**Question 1**

Give names of new features of JDK 1.5/1.6 as compared to JDK 1.4.

**Question 2**

Give a few differences between String and StringBuffer classes

**Question 3**

What is fail fast iteration in java?

**Question 4**

List as many sub interface(s) for Collection interface in java as you know.

**Question 5**

Explain dynamic class loading in java.

**Question 6**

What is the output of this program?

**public** **class** Test {

**public** **static** **void** main(String args[]) **throws** Throwable {

**int** i = 10;

**int** y = 100;

*swap*(i, y);

System.*out*.println("The output is: i = " + i + " y = " + y);

Integer a = **new** Integer(1);

Integer b = **new** Integer(2);

*swap*(a, b);

System.*out*.println("The output is: i = " + a

+ "y = " + b);

}

**public** **static** Integer swap(Integer i, Integer y) **throws** Throwable {

i = y;

**return** i;

}

}

**Question 7**

Are there ways to explicitly invoke finalize method of an object ready for garbage collection? If yes, what are the side effects?

**Question 8**

What is the output of this program?

**public** **class** TestTwo {

p**ublic** **class** MyException **extends** Error {

}

p**ublic** **class** GivenException **extends** MyException {

}

**public** **class** TestException {

**public** **void** throwException() **throws** Error {

**if** (1 == 1)

**new** MyException();

}

};

**public** **static** **void** main(String args[]) {

**try** {

TestTwo t = **new** TestTwo();

TestException tex = t.**new** TestException();

tex.throwException();

} **catch** (Exception ex) {

System.*out*.println("Caught Exception");

} **catch** (GivenException Myex) {

System.*out*.println("Caught My Exception");

}

}

}

**Question 9**

What is the output of this program?

**public** **class** TestThree {

**public** **static** **void** main(String args[]) {

Integer i = **new** Integer(5);

Integer j = **new** Integer(5);

**if** (i = j) {

System.*out*.println("i = j");

}

**if** (i.equals(j)) {

System.*out*.println("i equals j");

}

}

}

**Question 10**

Explain wait and notifyAll in context of threads.

**Question 11**

Implement an algorithm to reverse a Linked List using recursion.

**Question 12**

Given an array of n elements (containing only positive numbers) and sum, X. Find the first two elements in the array that sum up to X  
  
eg: Array of elements - {2, 3,1000, 200, 51, 88, 29, 49, 65, 40, 98, 12, 3}  
  
Sum - 100. Answer is 51 and 49

**Question 13**

Given that Car class can go through multiple safety checks like tire quality check, engine quality check and brake quality check. Each of these checks can go through independently of each other and update a Boolean quality variable to true or false based on the result. Write a multi threaded program that updates this variable with quality check approved when all the three checks pass. If a thread updates any one check to false, other thread should stop working on the car.

**Question 14**

Given a Employee table

Emp id First Name Last Name Manger\_id

100 X Y null

110 A B 100

120 A B 110

130 E F 100

140 G H 120

1. Write a query to get the First Name and Last Name of an employee with Emp id = 130 and his/her manager’s First Name and Last Name.
2. Write a query to find all employees with duplicate names (both First Name and Family Name).

**Question 15**

Explain merge sort algorithm with an example.

**Question 16**

Give the controller class in Struts framework.

**Question 17**

Give examples of JSP implicit objects.

**Question 18**

Explain the differences between ServletConfig and ServletContext.

**Question 19**

Explain various stages in the life cycle of jsp.

**Question 20**

How can one track session in web application?