SYLLABUS

I. INTRODUCTION TO WEB DEVELOPMENT (CREDITS: 6)

Section - A

Unit I: Introduction to Web Development: Internet, IP Addresses, TCP/IP Protocol Suits, ISP and its Working, World Wide Web (WWW), Website and Domain Names, Domain Names, Web Hosting, Types of Web Hosting, Website Development Process, Static vs Dynamic Web pages, Web Development Technologies, Client Side vs Server Side Scripting: Client Side Scripting, Server Side Scripting, Common Gateway Interface, Hypertext, Hypermedia Tools and IDEs, Hypermedia Tools

Unit II: HTML Basics: Introduction, Developing Your First Web page, HTML Document Structure, HTML Tags, Comments, Formatting Tags, Lists, HTML Links, Images and Tables: Introduction, Images and Sounds, Adding Images in a Web page, Set Images Width and Height, Adding Tables in a webpage, Marquee, Form and Input types: Introduction, Marquee, Form, Complete Example of Input types and forms, iframes

Unit III: Cascading Style Sheet: Introduction, Advantages of CSS, Style, Methods of Writing CSS, External Style Sheet, Internal Style Sheet, Inline Style, CSS Syntax, Element Selector, ID Selector, Class Selector, CSS Comments, Basic Properties of CSS, Text, Border and Table Properties in CSS: Introduction, Text Properties in CSS, Border Properties, Margin Properties, Padding Properties in CSS, Table Properties, Position Properties in CSS

Section - B

Unit IV: Client Side Scripting - I: Introduction, JavaScript, Advantages and Limitations of JavaScript, JavaScript Program, External JavaScript, JavaScript Basics, JavaScript Variables, JavaScript Comments,

Unit V: Client Side Scripting - II: Introduction, JavaScript Operators, JavaScript Conditional Statements, JavaScript Loops,JavaScript Objects, Object Properties, Object Methods, Object Constructor, JavaScript and HTML Forms, JavaScript Events

Unit VI: Website Hosting: Introduction, Web Servers, Types of Web Server, Web Hosting and its types, Domain Name, Sub Domain, File Transfer Protocol, Uploading a Website: Upload using cPanel File Manager, Upload using Filezilla FTP Client

I. PRINCIPLES OF DESIGN (CREDITS: 4)

Section - A

Unit I: Graphic Design: Introduction, Brief History of Graphic Design, Graphics Around You, Communication Design, Elements of Graphic Design, Formal Elements of Design, Basic Design Elements, Lines: Types of Lines, Functions of Lines, Shape: Functions of Shapes, Texture: Functions of Texture in Design: Form, Space, Design Principles

Unit II: Colour, Basic Colour Theory: Contrast and Harmony, Colour Association, Typography: Type Anatomy, Categories of Type, Using Types (in Design)- Readability and Legibility, Laws of Gestalt and Type, Composition and Type-Visual Hierarchy Using Emphasis

Unit III: Layout: Types of Graphics Layout, The Web Layout Designs, The Goals of Layout Designs, Arranging Visual Elements, Layout Grids, The Golden Ratio ă The Compositional Tool in Layout Design, Design Guidelines For Web: Form and Space, Form and Space as Design Elements, The Gestalt Principles, Law of Pragnanz (Good Figure, Law of Simplicity), Closure, Proximity, Continuation, Similarity, Figure and Ground

Section - B

Unit IV: Web User Interface Design: Understanding the Web, What are Aesthetical Values?, What is Usability?, The Trade-off, Web Performance:Media Elements, Impact of Media Elements, Effect of Media Elements on Web Performance

Unit V: Different Types of Websites: Personal Website, Photo Sharing Website, Writer/AuthorÊs Website, Community Building Website, Mobile Device Website, Blog, Informational Website, Online Business Brochure/Catalogue, Directory Website, E-Commerce Website

Unit VI: Information Design: Web Usability, Understanding Users, Designing Techniques, Design Guidelines, Interactive Design, What is Excise, Examples of Excise in Web, Impact of Excise, Eliminating Excise through Interactivity, Significance of Eliminating Excise, Elements that Eliminate Excise

WEB PROGRAMMING – I (CREDITS: 4)

Section - A

Unit I: Introduction to Web Programming: Basic Concepts of WWW, Web page, Hyper Text Markup Language (HTML), Hypertext and Hypermedia, Hypertext Transfer Protocol, Server, Web Browsers, Uniform Resource Locator (URL), Domain Name, IP Address or Number, Characteristics of a Website, Web Programming: Client Side Scripting, Server Side Scripting, Static and Dynamic Websites, Frontend and Backend Development, Web Application Process Model, Web Programming Technologies: Programming Languages, Frameworks, Libraries, Databases

Unit II: HTML:Introduction, HTML Tags, HTML DOM, Developing a Web Page, Commonly Used HTML Tags: Header and Footer, Text Formatting, Paragraphs, Text Style, Lists and Bullets, Creating Tables in HTML, Components of table, Border Attribute, Width and Height Attribute, Align Attribute, Cell Padding and Cell Spacing Attributes, Column Span and Row Span Attributes, Inserting Images in HTML, Hyperlinks, Hyperlink of an email, Hyperlink to another browser page, HTML Multimedia, HTML Plugins, HTML Forms

Unit III: JavaScript-I: Introduction, JavaScript Syntax, JavaScript Program, JavaScript Variables, JavaScript Operators, JavaScript Data Types, JavaScript Functions, JavaScript Variable Scope: Global Scope, Local Scope, JavaScript Strings: String Length, Special Characters, Breaking Long Code lines, JavaScript Arrays: Converting Array to String, Popping and Pushing, JavaScript - II: Introduction, JavaScript Switch, JavaScript Loops, JavaScript Events, JavaScript Forms, JavaScript - III: Introduction, DOM Introduction, DOM Methods, DOM Document, DOM Events, JavaScript Window Screen, JavaScript Window Location, JavaScript Window Navigator, JavaScript Popup Boxes

Section - B

Unit IV: jQuery:Introduction, How to Use jQuery, jQuery Selectors, Element Selector, ID Selector, jQuery Events, jQuery Effects, jQuery hide() and show(), jQuery fadeIn and fadeOut methods, jQuery slideToggle method, jQuery GET / SET, jQuery Get method, jQuery Set method, jQuery Ajax, Form Validation

Unit V: AngularJS: Introduction, AngularJS Development Environment, Expressions in AngularJS, AngularJS Directives, Data Binding, AngularJS Model Modes, One Way Binding, Two Way Binding, AngularJS Controller, AngularJS Scope, AngularJS Filters, AngularJS Forms

Unit VI: Web Security: Introduction, Web Security, The Principles of Web Security, Availability, Authentication, Authorization, Confidentiality, Auditing, Integrity, Common

Client- Side Attacks, Eavesdropping Attacks, Man-in-the-Middle Attacks, Cross Side Request Forgery, UI Redressing, Session Hijacking, Cross-Site Scripting, Security Threats, SQL Injection, Form Validation and Security, CAPTCHA Role and Implementation

PRINCIPLES OF DESIGN LAB (CREDITS: 2)

The programs in lab will be based on the contents covered in the theory syllabus.

WEB PROGRAMMING – I LAB (CREDITS: 2)

The programs in lab will be based on the contents covered in the theory syllabus.