

- N.B. 1) All questions are compulsory.
 2) Figures to the right indicate marks.
 3) Illustrations, in-depth answers and diagrams will be appreciated.
 4) Mixing of sub-questions is not allowed.

Q. 1 Attempt All(Each of 5Marks)

(15)

(a) Multiple Choice Questions:

- (i) What is not true about Swing API?
- Swing components are platform-dependent
 - Swing components are light-weight
 - Swing supports pluggable look-and-feel
 - Swing follows MVC
- (ii) The doGet() method extracts values of the parameter's type and number by using _____
- request.getParameter()
 - request.setParameter()
 - responce.getParameter()
 - responce.getAttribute()
- (iii) Which object of HttpSession can be used to view and manipulate information about a session?
- session identifier
 - creation time
 - last accessed time
 - All mentioned above
- (iv) Abbreviate the term POJO?
- Performance Old Java Object
 - Plain Old Java Object
 - Performance Optimize Java Object
 - None of the above
- (v) "application" implicit object in JSP is an object of which class?
- javax.servlet.Context
 - javax.servlet.HttpContext
 - javax.servlet.ServletContext
 - javax.servlet.Application

- (b) Fill in the blanks:
 (out, request, IIS , request.getProtocol(), JSP Container, easier, response.getProtocol(), response.sendRedirect(URL), <logic:loop>, difficult, response.sendRedirect(URL))
- (i) Java Server Pages are processed by _____.
 - (ii) _____ code retrieves name and version of the protocol?
 - (iii) _____ is an implicit object of PrintWriter class.
 - (iv) XML is much more _____ to parse than JSON.
 - (v) _____ temporarily redirects response to the browser?
- (c) Answer in 1 - 2 sentences
- (i) What is MIME type for JSON?
 - (ii) State True or False: The JDBC API has always supported persistent storage of objects defined in the Java programming language through the methods getObject and setObject.
 - (iii) What is a role of HttpServlet?
 - (iv) What is purpose of JList?
 - (v) How to make declaration in JSP?

Q. 2 Attempt the following (Any THREE) (15)

- (a) Describe three types of text controls in Swing.
- (b) Write a program to create a login form (for entering the user name and password). On click of "Ok" button check the username and password is correct or not and report with proper messages.
- (c) Differentiate between JList and JComboBox.
- (d) Write a short note on DriverManager class.
- (e) Explain various ways of creating ResultSet in JDBC.
- (f) Write a JDBC program to accepts a dept_id from user and displays total number of records in it. (Table: Employee(Eid, dept_id, Ename, Address, Salary)

Q. 3 Attempt the following (Any THREE) (15)

- (a) State and explain advantages of JSP.
- (b) Explain any 5 methods of HttpServletRequest interface.
- (c) Write a JSP program to accept a number from the HTML form, and find its factorial using a recursive function.
- (d) Explain Servlet Life cycle in detail.
- (e) Explain the following implicit JSP objects:
 1) Request 2) pageContext 3)Exception 4)Response 5)Page
- (f) Write a Servlet Program to display the name of the servlet and its initialization parameters with its respective values.

Q. 4 Attempt the following (Any THREE) (15)

- (a) Explain the role of interceptors in struts.
- (b) Discuss the similarities and differences between JSON and XML.
- (c) Explain the getter and setter methods of JavaBeans class.

- (d) List and explain valid JSON data types.
- (e) Design a JavaBean program to store and retrieve different BankAccount details.
- (f) Explain the significance of struts.xml and web.xml file in Struts 2 application.

Q. 5 Attempt the following (Any THREE) (15)

- (a) Write a program in java which creates a list containing at least 3 theatres name. On the click of any theatre, the movie name from theatre should be displayed in a Text field.
- (b) Write java program to insert one record of information into the database table named (depttable), by accepting the details from the user; using PreparedStatement. **depttable(deptno int primary key, deptname varchar(10), deptloc varchar(10))**
- (c) Explain the request life cycle of Struts 2.
- (d) Discuss the features of JFC.
- (e) Write a JSP based application that serves the purpose of simple calculator.
