Institute/Department	UNIVERSITY INSTITUTE OF COMPUTING (UIC)	Program	Master of Computer Applications (MC305)
Master Subject Coordinator Name:	Amanjot Kaur	Master Subject Coordinator E-Code:	E13604
Course Name	Advanced Internet Programming	Course Code	24CAT-651

Lecture	Tutorial	Practical	Self Study	Credit	Subject Type
3	0	0	0	3.00	T

Course Type	Course Category	Mode of Assessment	Mode of Delivery
Major Core	Graded (GR)	Theory Examination (ET)	Theory (TH)

Mission of the Department	M1. To provide innovative learning centric facilities and quality-oriented teaching learning process for solving computational problems. M2. To provide a framework through Project Based Learning to support society and industry in promoting a multidisciplinary activity. M3. To develop crystal clear evaluation system and experiential learning mechanism aligned with futuristic technologies and industry. M4. To provide doorway for promoting research, innovation and entrepreneurship skills in collaboration with industry and academia. M5. To undertake societal activities for upliftment of rural/deprived sections of the society.
Vision of the Department	To be a Centre of Excellence for nurturing computer professionals with strong application expertise through experiential learning and research for matching the requirements of industry and society instilling in them the spirit of innovation and entrepreneurship.

Text Books

Sr No	Title of the Book	Author Name	Volume/Edition	Publish Hours	Years
1	Java: The Complete Reference	Herbert Schildt	10th	McGraw-Hill Education	2017
2	Java Persistence with Hibernate	Gavin King, Christian Bauer	2nd	Manning publisher, New York-USA	2018

Reference Books

Sr No	Title of the Book	Author Name	Volume/Edition	Publish Hours	Years
1	Introduction to Java Programming	Y. D. Liang	3rd	Pearson Education	2018
2	JAVA 2 Unleashed	Stephen Potts	6th	Sams Publishing	July 2002

Course OutCome

SrNo	OutCome
CO1	Understand the basic concepts of Static vs Dynamic Web, enterprise applications and client-server architecture

CO2	Developing Enterprise Applications Using JBOSS, EJB, JDBC, and RESTful APIs
CO3	Implementing Data Validation in Java Applications Using Bean Validation and REST APIs
CO4	Building Scalable and Efficient Enterprise Applications with JPA, JMS, MDB, and CDI
CO5	Developing Full-Stack Web Applications with Node.js and Enterprise Java Technologies

Lecture Plan Preview-Theory						
Unit No	LectureNo	ChapterName	Topic	Text/ Reference Books	Pedagogical Tool**	Mapped with CO Numer (s)
1	1	Client Server Architecture	Introduction of Internet Programming (Basic Concepts of JAVA)	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	2	Client Server Architecture	Introduction of Web Applications and its Types	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	3	Client Server Architecture	Introduction of Websites and its Types	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	4	Client Server Architecture	Introduction of Web Page and its Types	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	5	Client Server Architecture	Client-Side and Server-Side Application	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	6	Client Server Architecture	Client Server Architecture, Web Server	T-Java: The Complete Reference	PPT	CO1
1	7	Client Server Architecture	Server-Side Programming, Java Server Side Components	T-Java: The Complete Reference	PPT	CO1
1	8	Servlet	Introduction of Servlet, Types of Servlets	R-Introduction to Java Programmi	PPT	CO1
1	9	Servlet	Servlet Architecture, Web Container	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	10	Servlet	Servlet Life Cycle, Servlet Collaboration	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	11	Servlet	GET and POST Request Methods, Retrieving Data from Database to Servlet	,T-Java: The Complete Reference,R-Introduction to Java Programmi	PPT	CO1
1	12	JBOSS	JBOSS Application Server	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
1	13	JBOSS	JBOSS Enterprise Applcation Platform, EJB Container	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
1	14	Maven	Introduction to Maven, JAVA EE	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
1	15	Maven	Comparing Features of JavaEE and JavaSE, Packaging and Deploying Java EE Application	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	16	EJB	Introduction of EJB	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	17	EJB	Creating Enterprise Java Beans	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	18	EJB	Types and Lifecycle of EJB	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2

2	19	EJB	Accessing EJB Locally and Remotely	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	20	JDBC	Java Data Base Connectivity (JDBC) Using Servlet	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	21	JDBC	JDBC and ODBC	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	22	JDBC	Types of Drivers for Connection	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	23	JDBC	JNDI Name of the JDBC	T-Java: The Complete Reference	PPT	CO2
2	24	JDBC	Creating Query Using Java Persistent Query Language	,T-Java: The Complete Reference,R-JAVA 2 Unleashed	PPT	CO2
2	25	Bean Validation	Stateless Session Bean, Stateful Session Bean	T-Java: The Complete Reference	PPT	CO3
2	26	Bean Validation	Message Driven Beans	T-Java: The Complete Reference	PPT	CO3
2	27	Bean Validation	Containered Managed Transaction and Bean Managed Transact	T-Java: The Complete Reference	PPT	CO3
2	28	Bean Validation	Bean Validation Creating and Consume	T-Java: The Complete Reference	PPT	CO3
2	29	REST API	REST Service Using JAX-RS	R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO3
2	30	REST API	Securing REST API	R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO3
3	31	JPA	Java Persistence API for Object Relational Mapping [ORM]	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	32	JPA	Entity Class	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	33	JPA	JPA Annotation Entity Manager API For Persistence Operation CRUD	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	34	JPA	Configure One-To-One and One-To-Many Entity Relationships	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	35	JMS	Introduction of JMS	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	36	JMS	Creating Messaging Applications with JMS	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	37	MDB	Introduction to Message Driven Bean	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	38	MDB	Lifecycle of Message Driven Bean	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	39	CDI	Introduction to CDI	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	40	CDI	Implementing Contexts and Dependency Injection	T-Java Persistence with Hibernat,T-Java: The Complete Reference	PPT	CO4
3	41	NodeJS	Introduction to Node JS	,T-Java: The Complete Reference,R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO5
3	42	NodeJS	NPM and Modules	,T-Java: The Complete Reference,R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO5
3	43	NodeJS	NPM and Modules	,T-Java: The Complete Reference,R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO5

3	44	NodeJS	V8, Asynchronous Vs Synchronous Request	,T-Java: The Complete Reference,R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO5
3	45	NodeJS	Nodejs with CRUD	,T-Java: The Complete Reference,R-Introduction to Java Programmi,R-JAVA 2 Unleashed	PPT	CO5

Assessment Model			
Sr No	Assessment Name	Exam Name	Max Marks
1	24TH02	External Theory	60
2	24TH02	Attendance Marks	2
3	24TH02	Mid-Semester Test-1	20
4	24TH02	Surprise Test	12
5	24TH02	Mid-Semester Test-2	20
6	24TH02	Assignment/STP	10
7	24TH02	PBL/Case Study	10
8	24TH02	Quiz/Test	4