BT-5/DX
NETWORK PROGRAMMING
Paper : IT-355

Time : Three Hours]   [Maximum Marks : 100

Note : Attempt *five* questions in all, selecting *one* question from each unit.

UNIT–I

1. (a) What are Static members and classes ? What restrictions are put on methods declared as static ? (8)

    (b) Can you access members of superclass that have been declared as private ? (6)

    (c) What are the uses of super keyword ? Show example of each case. (6)

2. (a) Create a base call called shape. It contains two methods getxyvalue() and showxyvalue() to accept and display the coordinates. Create a subclass called rectangle. It also contains a method to display length and breadth of the rectangle called showxyvalue() using overriding concept. (10)

    (b) What are Constructors ? What is automatic garbage collection? Write a class Savings Account with features of deposits, withdrawals, and annual interest rate. Use constructor to initialize parameters. (10)

UNIT–II

3. (a) Create a new package called myDraw and place line. circle and oval classes in it. Using this package, write an application that allows the user to draw figures.(10)

(b) Explain the following objects: FileOutputStream, RandomAccessFile, FileDescriptor, FileChannel, and ByteBuffer in context to handling files. Explain any *four* exceptions thrown by file access methods. (10)

4. (a) What are Threads? What are daemon threads, and user threads? What are synchronized methods and code blocks? Can deadlocks in multithreaded applications? (10)

(b) What are Interfaces? Why are they required? Show an example to define and implement interface. How to convert between class and interface type? (10)

UNIT–III

5. (a) Explain JDBC architecture. Write a program to establish a connection with database, retrieve some values and then print them. (10)

(b) Write a client server application that serves the client by displaying square of the number sent by client as entered by the user at client. Both client and server are in infinite loop. (10)

6. (a) What is the use of a socket? Why socket programming is required? Write down different socket related classes? How to handle exceptions? (10)

(b) Show how to connect to a database and run SQL queries. (10)

UNIT–IV

7. (a) Write a personal calendar and reminder system for yourself. The program should have a menu that lets you enter today's date, enter reminder to appear in the future, "cross off" items that you have taken care of and display a list of things to do today. (10)

(b) Show an example using event programming that prompts user for an integer and draws as many circles at random positions in a component as the user requested. (10)

8. (a) Explain the method of retrieving server information. Explain how HTML response is generated and sent by the server. (10)

(b) What is a Servlet? Give the architecture of javax.servlet package. What are ServletRequest, ServletResponse, and RequestDespatcher? Explain. (10)

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