

Roll No.

[Total No. of Pages : 03]

MCA
JAVA PROGRAMMING (MCA - 502)

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section-A is **compulsory**.
- 2) Attempt any **Nine** questions from Section-B.

Section - A

(15 x 2=

30) Q1)

- a) What is meant by daemon thread? In java runtime, what is its role?
- b) How does one compute the class of an IP address? What range determines the class C IP address?
- c) With reference to java graphics, explain the terms: a listener and an event.
- d) What are the disadvantages of only allowing I/O via widgets such as checkboxes, buttons or small text areas?
- e) When does an applet need to use threads?
- f) In the declaration `public final static int BASE_YEAR = 2004`, what is the meaning of the word final?
- g) What is the relationship between classes and objects?
- h) Explain the meanings of the operators / and % when they are applied to integer values.

- i) Java has five control statements: if, while, do... while, for, and switch. However, it really only needs two of these. What does this mean? Why is it true?
- P.T.O.**
- j) In the Java programming language, what is a package, and why do packages exist.
- k) The main subroutine of a program begins with the line `public static void main (String[] args)`. What does the word “public” mean here, and why is it necessary?
- l) You are creating a *JPanel* to hold five *JButtons*. You can choose between using the default *FlowLayout* on the panel, or using a *GridLayout* instead. What’s the difference? Exactly what effect will your choice have?
- m) Which choice, lists the statement(s) that is (are) false?
- (I) Number Format Exception is a checked exception.
 - (II) Array Index Out of Bound Exception is an unchecked exception.
 - (III) File Not Found Exception is a checked exception.
- (a) I only.
 - (b) II only.
 - (c) III only.
 - (d) II and III only.
 - (e) I and III only.
- n) What is the use of Java Servlets?
- o) What is the difference between C++ & Java?

Section - B

(9 x 5 = 45)

Q2) What are the three OOPs principles and define them?

Q3) Explain the two ways of creating a thread in Java and the role of the start, run and stop methods.

Q4) Explain Listeners and Events with reference to Java SWING components.
What type of event does the Java Mouse Motion Listener Interface report?
Describe two types of application that might use it?

J-3697[S-1553]

2

Q5) The event-driven style of programming that is used in GUI programs is very different from the scripted, step-by-step programming that is often used for command-line applications. Discuss event-driven programs and how they relate to object-oriented programming.

Q6) It is known that 'The socket API is available for many operating systems, including systems used on personal computers (e.g. Microsoft's Windows systems) as well as various UNIX systems (e.g. Sun Microsystems' Solaris)'. Explain what a socket is and briefly explain how information can pass between a client and a server with respect to the direction of information flow and the required protocol information.

Q7) Define and differentiate the following pairs :

- (a) a public and a non-public class
- (b) a Scrollbar and a ScrollPane

Q8) Define and differentiate the following pairs:

- (a) the >> and >>> operators
- (b) a while statement and a do statement

Q9) What is the difference between the File and Random Access File classes?
Explain by taking examples.

Q10) What are access modifiers? Explain their use by taking examples.

Q11) How do you invoke a Java Servlet? What is the difference between doPost() and doGet() methods? What are the parameters of the service() method?

Q12) What is JDBC? How do you connect to the Database?

Q13) What is inheritance? Explain how you can inherit a class into another class in Java with the help of a program.

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J-3697[S-1553]

3