MCA (DUAL DEGREE)
(SEM VI) THEORY EXAMINATION 2017-18
INTERNET & JAVA PROGRAMMING

Time: 3 Hours   *Total Marks: 100*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt** *all* **questions in brief.**   **2 x 10 = 20**

   a.   What is Internet? Explain different type of Internet connections.
   b.   Explain various services of internet.
   c.   What is E-mail? Explain advantages of E-mail.
   d.   Define JVM. What do you mean by Byte codes?
   e.   What is the "finally" block?
   f.   What are the different ways to create the thread?
   g.   Discuss the role of JSP in development of a website.
   h.   What do you mean by JAR filters?
   i.   What is meant by a property in Java Beans?
   j.   What are the functions of a servlet?

SECTION B

2.   **Attempt any** *three* **of the following:**   **10 x 3 = 30**

   a.   What do you mean by classes and objects? Explain with suitable example and how objects and classes are created in Java.

   b.   What is the difference between Application and Applet? Explain how will you write a simple applet to display hello world message.

   c.   What is the difference between JavaBeans and EJB? Give any five beans available in BDK.

   d.   If you create two threads in your program. How many threads actually run? Explain the complete flow of execution of threads inside a program?

   e.   Explain the principles of Remote Method Invocation with the help of a block diagram.

SECTION C

3.   **Attempt any** *one* **part of the following:**   **10 x 1 = 10**

   (a)   Write a program to count the number of words and characters in a string.

   (b)   Discuss the tools available in JDK? How do they help in application development?

4. **Attempt any *one* part of the following:**   **10 x 1 = 10**

   (a)   What is the main difference between Readers/Writers and Input/Output streams? Give a few subclasses of Reader and Writer Class?

   (b)   Which is the alternative approach to implement multiple inheritances in Java? Explain, with an example?

5. **Attempt any *one* part of the following:**   **10 x 1 = 10**

   (a)   What do you understand by JDBC? What are the various steps for using JDBC? Write a program to demonstrate these steps.

   (b)   Write a program to enter five integers through an array and find out the smallest number.

6. **Attempt any *one* part of the following:**   **10 x 1 = 10**

   (a)   Write a program in Java to demonstrate communication using TCP/IP i.e. using socket:- Write a separate code for a server and client program. The program should display the contents of the files specified in a server on to the client.

   (b)   What is the difference between process based and thread-based Multitasking? Give the two ways by which a thread can be created using Java. Write a short program to demonstrate the creation of a new thread by extending the thread class.

7. **Attempt any *one* part of the following:**   **10 x 1 = 10**

   (a)   What do you understand by Layout manager? Illustrate three type of layout available in Java with the help of suitable syntax.

   (b)   What do you mean by Exception? What is checked and unchecked exception? Explain Exception chaining.