

**MC5404 WEB APPLICATION DEVELOPMENT**

DETAILED SYLLABUS

**OBJECTIVES:**

- To acquire knowledge on the usage of recent platforms in developing web applications
- To understand architecture of J2EE and design applications using J2EE, Struts and hibernate
- To understand framework of Spring, Hibernate and struts.
- To Design and develop interactive, client-side, server-side executable web applications LAMP Stack

**UNIT I J2EE PLATFORM**

Introduction -Enterprise Architecture Styles -J2EE Architecture - Containers - J2EE Technologies -Developing J2EE Applications - Naming and directory services - Using JNDI - JNDI Service providers - Java and LDAP - LDAP operations - Searching an LDAP server - Storing and retrieving java objects in LDAP - Application Servers - Implementing the J2EE Specifications - J2EE packaging and Deployment - J2EE packaging overview – Configuring J2EE packages.

**UNIT II SPRING**

Web Services - Consuming a REST full Web Service Java desktop application /JSP. Building REST Service with spring -Spring Security Architecture – Accessing relational data using JDBC with spring- Uploading Files using spring application- Validating form input – Handling form submission -Creation of Batch Service -Securing web application -Integrating Data - Accessing data with MongoDB- Creating asynchronous method-Using WebSocket to build an interactive web application.

**UNIT III STRUTS AND HIBERNATE**

**STRUTS**

Introduction to Struts – MVC framework- Struts Architecture – Business Service – Parameter Passing – Action class & configuration files – Struts.xml Tags – Namespace & Wildcards – Model Driven Action – Value stack & OGNL – Validation – Interceptors - Inbuilt Interceptors – Custom Interceptors.

**HIBERNATE**

HIBERNATE ORM-Persistence-Relational Database-The object relational impedance mismatch -Using Native Hibernate API's and hbm.xml-Using the java persistence API's Hibernate Validator – HIBERNATE OGM – configuration of tools -HIBERNATE SEARCH - Enabling full text search capabilities in entities -Indexing-Searching -Introduction to Full text search.

**UNIT IV PYTHON**

Introduction to python – Why to use python – History of python – Python IDE - Pyscripter IDE – Hello world program in python – Number & Math function – Variables & Names – String basics – String features – Conditional Statements – Functions – For & While loop – List, Tuple

& Dictionaries – File handling – Debugging elements breakpoints watch and stepin – debugging step in & step out – Debugging watch variables – class & objects – Packages & Modules – Python Pip – Python MySql – Read Excel data in python.

### **UNIT V DJANGO**

Introduction to Django-Django model layer – View layer – Template Layer – Forms – Automated admin interface – Django Security – Internationalization and localization – Django Web application tools – Core functionalities – Geographic Framework.

### **REFERENCES:**

1. Ayman Hourieh, "Learning Website Development with Django", Packt Publishing, 2008.
2. Craig Walls, "Spring in Action, 4th Edition Kindle Edition, Manning Publication, 2015.
3. Jobinesh Purushothaman, "RESTful Java Web Services" Second Edition, Packt Publishing, 2015
4. James Holmes "Struts: The Complete Reference, " 2nd Edition, McGraw Hill, 2007.
5. Jeff Forcier, Paul Bissex, Wesley J Chun, "Python Web Development with Django (Developer's Library)", Pearson Education, 2009
6. Mark Summerfield, "Programming in Python 3: A Complete Introduction to the Python Language", second edition, Pearson Education, 2010.
7. Patrick Peak and Nick Heudecker, "Hibernate Quickly", Manning Publication, 2007
8. Subrahmanyam Allamaraju and Cedric Buest, "Professional Java Server Programming (J2EE 1.3 Edition), ", Shroff Publishers & Distributors Pvt Ltd
9. Tony Dahbura, Rob Weltman "LDAP Programming with Java", Addison-Wesley Professional, 2000.