PARUL UNIVERSITY - Faculty of IT & Computer Science

Department of Computer Application

SYLLABUS FOR 2nd Sem M.Sc. (IT), MCA (A.Y.-II) 2020 PROGRAMME

Full Stack Web Developer - I (05201293)

Type of Course: M.Sc. (IT), MCA (A.Y.-II) 2020

Prerequisite: knowledge of Core JAVA

Rationale: To make the students aware of the data-driven web applications, Testing, Designing, and database.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		External		Internal			
				T	P	T	CE	P	
3	1	2	5	60	30	20	20	20	150

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

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Java Date & Time**: Introduction, Local date, Local Time, Local dateTime, Monthday, OffsetTime, offsetDateTime, Clock, year, yearMonth, period, Duration,	5%	2
2	**Java Conversion:**: String to int, int to String, String to long, long to String, String to double, double to string, String to date , date to string, char to string, string to char, string to object, object to string , int to long, long to int, int to double , double to int, char to int, int to char, string to Boolean, Boolean to string, date to timrstamp, timestamp to date, binary to decimal, decimal to binary, hex to decimal, decimal to hex, octal to decimal , decimal to octal.	10%	5
3	**Json**:: Introduction, json vs XMl, JSON example, JSON Object, JSON Array, JSON Comments, JSON example using php, JSON example using JAVA, JSON example using AJAX	15%	7
4	**Bootstrap**: Introduction, example, container, jumbotron, button, grid, table, form, alert, wells, badge & Label, panels, pagination, pager, image, progress bar, list group, Dropdown, Collapse, tabs/pills, NavBar, Input Types, Models	15%	7
5	**Bootstrap utilities**: border, clearfix, color Icons, image replacement, invisible content, position, screen readers, sizing, spacing, star rating	10%	5

6	**Selenium**: Introduction, features, limitations, selenium vs QTP, tool suite, Selenium IDE: installation, features, test case, login test, commands, creating test cases,	10%	5
7	**Selenium Web Driver**: selenium web driver, webdriver vs RC, web driver installation, running test case on chrome, firefox, Web Driver- drag & drop, alerts, browser commands, navigation commands, radio buttons, checkbox	15%	7
8	**Node JS**: Installation on windows, example, console, REPL, NPM, CL options, globals, timer, errors, DNS, Net, Buffers, Streams, File system, path, String Decoder, Query String, event	10%	5
9	**Node JS with MySQL**: Create connection, create database, table, insert record, update, delete, select record, select unique, drop.	10%	5

*Continuous Evaluation:

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

Reference Books:

1. Java Server Programming Java EE6 Black Book (TextBook)
   ; Dreamtech Press
2. RESTful Java with JAX-RS 2.0
   Bill Burke; O'Reilly; 2nd Edition
3. Core Servlets and Java Server Pages Volume-1
   Mary Hall and Larry Brown; Prentice Hall; 2nd Edition
4. Core Servlets and Java Server Pages Volume-2
   Marty Hall, Larry Brown and Yaakov Chaikin; Prentice Hall; 2nd Edition

Useful Links:

WWW.javatpoint.com

Course Outcome:

After Learning the course the students shall be able to:

1. design and manage data driven applications using date and time.
2. develop the applications to implement logic of hardware concepts.
3. Manage various kind of bugs and errors using testing/selenioum.
4. develop effective web application using bootstrap.
5. develop the client side logic using JS.

List of Practical:

1.   WAP to implement Date and Time

2.   WAP to implement various conversion

3.   WAP to implemt JSON object and Array

4. **Installation of selenium**

5. **WAP to implement various test cases.**

6. **WAP to implement various Web Driver.**

7. **WAP to implement String Decoder**

8. **WAP to implement Query String**

9. **WAP to implement events.**

10. **CRUD Operation in Node JS with Mongo DB**