**Printed Pages:02** **Sub Code: NMCA314**

**Paper Id:** 214329 **Roll No.** | | | | | | | | | | |

**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?