

**RAN-2311000701020002**

M.Sc. (ICT) (Sem. - I) Examination November - 2025
Enterprise Java

Time: 3 Hours]**[Total Marks: 70****સૂચના : / Instructions**

(1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી.

Fill up strictly the above details on your answer book.

Seat No.:

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Student's Signature

Q.1. Do as directed (Any Two) (14)

- Discuss the role of Servlet Config and Servlet Context with examples.
- Explain the use of RequestDispatcher for forwarding and including requests in JSP and Servlets with suitable example.
- Explain different types of drivers in JDBC and Describe how servlets handle database connectivity using JDBC.

Q.2. Do as directed (Any Two) (14)

- Explain functioning of JMS and Message Driven Beans show they differ from other EJB types.
- Describe the role of Timers and Schedulers in EJB.
- Explain Singleton and Asynchronous Beans and their advantages in enterprise systems.

Q.3. Do as directed (Any Two) (14)

- Explain the concept of Object-Relational Mapping (ORM) using entities in JPA.
- Describe how to implement relationships (One-to-One, One-to-Many, Many-to-Many) using annotations.
- Discuss how the Jersey Client API can be used to consume REST services. Explain how client can be used in servlet in case of collections.

Q.4. Do as directed (Any Two) (14)

- Explain the importance of data integrity and confidentiality in enterprise applications.
- Describe how OAuth and OpenID Connect are used for authentication and authorization.
- Write a note on Credential Stores and Identity Stores in Java EE security.

Q.5. Do as directed (Any Two) (14)

- Describe the role of Managed Beans in JSF applications.
- Explain the concept of Composite Components in JSF.
- Discuss how Templating is implemented in JSF for layout reuse.