**Question 1**

Explain AutoBoxing and Unboxing feature of java.

**Question 2**

Illustrate shallow and deep comparison in java with examples.

**Question 3**

Explain the use of class Object and class Class in java.

**Question 4**

What are chained exceptions in java and how do you handle them?

**Question 5**

Explain final, finally and finalize methods in java.

**Question 6**

What is the output of this program?

**public** **class** TestFour {

**public** **void** finalize() **throws** Throwable {

System.*out*.println("Calling finalize");

}

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

**try** {

TestFour four = **new** TestFour();

four = **null**;

**for** (**int** i = 0; i < 5; i++) {

System.*runFinalization*();

System.gc();

}

} **catch** (OutOfMemoryError error) {

}

}

}

**Question 7**

What is the output of this program?

**public** **class** TestFive {

**static** String *s*;

**static** **class** Inner {

**public** **void** Inner() {

s = "Set from Inner";

}

};

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

TestFive t = **new** TestFive();

*s* = "Setting from outer";

Inner in = **this**.**new** Inner();

System.*out*.println(*s*);

}

}

**Question 8**

What is the output of this program?

**public** **interface** I1 {

String *NAME* = "codemonkeyism";

**public** **void** test();

}

**public** **interface** I2 {

String *NAME* = "stephan";

**public** **void** test();

}

**public** **class** TestSix **implements** I1, I2 {

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

TestSix I = new TestSix();

System.*out*.println(I.NAME);

}

**public** **void** test() {

}

}

**Question 9**

What is the use of Comparator interface in java?

**Question 10**

How is thread synchronization handled in java?

**Question 11**

Given a positive integer, write a program that gives the Fibonacci series up to (equals or less than) that number?

(Formula for Fibonnaci series: Fn = Fn-1+Fn-2 and F0 = 0 and F1 = 1)

**Question 12**

Given a Collection of integers, build (pseudo code) a Binary Search Tree which supports the insertion and search operation.

**Question 13**

EMPLOYEE ADDRESS

EMP\_ID NAME ID ADDRESS EMP\_ID

1 X 1 ABC ADRESS 1

2 Y 2 EFG ADRESS 2

3 Z 3 L Address 4

4 L

a) Write a query to give a report of all Employees and their Address if any.

b) Give a List of Employees that don’t have any address.

**Question 14**

There is a HR department class that is concerned about an employee hire event, employee fire event and employee vacation event for employees in an organization and has to shoot an email to employee group each time these events occur. Employees should also have an opportunity to subscribe or unsubscribe from the email group.

Illustrate your design for solving this problem using UML or pseudo class structures.

**Question 15**

Explain with algorithm for the dining philosopher’s problem.

**Question 16**

Explain the MVC pattern in web application

**Question 17**

What are Servlet Filters?

**Question 18**

Explain Servlet’s life cycle.

**Question 19**

What is URL Encoding?

**Question 20**

What are JSP Expressions? Give an example.