

10. (a) What are the differences between a server socket and a client socket ? How does the following happen ?
- (i) client initiate a connection
 - (ii) server accept a connection
 - (iii) data is transferred between a client and a server
- 10
- (b) What is the purpose of collection framework ? What is collection interface ? Illustrate its usage.
- 10

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Total No. of Questions : 10] [Total No. of Printed Pages : 4

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MCA-405(B)**M. C. A. (Fourth Semester) EXAMINATION, June, 2007**

(New Course)

JAVA PROGRAMMING AND TECHNOLOGIES

(Elective)

[MCA-405 (B)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 40

Note : There are five Units. Attempt *one* question from each Unit. All questions carry equal marks.

Unit - I

- (a) What are the differences between applications and applets ? Is the compilation process different for applications and applets ? Write in brief about Applet viewer. 8
- (b) Why is it unnecessary for constructors to have return types ? How many parameters does a default constructor require ? Why can we call a dynamically binded method in a constructor ? 8
- (c) What is the use of this and super keyword ? Illustrate through suitable examples. 4
- (a) Write a program in JAVA that contains a method strip vowels (), that extracts and processes the current input

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line. The method returns, as a string, the consonant portion of the input. 10

(b) Explain the following by giving examples : 10

- (i) dynamic method dispatch
- (ii) method overriding

Unit – II

3. (a) What is an interface ? How is it declared and implemented ? Give suitable example. Is there any difference between an abstract class and interface ? 10

(b) In what situations a runnable interface is required to launch threads ? Give a suitable example. How do you create a thread group ? Can you control an individual thread in a thread group ? 10

4. (a) What is meant by daemon thread ? In Java run time, what is its role ? Write a class whose objects hold a current value and have a method to add to that value, printing the new value. Write a program that creates such an object, creates multiple threads, and invokes the adding method repeatedly from each thread. 10

(b) Differentiate throw and throws in exception handling. Write a sample code to throw and handle an exception created by you. 10

Unit – III

5. (a) Explain the life-cycle of an Applet. Write an applet that will be passed name of a person and sex as M or F through parameters in HTML file. Your applet should display the name as Mr. Name or Ms. Name depending upon sex. 10

(b) Describe the AWT class hierarchy. Write in brief about its components. 10

6. (a) What are the major components of Java's event delegation model ? Explain the working of event delegation model by giving suitable example. 10

(b) Explain the following by writing small programs : 10

- (i) Adapter classes
- (ii) Canvas
- (iii) Insets
- (iv) Java menus

Unit – IV

7. (a) What is object serialization ? What useful purpose does it serve ? 10

(b) Write a program that reads the contents of a file, one character at a time and counts the number of occurrences of vowels. File name should be passed as command line argument. 10

8. (a) Write in brief about the following : 10

- (i) JDBC-ODBC Bridge
- (ii) ResultSetMetaData
- (iii) Class.forName ()
- (iv) Connection

(b) Write a JDBC program for student marklist processing. 10

Unit – V

9. (a) What are the differences between TCP/IP and UDP/IP ? Write a program for simple chatting using UDP. 10

(b) What do you understand by RMI ? Why standard RMI package is used with JAVA ? Explain. 10