

**Punjab Technical University**  
**Master of Computer Application Examination**

**MCA 4<sup>th</sup> Semester INTERNET JAVA PROGRAMMING 2008**

**Time : 03 Hours Maximum Marks : 75**

**Instruction to Candidates:**

**1) Section - A is Compulsory.**

**2) Attempt any Nine questions from Section – B.**

**Section – A**

- a) Define Data abstraction?
- b) What are Java Tokens?
- c) how we create an object of a class in Java?
- d)What is the difference between application and applet?
- e) How we implement call by. reference in java?
- f) Define JVM? What are different ways to run applets?
- g) What are anonymous inner classes?
- h) What are Adapter classes?
- i)What is Difference between AWT and Swing?
- j) What are the different constructors of JButton class?
- k)Define Socket programming?
- l)Explain JDBC architecture?
- m) What are the different methods in ResultSet interface?

**Section – B (9 x 5=45)**

- Q2)List the main differences between C++ and java?
- Q3)What are the different control statements available in java?
- Q4)Define array? How multidimensional arrays are handled in java? Illustrate the answer?
- Q5) Define swing? What are different user interface components available in swing package?
- Q6) Discuss in detail the event delegation model?

Q7) Write a program in java to find the transpose of a matrix.

Q8) What do you mean by thread synchronization? Write a program in java to display the use of synchronization?

Q9) Write a program that fetches the names of Employees from the Employee table using JDBC?

Q10) How client and server sockets are created in java. Explain with example? Q11) Create a User-defined Exception in java. -1-S

Q12) write a note on the life cycle of a Servlet?

Q13) Create a Servlet that illustrates the use of cookies?