

PARUL UNIVERSITY - Faculty of Engineering and Technology

Department of Computer Science & Engineering

SYLLABUS FOR 5th SEM B. Tech PROGRAMME

Java Enterprise Programming

Type of Course: B. Tech

Prerequisite: Basic knowledge of software applications.

Rationale: This course provides a broad introduction to software engineering. The various process models required to develop software is also being described. Moreover the functional and non-functional requirements are also described.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
LectHrs/	Tut Hrs/	Lab Hrs/		External		Internal			
				T	P	T	CE	P	
3	0	0	2	60	-	20	20	-	100

Lect- Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P**- Practical, **CE**- CE, **T** - Theory, **P**- Practical

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	Foundation of Enterprise Programming XML, JDBC, JDBC architecture, JDBC with Oracle, MySQL, Maven: integration with eclipse, POM.xml	10%	5
2	Servlets Basics of Web, Servlet Lifecycle, Servlets API, HTTP Servlets, Servlets Configuration, Servlets Context, Servlets Collaboration, Session Tracking, CRUD operations.	15%	7
3	JSP: Java Server Programming Scripting elements, Directive elements, CRUD operations.	15%	7
4	Hibernate Architecture, JPA, Generator class, Dialects, Mapping, Annotations, Transaction Management, HQL, HCQL, CRUD operations.	20%	8
5	Spring Architecture, Modules, Dependency Injection, Spring AOP, Application Context, annotation-based configuration, MVC CRUD operations.	20%	9
6	Spring Boot Dependency Injection, Autowire, Web App using spring boot, Spring boot AOP, spring boot Database, Spring Rest.	20%	9

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. "Java Enterprise in a Nutshell" by Jim Farley, William Crawford, and David Flanagan
2. "Java EE 8 Design Patterns and Best Practices" by Rhuan Rocha
3. "Java EE and HTML5 Enterprise Application Development" by John Brock, Arun Gupta, and Geertjan Wielenga
4. Java 8 Programming Black Book

Course Outcome:

After Learning the course the students shall be able to:

1. Java enterprise programming offers robust and scalable solutions for building enterprise-grade applications.
2. It enables organizations to leverage a wide range of powerful frameworks and libraries for efficient development.
3. Java's platform independence allows these applications to run on various operating systems and environments. With its extensive community support and mature ecosystem.
4. Java enterprise programming empowers businesses to deliver reliable and high-performance software solutions.