

Time: 3 Hours

DECEMBER 2011

Max. Marks: 100

NOTE: There are 9 Questions in all.

- Please write your Roll No. at the space provided on each page immediately after receiving the Question Paper.
- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

a. What is the name of the method used to start a thread execution?

- (A) init(); (B) start();
(C) run(); (D) resume();

b. What will be the output of the program?

```
public class Foo
{
    public static void main(String[] args)
    {
        try
        {
            return;
        }
        finally
        {
            System.out.println("Finally");
        }
    }
}
```

- (A) Finally (B) Compilation fails.
(C) The code runs with no output. (D) An exception is thrown at runtime.

c. What allows the programmer to destroy an object x?

- (A) x.delete()
(B) x.finalize()
(C) Runtime.getRuntime().gc()
(D) Only the garbage collection system can destroy an object.

- d. What is the meaning of the return data type void?
- (A) An empty memory space is returned so that the developers can utilize it.
 - (B) void returns no data type.
 - (C) void is not supported in Java
 - (D) None of the above
- e. Which tag is most commonly used by search engines?
- (A) Heading
 - (B) Title
 - (C) Paragraph
 - (D) Meta
- f. Each list item in an ordered or unordered list has which tag?
- (A) list tag
 - (B) ls tag
 - (C) li tag
 - (D) ol tag
- g. Ping command works on which protocol?
- (A) ICMP
 - (B) TCP
 - (C) IP
 - (D) UDP
- h. From the options below, which suits best for MODEM?
- (A) a device that modulates an analog carrier signal to encode digital information
 - (B) a device that modulates a digital carrier signal to encode analog information
 - (C) a device that modulates an analog carrier signal to decode digital information
 - (D) a device that modulates a digital carrier signal to decode analog information
- i. A network point that provides entrance into another network is called as _____
- (A) Node
 - (B) Gateway
 - (C) Switch
 - (D) Router
- j. <TITLE> ... </TITLE> tag must be within _____
- (A) Title
 - (B) Form
 - (C) Head
 - (D) Body

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

- Q.2** a. Explain the functioning of 7 layers of OSI model. Compare with the layered TCP Model. (6)

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- b. Differentiate between Routers and Brouters. Also explain the collision detection and avoidance algorithms used in data link layer. (6)
- c. Explain the term UDP. Where does it find its utility in a networking environment? (4)
- Q.3** a. Explain how does file transfer takes place in internet? Explain the procedure. (6)
- b. Explain (using a diagram) the two tier and three tier client server architecture. Explain the function of Remote Procedure Call in a networked system. (6)
- c. Differentiate between IPv4 and IPv6. Give their distinguishing features. (4)
- Q.4** a. Write a program in HTML display a textbox for accepting password from the user. Explain the tags used in the program. (6)
- b. How can we get CGI Parameters through a server-parsed HTML page? (4)
- c. Give a code in HTML to embed audio, video, image into the web page. Explain by showing the results. (6)
- Q.5** a. What are wrapper classes? Write a program to illustrate use of wrapper class using java.lang utility. (6)
- b. How do we define try and catch block? Is it essential to catch all types of exceptions? Explain how exception handling mechanism can be used for debugging a program. (8)
- c. What is partial implementation of an interface? Explain. (2)
- Q.6** a. Write a java Applet for:
(i) Triangle inside a circle.
(ii) for showing the sequence of calling the methods by AWT. (6)
- b. Create a 3-level inheritance hierarchy. Each class in the hierarchy should have a finalize() method, and it should properly call the base-class version of finalize(). Demonstrate that your hierarchy works properly. (8)
- c. Give a brief note on Java Swings. (2)
- Q.7** a. Write a program in Java to create a servlet that handles HTTP GET request. (6)
- b. Write a program in Java to create the Jcombo Box on an applet. The combo box will have the following items: Pen, Pencil, Eraser, Notebook. (6)
- c. Give the use of URL class and the syntax of constructor of URL class. (4)

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- Q.8**
- a. What is java bean? Discuss about its features in brief. Explain the concept of persistent storage associated with beans with the help of example(s). Discuss about its various types. (8)
 - b. Describe complete life cycle of a thread. Write a Java program that shows the use of priority in threads. (6)
 - c. What is synchronization in the context of Java? What is the difference between notify and notifyAll method? (2)
- Q.9**
- a. Write notes on the following. Also give small java code wherever necessary:
 - (i) Grid layout manager
 - (ii) Static members
 - (iii) Strings in Java (9)
 - b. How many components are there in an email address? What do these components represent? Discuss protocols used for sending and receiving email. (7)