CS310: Enterprise Java Programming	L	T	P	Core Java
	3	0	2	

Course Objective: To introduce fundamentals of Enterprise Java Programming, concepts of program development using beans.

S. No.	Course Outcomes (CO)
CO1	Implement and utilize Java collections and multithreading concepts for effective data management and concurrent processing.
CO2	Understand and apply relational data models and SQL for database design and querying.
CO3	Use JDBC to connect to databases, execute queries, and manage data types and result sets.
CO4	Develop and manage servlets for handling HTTP requests and responses, including state and session management.
CO5	Create and use Java Beans, applying concepts like reflection, introspection, and customizers for component-based development.
CO6	Design and develop enterprise JavaBeans, including session, entity, and message-driven beans, for distributed multitiered applications.

S. No	Contents	Contact Hours
UNIT 1	Collections : Collection Interfaces, Concrete Collections, Collections Framework. Multithreading : Creating and running thread, Multiple thread synchronization, Thread communication, Thread group, Thread priorities, Daemon Thread, Life Cycle of Thread.	5
UNIT 2	Relational Data Model and Language: Relational data model concepts, integrity constraints, Keys domain constraints, referential integrity, assertions, triggers, foreign key relational algebra, relational calculus, domain and tuple calculus, SQL data definition queries and updates in SQL.	6
UNIT 3	JDBC Package: JDBC – JDBC versus ODBC – Types of JDBC drivers – Connection – Statement – PreparedStatement. ResultSet: Fields of ResultSet – Methods of ResultSet – Executing a query - ResultSetMetaData – DatabaseMetaData. Datatypes in JDBC : Basic datatypes in JDBC – Advanced datatypes in JDBC – fields of Statement – methods of Statement – CallableStatement Interface – BatchUpdates	6

UNIT 4	Servlets : Using Servlets - Servlet Package - Servlet lifecycle - init() method - service() method , doGet() method, doPost() method and destroy() method . Classes and interfaces of Servlet: Servlet - GenericServlet - ServletConfig - ServletContext - ServletException - ServletInputStream - ServletOutputStream - ServletRequest – ServletResponse. Classes and interfaces of HttpServlet: HttpServlet - HttpServletRequest - HttpServletResponse - Reading HTML form data from Servlets - Response Headers - Response Redirection. Handling Servlets : Servlet Chaining - HttpUtils - Database access with JDBC inside servlet. State and Session management : Cookies - HttpSession - Server Side includes - Request forwarding – RequestDispatcher.	**7**
UNIT 5	Concepts of Java Beans: Java Beans - Advantage of Java Beans - Reflection and Introspection - Customizers – Persistence. Developing Java Beans : Bean Developer Kit (BDK) - Creating a Java Bean - Creating a Bean Manifest file - Creating a Bean JAR file. Controls and Properties of a Bean : Adding controls to Beans - Giving Bean Properties - BeanInfo interface - SimpleBeanInfo class. Types of Properties: Design pattern for Properties: Simple properties - Indexed Properties; Descriptor Classes - Giving Bean methods - Bound and Constrained Properties - Property Editors.	**9**
UNIT 6	Components of EntrepriseBeans : Distributed Multitiered Applications -J2EE components: J2EE clients, Web components, J2EE containers. Developing an Enterprise Bean : Packaging - Enterprise JavaBeans Technology - Enterprise Bean - Contents of an Enterprise Bean. Session Bean : Stateful session bean – life cycle of stateful session bean - Stateless session bean – life cycle of stateless session – ejbCreate methods – Business methods – Home interface – Remote interface – Running the session bean. Entity Bean: Persistence - Bean managed Persistence - Container Managed Persistance - Shared Access - Primary key – Relationships. Message Driven Bean: life cycle of message driven bean – onMessage method.	**9**
	Total	**42**