

Code: AC19  
Time: 3 Hours

Subject: INTERNET & JAVA PROGRAMMING  
Max. Marks: 100

**DECEMBER 2010**

NOTE: There are 9 Questions in all.

- 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 half an hour 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. Which one of the following is an error reporting protocol?

- (A) ARP
- (B) ICMP
- (C) TCP
- (D) UDP

b. DHCP stands for \_\_\_\_\_

- (A) Dynamic Host Control Protocol
- (B) Dynamic Host Configuration Protocol
- (C) Dynamic Host Connection Protocol
- (D) None of the above

c. FTP does not use \_\_\_\_\_

- (A) Two transfer mode.
- (B) Control connection to remote computer before file can be transferred.
- (C) User Datagram Protocol.
- (D) Authorization of a user through login and password verification.

d. Which type of web document is run at the client site?

- (A) Static
- (B) Dynamic
- (C) Active
- (D) All of the above

e. A top level class without any modifier is accessible to \_\_\_\_\_

- (A) any class
- (B) any class within the same package
- (C) any class within the same file
- (D) any subclass of this class

f. What gets printed on standard output when the class below is compiled and executed by entering “java test lets see what happens”?  
public class test {

```

public static void main(String args[]) {
    System.out.println(args[0] + ""+args[args.length-1]);
}
}

```

- (A) The program will throw an ArrayIndexOutOfBoundsException.
- (B) The program will print "java test"
- (C) The program will print "test happens"
- (D) The program will print "lets happens"

g. What gets printed when the following program is compiled and run?

```

public class XYZ {
    public static void main(String args[]) {
        int i, j;
        i = j = 3;
        int n = 2 * ++i;
        int m = 2 * j++;
        system.out.println(i + "" + j + "" + n + "" + m);
    }
}

```

- (A) 4 4 8 6
- (B) 4 4 6 6
- (C) 4 4 8 8
- (D) 4 3 8 6

h. Which method defined in Integer class can be used to convert an Integer object to primitive int type?

- (A) valueOf
- (B) intValue
- (C) getInt
- (D) getInteger

i. Which abstract class is the super class of all classes used for writing characters?

- (A) Writer
- (B) CharWriter
- (C) InputWriter
- (D) FileWriter

j. TreeMap class is used to implement collection interface

- (A) Set
- (B) SortedSet
- (C) SortedMap
- (D) Tree

---

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

---

- Q.2** a. With the help of a suitable diagram, discuss the format of an ARP packet? (6)
- b. What is dotted decimal notation in IP addressing? Explain. (6)
- c. How congestion is controlled in TCP? (4)
- Q.3** a. What are the different services that TCP provides to Application Programs? (6)

- b. How FTP differs from other client-server applications? (6)
- c. Discuss the different headers defined by MIME that can be added to the original e-Mail header section? (6)
- Q.4**
  - a. Discuss the three domains of the DNS? (4)
  - b. Discuss the major components of a Web Browser? (5)
  - c. What do you mean by state Information? Develop a CGI script that describe Long-Term state information? (7)
- Q.5**
  - a. Java is said to be platform independent language. Comment (4)
  - b. Suppose that a class, *Employee*, is defined as follows: (6)

```
class Employee {  
    String lastName;  
    String firstName;  
    double hourlyWage;  
    int yearsWithCompany;  
}
```

Suppose that data about 100 employees is already stored in an array:  
Employee[] employeeData = new Employee[100];

Write a code segment that will output the first name, last name, and hourly wage of each employee who has been with the company for 20 years or more.

- c. Differentiate between : (3×2)
  - (i) equals and equalsIgnoreCase()
  - (ii) final and finalize()
- Q.6**
  - a. What do you understand by scope and lifetime of variables in Java? Explain with the help of program code. (5)
  - b. Write a complete subroutine that finds the largest value in an array of ints. The subroutine should have one parameter, which is an array of type int[]. The largest number in the array should be returned as the value of the subroutine. (5)
  - c. Discuss *throw* and *throws* with respect to exception handling in Java. Also write a small program to support your discussion. (6)
- Q.7**
  - a. Suppose that you are writing an applet, and you want the applet to respond in some way when the user clicks the mouse on the applet. What are the four things you need to remember to put into the source code of your applet? (4)
  - b. Explain what is meant by *input focus*. How is the input focus managed in a Java GUI program? (4)

- c. What is Swing? Discuss the following (in brief):
  - (i) Tabbed Pane
  - (ii) Table
  - (iii) Tree
  
- Q.8** a. What is an Applet? Differentiate between Java application and Java applet? Also, discuss the life cycle of an Applet? (8)
  
- b. Define RMI. Briefly discuss the architecture of RMI. (8)
  
- Q.9** a. Write a program in Java that uses FileInputStream class for reading bytes from a file. The program reads an existing file and displays its bytes on the screen. (6)
  
- b. Discuss the following methods: (10)
  - (i) clone()
  - (ii) isInfinite() and isNaN()
  - (iii) currentTimeMillis()
  - (iv) compareTo()