

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination November-December 2018

B. Tech. in Computer Science and Engineering, 3rd Semester

Roll No.....

CSE 304: APPLICATION DEVELOPMENT

Time: 3 hours

Max. Marks: 80

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.1 Objective type multiple choice questions (10 questions @ 1 mark each) 10

i. Which of the following is not included in the five golden rules of web designing?

- A) Design with real content
- B) Develop a pattern library
- C) Use of Attractive Web Templates
- D) Design a website to make it universally usable

ii. <!DOCTYPE html>

<html>

<body>

<ul style="list-style-type:circle">

Coffee

Tea

Hot Chocolate

</body>

</html>

What is the output of the above HTML Script?

- A) It outputs an ordered list with the list elements.
- B) It outputs an unordered list with the list elements.
- C) It outputs an unordered list with Circle bullets.
- D) It outputs an ordered list with Circle bullets.

iii.

In the above HTML Script Excerpt, What is the use of 'alt' attribute?

- A) Nothing at all.
- B) It is just a redundant attribute.
- C) For providing alternative text for an image.
- D) It is used whenever 'width' and 'height' are defined.

- iv. Valid examples of CSS Id selectors is/are:
- A) #black{color: #000000;}
 - B) h1 #black{color: #000000;}
 - C) #black h2{color: #000000;}
 - D) All of the above options
- v. In Java, when is method overloading determined?
- A) At run time
 - B) At compile time
 - C) At coding time
 - D) At execution time
- vi. Which concept of OOP in Java is a way of converting real world objects in terms of class?
- A) Polymorphism
 - B) Encapsulation
 - C) Abstraction
 - D) Inheritance
- vii. Which of the following is not an Object Oriented Programming (OOP) concept that is used in Java?
- A) Polymorphism
 - B) Abstraction
 - C) Compilation
 - D) Encapsulation
- viii. What is the 'type' of output for relational operators?
- A) Integer
 - B) Character
 - C) Float
 - D) Boolean
- ix. What is the output of the following Java Program?
- ```
class Output
{
 public static void main(String args[])
 {
 boolean a = true;
 boolean b = false;
 boolean c = a ^ b;
 System.out.println(!c);
 }
}
```
- A) 0
  - B) 1
  - C) true
  - D) false

- x. What is the output of the following Java program?

```
import java.util.*;
public class genericstack <E>
{
 Stack <E> stk = new Stack <E>();
 public void push(E obj)
 {
 stk.push(obj);
 }
 public E pop()
 {
 E obj = stk.pop();
 return obj;
 }
}
class Output
{
 public static void main(String args[])
 {
 genericstack <String> gs = new genericstack<String>();
 gs.push("I am Superman");
 System.out.println(gs.pop());
 }
}
```

- A) I
- B) Compilation error!
- C) Run Time Error!
- D) I am Superman

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

10

- i. In four succinct points explain why the following tag line is attached with Java?  
"Write Once Run Everywhere" (WORA) - Tagged after development of Java at Sun Microsystems and as it was adopted by industry.
- ii. Write an HTML Script - which displays as an output- a table with three rows and three columns, and the first row is the heading row, so use heading tags wherever appropriate, also style this HTML script with some CSS (the CSS code should be embedded within the HTML Script).
- iii. Name the Class in Java which is the Parent Class of all the classes and whose methods are inherited by all the user-defined classes and Java API classes. List all the methods that are present in that class.
- iv. What do you understand by Generic Programming (Generics) in Java? Use of Generics in Java eliminates which problem for a Java Programmer.

Q.3A Write a Simple Java Program to Calculate the area of a triangle using the Heron's Formula. Take the user input using command line arguments, do not use Scanner or any other input method. (Heron's Formula:  $\sqrt{S(S-A)(S-B)(S-C)}$ , where  $S = (A+B+C)/3$ , and A, B, C are the sides of the given triangle.)

05

- Q.3B "In Java, Multiple Inheritance does not exist. But, a Java programmer can make use of Multiple Inheritance (*in an abstract manner not in a concrete manner*) in Java with the use of Interfaces." Justify this statement with the use of examples. 05
- Q.4A What do you understand by Binding? Differentiate between Static and Dynamic Binding. 05
- Q.4B List at least five important differences between Interfaces and Abstract Classes. 05
- Q.5A What do you understand by type casting in Java? What are the two ways of type casting in Java? Give Examples. 05
- Q.5B Write a brief note on Arrays class in UTIL package in Java. Discuss at least 3 methods of the Arrays class present in UTIL package in Java. 05
- Q.6A What do you mean by the concept of Package in Java? What are the advantages of using Java Packages? List the ways with which a Java programmer can access a package from outside that package in a Java program. 05
- Q.6B Differentiate between text and binary files with respect to Java File I/O. 05
- OR
- Q.6A Write a Java Program using FileInputStream from java.io package to read a single character. Use exception handling wherever appropriate in your program. 05
- Q.7 Explain the use of Scanner Class that is present in the UTIL package of JAVA. Write about atleast 5 methods of Scanner Class and how they are used and about their functionality. 10
- Q.8 Design a webpage using HTML and CSS (Embedded within your HTML script) that displays the bio-data of a person in a tabular format. Your design should use tags for including images, other webpage links, and frames. 10
- OR
- Q.8 What do you understand by Constructors and Destructors in context of Java? Is it possible to overload Constructors in Java? Write in brief about Finalizer() method in Java. 10