**For Swing (Unit 1):**

1. Explain how to use JButton component in Swing.
2. Describe three types of text controls in Swing.
3. Differentiate between JList and JComboBox.
4. Explain the JFrame Class.

**For JDBC (Unit 1):**

1. Explain JDBC architecture.
2. Write steps for JDBC connectivity.
3. Explain PreparedStatement and how to create and use it in JDBC.
4. Explain various ways of creating ResultSet in JDBC.

**For Servlets (Unit 2):**

1. Write a note on Servlet life cycle.
2. Explain the purpose of HttpSession interface and its various methods.
3. Write a servlet program to determine if a person is eligible to vote or not.
4. Explain the following implicit JSP objects: Request, pageContext, Exception, Response, Page.

**For Struts 2 (Unit 3):**

1. Write the features of Struts 2 framework.
2. Explain the role of Action class in Struts 2.
3. Explain the significance of struts-xml and web-xml file in Struts 2 application.
4. Explain how to use interceptors in Struts.

**General Programming Concepts (Mix):**

1. Explain MVC Architecture.
2. Explain session tracking mechanism in servlets.
3. Explain how to use include directive in JSP.

**Unit 1: Swing Components and JDBC**

1. Explain how to use ButtonGroup class.
2. What is a combobox? Explain various constructors and methods of JCombBox class.
3. Explain JDBC architecture.
4. Explain Statement interface and its methods.
5. Write a swing program to accept temperature of the day in a textfield- Using radio buttons choose conversion: Fahrenheit to Celsius or vice versa. On click of a button, display the converted temperature in a label. [Formula:C = (F-32)\*5/9]
6. Write a JDBC program to create an Employee table. Insert two records in the table using PreparedStatemenL
7. Explain how to create and use J Button component in Swing.
8. Explain the JFrame Class.
9. Write steps for JDBC connectivity.
10. What is PreparedStatement? How to create and use it in JDBC.
11. Write a swing program to create a combo box and a label. The combo box contains list of states of India. When a state is selected, its capital is displayed in a label.
12. Write a JDBC program to accept employee id from the user, find the employee in the table and display employee's name. (Assume Employee table exists with fields: empid, name, )
13. Describe three types of text controls in Swing.
14. Write a program to create a login form (for entering the user name and password). On click of "0k" button check the username and password is correct or not and report with proper messages.
15. Differentiate between JList and JComboBox.
16. Write a short note on DriverManager class.
17. Explain various ways of creating ResultSet in JDBC.
18. 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)

**Unit 2: JSP, Servlets, and JSON**

1. Differentiate between GenericServlet and HttpServlet.
2. Write a note on Servlet life cycle.
3. Explain page directive in JSP.
4. Explain the following:
   1. declaration tag
   2. expression tag
5. Write a servlet program to accept name and aggregate marks from index-html-if the aggregate marks is larger than 55, then print "You are selected", else print "You are not selected".
6. Write JSP program to accept a number from the user and find its factorial. If the number is negative, show error message and accept the number again.
7. What is the purpose of HttpSession interface? Explain various methods of this interface.
8. Write a note on ServletContext Interface.
9. Explain how JSP files are executed by web server?
10. State and explain scopes of JSP object.
11. Write a servlet program to accept name and age of a person from index.html and determine if the person is eligible to vote or not-
12. Write a JSP program to accept student roll no and average marks from index.html, if the average marks are more than 40.0, then display "PASS" , else display "FAIL", along with the roll no.
13. State and explain advantages of JSP.
14. Explain any 5 methods of HttpServletRequest interface.
15. Write a JSP program to accept a number from the HTML form, and find its factorial using a recursive function.
16. Explain Servlet Life cycle in detail.
17. Explain the following implicit JSP objects:

1) Request 2) pageContext 3)Exception 4)Response 5)Page

1. Write a Servlet Program to display the name of the servlet and its initialization parameters with its respective values.

**Unit 3: JSON, Java Beans, and Struts 2**

1. Explain <jsp:setPropertY> and <jsp:getPropertY> action tags.
2. Explain the significance and structure of struts-xml file used in struts2.
3. Write a note on Struts2 interceptors.
4. Write the similarities and differences between JSON and XML.
5. What is JSON schema? Give example and illustrate.
6. Explain various Result Types available in Struts2.
7. Explain the role of Action class in struts 2.
8. Write a short note on OGNL
9. Compare and contrast JSON and .XML.
10. Write the features of struts 2 framework.
11. Illustrate with an example, how to create and use a java bean.
12. Give example and illustrate how to use JSON schema.
13. Explain the role of interceptors in struts.
14. Discuss the similarities and differences between JSON and XML
15. Explain the getter and setter methods of JavaBeans class.
16. List and explain valid JSON data types.
17. Design a JavaBean program to store and retrieve different BankAccount details.
18. Explain the significance of struts-xml and web-xml file in Struts 2 application.

**Mix**

1. Describe various constructors and methods of JCheckBox class.
2. Explain various methods of Connection interface.
3. Write a note on JSP application implicit object.
4. Explain session tracking mechanism in servlets.
5. Write a note on Struts2 Action class.
6. Explain how to create and use JPasswordField component.
7. Explain the following methods: setAutoCommit(), rollback()
8. Explain various methods used for reading form data in a servlet.
9. Explain how to use include directive in JSP-
10. Write a note on MVC Architecture.
11. 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.
12. 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(l()))
13. Explain the request life cycle of Struts 2.
14. Discuss the features of JFC.
15. Write a JSP based application that serves the purpose of simple calculator.