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IT201

Enrol. No.

[ET]

END SEMESTER EXAMINATION : APRIL–MAY, 2016

JAVA PROGRAMMING

Time : 3 Hrs.

Maximum Marks : 70

Note: Attempt questions from all sections as directed.

SECTION – A (30 Marks)

Attempt any five questions out of six.

Each question carries 06 marks.

1. Discuss the criteria's for applying the concept of interface and abstract class in the context of Java programming. Take an appropriate programming example to support your criteria's.
2. (a) Discuss the various types of access protection policies of packages in JAVA. (3)

- (b) Identify and list the errors if any in the following interfaces ? Also fix the errors if found. (3)

```
public interface SomethingIsWrong {
```

P.T.O.

```
void aMethod(int aValue) {  
    System.out.println("Hi Mom");  
}  
}
```

3. If multiple threads are running concurrently then during their communication the synchronization problem may occur, so discuss the ways to resolve the problem with suitable example ?

4. AWT components are few challenges such as look and feel, speed and memory. Is there any other alternative component available to handle these challenges ? Also discuss how that component better then AWT component.

5. Discuss the event delegation model in Java. Also explain the basic components of it.

6. Differentiate between :

(a) this and super (2)

(b) final, finally and finalize (2)

(c) String and StringBuffer (2)

SECTION – B (20 Marks)

Attempt any two questions out of three.

Each question carries 10 marks.

7. (a) An University has applied promotion criteria for students. According to criteria a student cannot promote to next academic year if he have less than 4.5 CGPA. A developer is trying to implement this situation using exception handling in JAVA. Write a correct Java code to help him. (5)
- (b) A palindrome is a string that is spelled the same way backward and forward. For example, mom, dad, radar, 727 are all examples of palindromes. Write a program that lets the user type a word and then determines whether the string is a palindrome. (5)
8. (a) Explain the life cycle of a thread, also write a program to find the factorial of range 1-10 using two threads. (5)
- (b) Explain Life Cycle of an Applet in Java with suitable example. (5)
9. (a) Design an applet to demonstrate the smiley Applet. (3)

P.T.O.

- (b) In a School class, there are three major subjects- Physics, Chemistry and Math. The faculty has evaluated the result and stored in a text files named "Physics.txt", "Chemistry.txt" and "Maths.txt", respectively. Write a Java program to publish the result in another text file named "Result.txt", it will contain the percentage marks obtained by summing the marks of the subjects. (7)

SECTION – C
(Compulsory)

(20 Marks)

10. (a) public class Date
{
 public int day;
 public int month;
 public int year;
 public Date(int d, int m, int y)
 {
 Day=d;
 Month=m;
 Year=y;
 }
}

(i) Using new, write a statement which creates a date corresponding 15th August 2013 and assign it to date variable called date.

(ii) Write an instance method whose heading is boolean equals(Date d) for the Date class. The method returns true if the date stored in the instance is equal to d and false otherwise. (10)

(b) Explain the various types of layout managers. Design a swing application in Java that receive a number through a TextField and Print the sum of the individual digits when the submit button is pressed on a label. (5)

(c) Define a class Electbill that contains consumer details as follows :- (5)

Data members/Instance variable :

cno (long) consumer number

cname (String) consumer name

cadd (String) consumer address

NOU(long) to store number of units consumed

Member functions / Methods :

(i) Electbill(...) : Parameterised constructor to assign values to consumer number, consumer name and address

P.T.O.

(ii) void display() : Display consumers details

(iii) void calculate() : Calculate the monthly bill of consumer according to following slabs and it should also display the total amount to be paid.

Number of units consumed	Rate
1-100	Rs. 500/- rental charges only
101-200	Rs. 1.00 per call + rental charges of Rs. 500
201-300	Rs. 1.20 per call + rental charges of Rs. 500
Above 300	Rs. 1.50 per call + rental charges of Rs. 500
