

**MCA**  
**(SEM III) THEORY EXAMINATION 2018-19**  
**INTERNET & JAVA PROGRAMMING**

**Time: 3 Hours****Total Marks: 100****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief. 2 x 10 = 20**

- a. Who is called 'Father of Java'? What is full form of JDK?
- b. What is difference between 'equals ()' and '=='?
- c. What is JDBC? Which package in java contains API for JDBC?
- d. Differentiate 'Class Variable' and 'Instance Variable'.
- e. Which methods used to change case of String?
- f. Differentiate usage of 'Runnable' and 'Thread' for Multithreading.
- g. What are web addresses? Explain the general syntax of web address.
- h. How are they sent Email? Explain the composition of any E-mail address.
- i. Write a program in Java to create first 100 Fibonacci numbers.
- j. Define the following with example.
  - I. Encapsulation
  - II. Inheritance

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

- a. 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.
- b. What is the main difference between an application and applet? What are the advantages of Java swings over Java applets?
- c. Write a Java program to display the month names by JList and display the Days by JComboBox.
- d. What is JDBC? What is its role in application development? Describe JDBC in detail with suitable example.
- e. What do you mean by dynamic modeling? What is the significance of dynamic modeling in Object Oriented Development? Explain.

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

- (a) Write a Java program to display the month names by JList and display the Days by JComboBox.
- (b) Explain the role of RMI in Java. Difference between RMI and RPC.

4. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is Method overloading and Method overriding? Write a program to Method overriding in java?
  - (b) What is object and class concept? Explain the different layouts available in Java? Explain each with suitable skeleton code.
5. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) By means of a diagram show the various streams found in the java.io package? Write a program to demonstrate how to use a stream Tokenizer to count the number of words in a file.
  - (b) Write a program in Java to demonstrate communication using TCP/IP i.e. using sockets:-  
Write a separate code for a server and client program. The program should display the contents of the file specified in a server on to the client.
6. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is the difference between adaptive and non-adaptive routing? Explain any one adaptive and one non-adaptive routing protocol.
  - (b) What are bridges and gateways? Explain their functions briefly.
7. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What are the characteristics of JDBC? What are the various steps for using JDBC? Write a program to demonstrate these steps.
  - (b) Do the following :
    - (i) What is RMI? What is the difference between Naming.bind and Naming.rebind method? Write a short code to invoke a remote method using Java RMI.
    - (ii) Explain briefly the life cycle of a servlet. What are the basic steps for creating a servlet?