23MX15 WEB TECHNOLOGIES   3 0 0 3

INTERNET AND WORLD WIDE WEB : The TCP/IP layered architecture - Addressing in Internet: Physical and logical addresses, Concepts of IP, TCP, UDP, HTTP, URLs, DNS - Web Architecture - Web Browser - Internet vs Extranet – Web Server - Web Application and Application Security - Search Engines – Web Cache and Cookie - Web Crawlers   (11)

FRONT END DESIGN: Mark-up Language HTML5 tags- Formatting, Commenting, Code, Anchors, Backgrounds, mages, Hyper-links, Lists, Tables, Semantic Elements in HTML, Multimedia, Forms: Validating and Processing. **Cascading Style Sheet (CSS):** Introduction to CSS – Basic syntax and structure, Backgrounds, manipulating text, Margins and Padding, Positioning using CSS - web Storage – Selectors and pseudo classes – Text effects – Transitions – Layouts – Media Queries. **Bootstrap :** Use of Bootstrap in web page design.   (11)

CLIENT SIDE SCRIPTING :Javascript: Overview of JavaScript, Object orientation and JavaScript, Syntactic characteristics, Primitives, operations, and expressions, Screen output and keyboard input, Control statements, Object creation and modification, Arrays, Functions, Constructors, Pattern matching using regular expressions**. Document Object Model:** JavaScript Execution Environment, Document Object Model, Elements Access, Events and Event Handling, The DOM 2 Event Model, DOM Tree Traversal and Modification. **JSON :** Introduction - Syntax - Object Literals - Name-Value Pairs - Data Types**. JQuery :** document traversal and manipulation, event handling, animation   (12)

FRAMEWORKS AND SERVER SIDE SCRIPTING: Introduction to NodeJs - The Node.js runtime and event loop - The Node.js global object - Working with modules - Working with the file system - Asynchronous Programming in Node.js: JavaScript Callbacks and error-first callbacks – Promises - Async/await. ExpressJS : Introduction – routing and Middleware. Working with Data : Writing data to a file, Work with database using any library. (Mongoose). Debugging techniques for Node.js - Introduction to testing with Mocha and Chai   (11)

Total L : 45

REFERENCES:

1. Sasha Vodnik, " HTML5 and CSS3 Complete", Cengage Learning, 2015.

2. AchyutGodbole, AtulKahate, "Web Technologies", Tata McGraw Hill, 2013.

3. Thomas Powell , Fritz Schneider, "JavaScript 2.0: The Complete Reference", Tata McGraw Hill, 2016.

4. Greg Lim , " Beginning Node.JS , Express and MongoDB development, Greg Lim , 2020

5. Andrew Mead- Advanced Node.js Development: Master Node.js by building real-world applications, Packt Publishing,2018

Course Evaluation :

Internal marks   :   50

Internal marks = Test (20) + Tutorial (15) + Assignment Presentation (15) + 50 marks.

External (end semester) Exam marks : 50

Internal marks splitup:

Tutorial (15 marks) - 4 tutorials (may be written or lab experiment based) one for each unit will be conducted. Scores by all tutorials will be taken as Tutorial mark for 15 marks.

Assignment Presentation - Team of students to prepare contents on the given topic and present it in the class. Each student might be involved in one or more topics. This will be evaluated for 15 marks.

Tests : 2 tests scheduled by the college will be conducted on the said dates. Its average will be considered for 20 marks.