ROLL NO. _____

Code: AC19 Subject: INTERNET & JAVA PROGRAMMING

AMIETE – CS (OLD SCHEME)

Time: 3 Hours **JUNE 2012** **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

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 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. String river = new String("Columbia");
System.out.println(river.length());
What is printed?

(A) 6 **(B)** 7
(C) 8 **(D)** Columbia

b. A constructor

(A) must have the same name as the class it is declared within.
(B) is used to create objects.
(C) may be declared private.
(D) All of the above

c. Consider the following program:

```
import myLibrary.*;
public class ShowSomeClass
{
// code for the class...
}
```

What is the name of the java file containing this program?

(A) myLibrary.java **(B)** ShowSomeClass.java
(C) ShowSomeClass **(D)** ShowSomeClass.class

d. What is garbage collection in the context of Java?

(A) The operating system periodically deletes all of the java files available on the system.
(B) Any package imported in a program and not used is automatically deleted.
(C) When all references to an object are gone, the memory used by the object is automatically reclaimed.
(D) The JVM checks the output of any Java program and deletes anything that doesn't make sense.

e. What is byte code in the context of Java?

(A) The type of code generated by a Java compiler
(B) The type of code generated by a Java Virtual Machine
(C) It is another name for a Java source file
(D) It is the code written within the instance methods of a class.

f. What is the value of k after the following code fragment?

```
int k = 0;
int n = 12
    while (k < n)
    {
    k = k + 1;
    }
```

(A) 0 **(B)** 11
(C) 12 **(D)** Unknown

g. The following is a legal Java statement

(A) m1 = new TextField("sixty"); **(B)** 1a = 6;
(C) add(m1); **(D)** m1.setText("Hello world");

h. What layer contains the logic needed to support the various user applications?

(A) Presentation **(B)** Session
(C) Application **(D)** Network access

i. The function of a modem is to convert signals. Identify the correct signals it converts.

(A) Analog to Digital **(B)** Analog to Baud rate
(C) Baud rate to Analog **(D)** Digital to Binary

j. Several Computers connected together is called:

(A) Client-server **(B)** Client
(C) Computer network **(D)** Hub

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

Q.2 a. Explain the functioning of:
(i) Routers (ii) Bridges (iii) Gateways **(6)**

b. Give the architecture of OSI model. Differentiate it from TCP model. **(6)**

c. Give a brief note on IP encapsulation. What is fragmentation and reassembly? Explain. **(4)**

Q.3 a. What does a socket consists of? What are some advantages and disadvantages of Java Sockets? **(6)**

b. Give features of MIME and SMTP. Explain their architectures. **(6)**

c. Explain the working of IP Telephony with an example. **(4)**

Q.4 a. Specify the tag and attributes used to create a textbox which can accept maximum of 20 characters with a default value "Enter Name". **(6)**

b. Explain file locking method through CGI program. **(6)**

c. Write a note on browser architecture. **(4)**

Q.5 a. Explain the usage of Java packages. If a class is located in a package, what do you need to change in the OS environment to be able to use it? **(4)**

b. Write a note on Layout Managers. **(6)**

c. Write a Java Program to check whether a given string is a palindrome or not. **(6)**

Q.6 a. What are different types of inner classes? Explain with examples. **(4)**

b. What is an applet? How to create a basic Applet? Explain with an example. **(6)**

c. Write a program in Java to create a button using Swing; on clicking on this button the current application should close. Explain the output also. **(6)**

Q.7 a. Explain the term JAVA RMI. Explain the following terms with suitable code and examples: **(8)**
(i) Writing RMI Services
(ii) Writing RMI Clients
(iii) Running the Client and the server.

b. What are Servlets? What are the advantages of Servlets? Explain the life cycle of Servlets? Write a Servlet code that uses cookies to store the number of times a user has visited your Servlet. **(8)**

Q.8 a. List all the properties of Java Beans. Explain any two of them with suitable example (program). Explain the role of manifest and jar files. **(8)**

b. Write an example that counts the number of times a particular character, such as e, appears in a file. The character can be specified at the command line. **(8)**

Q.9 a. What are Checked and UnChecked Exception? Explain. **(2)**

b. Give short notes on:
(i) DNS
(ii) FTP **(6)**

c. Write a Java class Count and PrintArgs to print the number of arguments passed on the command line as well as the First letter of the arguments. For example, if the command line arguments are: Mango Cucumber Apple, then the output will be:
No. of arguments: 3
MCA.
Also write a main method to test the class. **(8)**