

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 3606

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Unique Paper Code : 6332494801

Name of the Paper : Advanced Java Programming and Web Technologies

Name of the Course : **B.VOC (WEB DESIGNING)**

Semester : VIII

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **All** Questions in **Section-A** are compulsory.
3. Attempt any **four** questions from **Section-B**.
4. Parts of a question should be attempted together.

Section A

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|--------|---|---|
| Q1. i. | Explain MVC Architecture in Java Swing and discuss its advantages. | 5 |
| ii. | Describe JDBC Architecture and explain the role of JDBC Drivers. | 5 |
| iii. | Explain RMI Architecture and discuss the role of RMI Registry. | 5 |
| iv. | Define J2EE Architecture. Explain the significance of n-Tier applications. | 5 |
| v. | Explain the Servlet Life Cycle with the help of init(), service(), and destroy() methods. | 5 |
| vi. | Discuss Expression Language (EL) and JSTL in JSP programming. | 5 |

Section B

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|---------|--|---|
| Q2. (a) | Discuss the event-handling mechanism in Swing. Explain how listeners and adapters are used with Toggle Buttons, Checkboxes, and Radio Buttons. | 8 |
| (b) | Explain Swing Architecture and discuss the role of Swing components in Java GUI applications. | 7 |

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- Q3. (a) Explain the core interfaces of the java.sql package. Describe how Connection, Statement, and ResultSet objects work together. 8
- (b) Explain the concepts of Content Handlers and Protocol Handlers. How do they extend Java networking capabilities? 7
- Q4. (a) Analyze the importance of Object Serialization in distributed systems. Why is it necessary for transmitting complex objects? 8
- (b) Discuss Internationalization (I18N) in Java. Explain how Java applications adapt to regional languages and cultural formats. 7
- Q5. (a) Compare Web Containers and Application Servers. Explain their respective roles in Java web applications. 8
- (b) Discuss J2EE Architecture and explain how it supports large-scale Enterprise Applications. 7
- Q6. (a) Explain Session Handling mechanisms in Servlets. Discuss Cookies, URL Rewriting, Hidden Fields, and HttpSession. 8
- (b) Elaborate on the purpose and implementation of Servlet Filters. Explain how they modify HTTP requests and responses. 7
- Q7. (a) Explain JSP translation into Servlets and discuss JSP Life Cycle. 8
- (b) Discuss Expression Language (EL) and Tag Extensions in JSP development. 7