

M-Scheme DETAILED SYLLABUS

34661 – ADVANCED JAVA PROGRAMMING

UNIT – NETWORKING WITH JAVA

1.1 Fundamentals in Networking: Sockets in Java - Internet Addressing - Domain Naming Service (DNS) - InetAddress and Inet6Address - URL class - URI class - TCP/IP and Datagram

1.2 The interfaces and classes for networking : Interfaces of java.net package – classes of java.net package; InetAddress class : IP address scope - Host name resolution – Methods of InetAddress class; Program to look up the IP addresses for a hostname - Factory methods - Creating and using Sockets : Socket class - constructors of Socket class - methods of Socket class; Program to read a webpage from a website.

1.3 Creating TCP servers & clients : TCP/IP server sockets - Constructors of ServerSocket class - Methods of ServerSocket class - Program to create a TCP/IP server – Program to create a TCP/IP client

1.4 Handling URL: URL class - constructors of URL class - methods of URL class – URL Connection class - fields of URLConnection class - methods of URLConnection class

1.5 Working with Datagrams: DatagramPacket - Constructors for Datagram Packet class – Methods of DatagramPacket class - creating Datagram server and client.

UNIT – II WINDOWS BASED APPLICATIONS WITH JAVA

2.1 Working with java.awt Package: Exploring the component Class – Container Class – Panel Class – Window Class – Frame Class

2.2 Creating Desktop Application using AWT: Frame Window – Button Class – Label and Text Field Classes – Check Box and Radio Button Classes – Scroll bar class – Choice Class – Text Area Class - Panel Container.

2.3 Creating a Desktop Application using Swing: Implementing the JFrame Class – JButton Class – JLabel – JTextField – JTextArea – JTable – JTabed Pane Class.

2.4 Implementing the Layout Manager: Flow Layout Manager – Border Layout – Grid Layout – Grid Bag Layout Manager

UNIT– III JAVA DATABASE CONNECTIVITY

3.1 JDBC Package : JDBC – JDBC versus ODBC – Types of JDBC drivers – Connection – Statement – PreparedStatement.

3.2 ResultSet : Fields of ResultSet – Methods of ResultSet – Executing a query - ResultSetMetaData – DatabaseMetaData.

3.3 Datatypes in JDBC : Basic datatypes in JDBC – Advanced datatypes in JDBC – fields of Statement – methods of Statement – CallableStatement Interface – BatchUpdates

UNIT – IV SERVLET PROGRAMMING

4.1 Servlets : Using Servlets - Servlet Package - Servlet lifecycle - init() method - service() method , doGet() method, doPost() method and destroy() method .

4.2 Classes and interfaces of Servlet: Servlet -GenericServlet - ServletConfig - ServletContext - ServletException- ServletInputStream - ServletOutputStream- ServletRequest – ServletResponse

4.3 Classes and interfaces of HttpServlet: HttpServlet -HttpServletRequest - HttpServletResponse - Reading HTML form data from Servlets - Response Headers - Response Redirection.

4.4 State and Session management: Cookies – HttpSession – Server Side includes – Request forwarding – RequestDispatcher.

4.5 Handling Servlets : Servlet Chaining – Http Utils - Database access with JDBC inside servlet.

UNIT – V JAVA BEANS

5.1 Concepts of Java Beans: Java Beans - Advantage of Java Beans – Reflection and Introspection - Customizers – Persistence.

5.2 Developing Java Beans: Bean Developer Kit (BDK) - Creating a Java Bean - Creating a Bean Manifest file - Creating a Bean JAR file

5.3 Controls and Properties of a Bean: Adding controls to Beans - Giving Bean Properties - BeanInfo interface – Simple Bean Info class.

5.4 Types of Properties: Design pattern for Properties: Simple property – indexed Properties; Descriptor Classes - Giving Bean methods - Bound and Constrained Properties - Property Editors.

REFERENCES

- 1 Java2 Programming Black Book Steven Holzner Dreamtech 2006
- 2 Java6 and J2EE 1.5 Black Book Kogent Dreamtech 2010