 180.0

No. of calls = 270

Amount to be paid = Rs. 396.0