Course code	Course Name	L-T-P-Credits	Year of Introduction
IT409	**Web Application Development**	**3-0-0-3**	**2016**

Course Objectives

- To give insights of the Internet programming for designing and implementation
- To develop code to handle exceptions and validate data for file and database storage.
- To know usage of recent platforms used in developing web applications such as J2EE, XML ...etc.
- To impart the idea about java beans.

Syllabus

Introduction - Web architecture - web application lifecycle - XML and J2EE.Servlets, Servlets with JDBC, JDBC: Architecture - JDBC API, Java Server Pages - Using JavaBeans Components in JSP Pages, Sharing Data Between JSP pages -Passing Control and Data between Pages – Sharing Session and Application Data – Application Models - MVC Design, Enterprise -Managed Persistence (CMP) and bean managed - lifecycle of EJB - Java Message Service (JMS) and Message Driven Beans (MDB). Distributed programming services CORBA and RMI – Transaction management, Security, deployment building session beans -creating session beans - Entity beans.

Expected Outcome

The students will be able to,

1. Acquire the fundamental concepts of web systems and applications.
2. Identify the methodologies and techniques for developing web applications.
3. Get skills to develop websites.

References

1. Hans Bergsten , Java Server Pages, O'Reilly, 2003
2. Jason Hunter, William Crawford , Java Servlet Programming, Second Edition, , O'Reilly Media
3. Joseph J. Bambara, Paul R. Allen, Mark Ashnault, Ziyad Dean, Thomas Garben, Sherry Smith J2EE UNLEASHED — SAMS Techmedia
4. Roman, Scott Ambler, Tyler Jewell (ed.), Mastering EJB(2nd Edition) – Ed– John Wiley Publications, 2003.
5. Stepahnie Bodoff, Dale Green, Kim Hasse, Eric Jendrock, Monica Pawlan, Beth Stearns , The J2EE Tutorial, Pearson Education , Asia.

COURSE PLAN			
Module	**Contents**	**Hours**	**Sem. Exam Marks**
I	Introduction - Web architecture - web application lifecycle - XML and J2EE.	7	15%
	Servlets: Introduction to Servlets, Benefits of Servlets, use as controller in MVC, basic HTTP, servlet container, Servlets API, javax.servelet Package, Reading Servlet parameters, service method detail. HTML clients, servlet lifecycle		

II	Session management, dispatching requests, Servlets with JDBC, JDBC: Architecture - JDBC API	7	15%

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FIRST INTERNAL EXAM

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III	Java Server Pages: Generating Dynamic Content, Using Scripting Elements, Implicit JSP Objects. Conditional Processing – Displaying Values, Setting attributes, Error Handling and Debugging, Using JavaBeans Components in JSP Pages.	6	15%
IV	Passing Control and Data between Pages – Sharing Session and Application Data – Application Models - MVC Design	6	15%

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SECOND INTERNAL EXAM

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V	Enterprise JavaBeans : Overview, distributed programming, EJB framework, Session and entity beans, Stateless and stateful session bean, Bean attributes, Parts of a Bean. Container-Managed Persistence (CMP) and bean managed persistence.	8	20%
VI	lifecycle of EJB - Java Message Service (JMS) and Message Driven Beans (MDB). Distributed programming services CORBA and RMI – Transaction management, Security, deployment, building session beans -creating session beans - Entity beans.	**8**	20%

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END SEMESTER EXAM

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QUESTION PAPER PATTERN

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Maximum Marks: 100   Exam Duration: 3 hours

The question paper shall consist of Part A, Part B and Part C.

Part A shall consist of three questions of 15 marks each uniformly covering Modules I and II. The student has to answer any two questions (15×2=30 marks).

Part B shall consist of three questions of 15 marks each uniformly covering Modules III and IV. The student has to answer any two questions (15×2=30 marks).

Part C shall consist of three questions of 20 marks each uniformly covering Modules V and VI. The student has to answer any two questions (20×2=40 marks).

Note : Each question can have a maximum of 4 subparts, if needed