

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular), November 2017
B. Tech in Computer Science & Engineering, Semester III

Roll No.....

Object Oriented Programming using Java:CSESP301 Time: 3 hours Max. Marks: 100

Instructions to students:

1. Do not write anything other than your roll number on question paper.
 2. Assume suitable data wherever required and mention it clearly.
 3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.
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Q.1A Objective type multiple choice questions (10 questions @ 1 mark) 10

- i. Which one of these lists contains only Java programming language keywords?
 - A. class, if, void, long, Int, continue
 - B. goto, instanceof, native, finally, default, throws
 - C. try, virtual, throw, final, volatile, transient
 - D. strictfp, constant, super, implements, do
- ii. Which is a valid keyword in java?
 - A. interface
 - B. string
 - C. Float
 - D. unsigned
- iii. Which is true about a method-local inner class?
 - A. It must be marked final.
 - B. It can be marked abstract.
 - C. It can be marked public.
 - D. It can be marked static.
- iv. You want subclasses in any package to have access to members of a superclass. Which is the most restrictive access that accomplishes this objective?
 - A. public
 - B. private
 - C. protected
 - D. transient
- v. Which cannot directly cause a thread to stop executing?
 - A. Calling the SetPriority() method on a Thread object.
 - B. Calling the wait() method on an object.
 - C. Calling notify() method on an object.
 - D. Calling read() method on an InputStream object.
- vi. Which two of the following methods are defined in class Thread?
 1. start()
 2. wait()
 3. run()
 4. terminate()

- A. 1 and 4
 - B. 2 and 3
 - C. 3 and 4
 - D. 2 and 4
- vii. What is sent to the user via HTTP, invoked using the HTTP protocol on the user's computer, and run on the user's computer as an application?
- A. A Java application
 - B. A Java applet
 - C. A Java servlet
 - D. None of the above is correct.
- viii. What is not true of a Java bean?
- A. There are no public instance variables.
 - B. All persistent values are accessed using getxxx and setxxx methods.
 - C. It may have many constructors as necessary.
 - D. All of the above are true of a Java bean.
- ix. What servlet processor was developed by Apache Foundation and Sun?
- A. Apache Tomcat
 - B. Apache Web server
 - C. Sun servlet processor
 - D. None of the above is correct
- x. Which of the following is not considered as an error in JavaScript?
- A. Syntax error
 - B. Missing of semicolons
 - C. Division by zero
 - D. All of the mentioned

Q.2 Short answer type questions (4 questions @ 2.5 marks) 10

- A Is it necessary that each try block must be followed by a catch block?
- B Explain Interfaces and Classes in Java.
- C What is the output of `10+20+"30"` in JavaScript? What is the output of `"10"+20+30` in JavaScript?
- D Differentiate between JRE, JDK, and JVM.

Q.3A How "compile once and run anywhere" is implemented in Java, Explain. 05

Q.3B What is the purpose of garbage collection? How Java handles automatic garbage collection? 05

Q.4A Can we override static method? Differentiate `super()` and `this()`. 05

Q.4B Describe how derived class object is made under the concept of JAVA Inner Classes. 05

Q.5A Why Model View Architecture is being used in development using JAVA as technology? Explain using suitable example. 05

Q.5B Construct Log-In functionality using JSP. Under "Log-In", take input from user - username and password. Store them in database, if stored, then display, Successfully logged-in, otherwise, display log-in failed. 05

- Q.6A What happens if we call the run() method instead of start() method ? How to perform two tasks by two threads? 05
- Q.6B How multiple inheritance is achieved in Java? Following code creates an interface. Will this code compile successfully? 05

```
public interface FamousLine {
    void ShowLine(){
        System.out.println("Show Line");
    };
}
```

OR

- Q.6B Overloaded methods can have different return values, and must have different parameter lists. Two methods differing only by return type will result in a compilation error. Justify. 05

- Q.7A Define an exception called "NoMatchException" that is thrown when a string is not equal to "APPLE". Write a program that uses this exception. 05

- Q.7B Write a JavaScript snippet which takes mentioned fields as input from user – name of student, roll no., and marks of two subjects. Calculate percentage result of two subjects. If percentage result is in between 40 to 50 then the student grade is 'D', if the percentage result is in between 51 to 60, then grade is 'C' and in between 61 to 70, then grade is 'B'. Above 71, grade is 'A' and less than 40, grade is 'F'. Display name, roll no., percentage result and grade as an output. 05

OR

- Q.7B Consider super class 'Sports' (roll no, name), it's subclass 'Activity' (marks of five activities) and further make the subclass 'Result' (display individual information and winner). Achieve multilevel inheritance while calculating the winner corresponding to 5 activities. 05

- Q.8A WAP to create a super class called figure that stores the dimensions of a two dimensional object. It also defines a method called area () that computes the area of an object. The program derives two sub classes from figure. The first is rectangle and the second is Triangle. Each of these subclasses overrides area (), so that it returns the area of a rectangle and a triangle respectively. 10

- Q.9A Create a try block that is likely to generate three types of exception and then incorporate necessary catch blocks to catch and handle them appropriately. 10

- Q.9B Write a program to create a package named mypack, containing a class Right Triangle in which a static method check whether three given sides of a triangle forms a right-angled triangle and returns that information. Import this package in another class. 10

OR

- Q.9B Write a Javascript program to create nested ordered lists of cars. The Outer List must have three entries: compact, midsize, and sports. Inside each of these three lists there must be two sublists of body styles. The compact- and midsize-car sublists are two door and four door; the sports-car sublists are coupe and convertible. Each body-style sublist must have at least three entries, each of which is the make and model of a particular car that fits the category. The outer list must use uppercase Roman numerals, the middle lists must use uppercase letters, and the inner lists must use Arabic numerals. The background color for the compact-car list must be pink; for the midsize-car list, it must be blue; for the sports-car list, it must be red. All of the styles must be in a document style sheet. 10