Code: AC19   Subject: INTERNET & JAVA PROGRAMMING

AMIETE – CS (OLD SCHEME)

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)**

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)**

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)**