Course: MCA (A.Y.-II) 2020 **Semester:** 3

Prerequisite: knowledge of Core JAVA

Course Objective: To make the students aware of the data driven web applications, web services, MVC architecture and ORM concepts of modern web application development.

Teaching and Examination Scheme

Teaching Scheme					Examination Scheme					Total
Lecture Hrs/Week	Tutorial Hrs/Week	Lab Hrs/Week	Hrs/Week	Credit	Internal Marks			External Marks		
					T	CE	P	T	P	
3	1	2	-	5	20	20	20	60	30	150

SEE - Semester End Examination, **T** - Theory, **P** - Practical

Course Content

W - Weightage (%) , **T** - Teaching hours

Sr.	Topics	W	T
1	**Java Networking & RMI:** Introduction to networking concept, Socket, URL class, URL connection class, HTTPURL Connection, InetAddress Class, DatagramSocket class	10	5
2	**RMI** Introduction, stub, skeleton, RMI Example, implementation with database.	5	3
3	**Java FX** Introduction, JAVA FX Architecture, Application, 2D Shapes, Text, Effects, Transformation, Animation, 3D Shapes, Layouts, UI,Charts,Media with JAVAFX, Event Handling.	10	5
4	**Java Struts** Introduction, Features, Example, Interceptors: custom, params,execAndWait, prepare, modelDriven, exception,fileUpload ,value stack, ActionContext, ActionInvocation,Components, Struts architecture, struts configuration,Struts Validation	15	6
5	**Bundled validation** Registered string, stringlength, email, date, int, double, url, regex , custom validation	10	5
6	**Angular JS** introduction, Angular JS MVC, Data binding, expressions, directives, controllers, Modules, scopes, dependedncy, filters, tables, DOM, Forms, validation Angular Ajax, Animation, CRUD operation.	25	12
7	**Mongo DB** Introduction, No SQL DB, Advantage over RDBMS, Mongo DB data type, Installation, Mongo DB Data modelling, operators, commands, CRUD Opeations , Connectivity, Node JS with Mongo DB.	25	12

Reference Books

1.	**Java Server Programming Java EE6 Black Book (TextBook)** Dreamtech Press
2.	**RESTful Java with JAX-RS 2.0** By Bill Burke | O'Reilly | 2nd Edition
3.	**Core Servlets and Java Server Pages Volume-1** By Mary Hall and Larry Brown | Prentice Hall | 2nd Edition
4.	**Core Servlets and Java Server Pages Volume-2** By Marty Hall, Larry Brown and Yaakov Chaikin | Prentice Hall | 2nd Edition
5.	**MongoDB: The Definitive Guide** By Kristina Chodorow
6.	**The Little MongoDB Book** By Karl Seguin

Course Outcome

After Learning the Course the students shall be able to:

1. To design and develop data driven applications using RMI Networking.
2. develop MVC based web applications using Struts.
3. develop various kind of 2D and 3D object using Java Fx.
4. describe significance of Mongo DB.
5. develop the database for big data.

List of Practical

1.	**WAP to implement connection between client and server using socket programming**
2.	**WAP to implement RMI**
3.	**WAP to implement 2D object Using JAVA FX**
4.	**WAP to implement 3D object Using JAVA FX**
5.	**WAP to implement MVC Using Angular JS**
6.	**WAP to implement Data binding Using Angular JS**
7.	**WAP to implement Animation Using Angular JS**
8.	**WAP to implement CRUD operations Using Angular JS**
9.	**MogoDB Installation**
10.	**WAP to implement database Connectivity using Mongo DB**
11.	**WAP to implement CRUD operations Using Mongo DB**
12.	**WAP to implement NODE JS with Mongo DB**