

## Multimedia and Web Technology (Code 067)

### Learning Objectives:

1. To get proficient in WEB Development using HTML/XML
2. To be able to write server & client scripts.
3. To get proficient in Web Management
4. To get proficient in creating Web Site
5. To design Graphical images using Image-Editing tools
6. To get proficient in audio & video capture and editing using software tools
7. To create and publish a self-contained multimedia CD-ROM using multimedia authoring tool
8. To develop ability to use the Open Source Technology.
9. To develop ability to localize software applications.

### Competencies:

The student will become proficient in the following:

1. Managing Self Developed web-site
2. Management of a full-fledged web portal
3. Creation & Editing of graphical images.
4. Capturing, Creating and Editing Audio and Video through external devices.
5. Embedding images & video into a presentation.

### Class XI (Theory)

Duration: 3 hours

Total Marks: 70

Unit No.	Unit Name	Marks
1.	COMPUTER SYSTEM	15
2.	WEB DEVELOPMENT	25
3.	WEB SCRIPTING	20
4.	MULTIMEDIA AND AUTHORING TOOLS	10

### Unit 1: Computer System

Introduction to Computer, Input Devices – Keyboards, Mouse, Joy stick, Mic, Camera; Output Devices – Monitor, Printer, Speaker, Plotter;

Memory Units – Byte, Kilobyte, Megabyte, Giga byte, tera byte;

Primary Memory – RAM and ROM;

Secondary Storage devices – Floppy Disk, Hard disk, CD ROM, DVD, Zip Drive, DAT Drive;

Power devices – UPS;

Software – System Software, Application Software, Utility Software;

Working on computers – switching on computer, booting computer; icons, shortcuts, taskbar, mouse pointer; typing, saving and printing a simple text file, drawing simple picture using MSPaint, using calculator option, customizing desktop, windows explorer, managing folders (creating, moving, deleting, renaming); using floppy disk drive, using CD/DVD drives; managing files (copying, moving, deleting, renaming); playing audio and video;

## **GUI Operating System**

**Important:** Students/Teachers can also perform similar operation on any operating system. It is advised that the teacher while using any one operating system, give a demonstration of equivalent features for the other operating system.

### **Windows**

General features, Elements of Desktop - Taskbar, Icon, Start button, Shortcuts, Folder, Recycle Bin, My Computer;

Start Menu: Program, Documents, Settings, Find/Search, Help, Run, ShutDown/Logoff;

Customization of Taskbar, Start menu, Display properties (Wallpaper, Font Settings, Color Settings, Screen Savers);

Program Menu: Accessories - Calculator, Notepad, Paint, Word pad, Entertainments (CD Player, Sound Recorder, Media Player, Volume Controller);

Browsers: Mozilla Firefox, Internet Explorer, Netscape Navigator;

Control Panel: Add new hardware; Add new Software, Printer Installation, Date/Time, Mouse, and Regional Settings;

### **Documentation**

Purpose of using word processing software, opening a new/existing document, closing a document, typing in a document, saving a document, print preview, printing a document, setting up of page as per the specifications, selecting a portion of document, copying selected text, cutting selected text, pasting selected text; changing font, size, style, color of text; Inserting symbol; Formatting: Alignment – Left, Right, Center; Justification;

### **Unit 2: Web Development**

WebPages; Hyper Text Transfer Protocol (HTTP); File Transfer Protocol (FTP) Domain Names; URL; Protocol Address; Website, Web browser, Web Servers; Web Hosting.

### **HTML/DHTML**

Introduction, Objectives, Introduction to Universal Resource Identifier (URI) - Fragment Identifiers and Relative URI's, History of HTML, SGML, Structure of HTML/DHTML Document, Switching between opened Windows and browser (Container tag, Empty tag, Attribute);

Basic Tags of HTML: HTML, HEAD, TITLE, BODY (Setting the Fore color and Background color, Background Image, Background Sound), Heading tag (H1 to H6) and attributes (ALIGN), FONT tag and Attributes (Size: 1 to 7 Levels, BASEFONT, SMALL, BIG, COLOR), P, BR, Comment in HTML (<! >), Formatting Text (B, I, U, EM, BLOCKQUOTE, PREFORMATTED, SUB, SUP, STRIKE), Ordered List- OL (LI, Type- 1, I, A, a; START, VALUE), Unordered List - UL (Bullet Type- Disc, Circle, Square, DL, DT, DD), ADDRESS Tag;

Creating Links: Link to other HTML documents or data objects, Links to other places in the same HTML documents, Links to places in other HTML documents;

Anchor Tag <A HREF> and <A NAME>, Inserting Inline Images <IMG ALIGN, SRC, WIDTH, HEIGHT, ALT, Image Link, Horizontal Rules <HR ALIGN, WIDTH, SIZE, NOSHADE>;

### **Web Page Authoring Using HTML**

Tables: Creating Tables, Border, TH, TR, TD, CELLSPACING, CELLPADDING, WIDTH, COLSPAN, CAPTION, ALIGN, CENTER;

Frames: Percentage dimensions, Relative dimensions, Frame – Src, Frameborder, height and width, Creating two or more rows Frames <FRAMESET ROWS >, Creating two or more

Columns Frames <FRAMESET COLS >, <FRAME NAME SRC MARGINHEIGHT MARGINWIDTH SCROLLING AUTO NORESIZE>, <NOFRAMES>, </NOFRAMES>;  
Forms: Definition, Use – Written to a file, Submitted to a database such as MSAccess or Oracle, E-mailed to someone in particular, Forms involve two-way communication;  
Form Tags: FORM, <SELECT NAME, SIZE, MULTIPLE / SINGLE> <OPTION> ... </SELECT>, <TEXTAREA NAME ROWS COLS > , , </TEXTAREA>, METHOD, CHECKBOX, HIDDEN, IMAGE, RADIO, RESET, SUBMIT, INPUT <VALUE, SRC, CHECKED, SIZE, MAXLENGTH, ALIGN>;

## **Document Object Model**

Concept and Importance of Document Object Model, Dynamic HTML documents and Document Object Model.

Cascading Style Sheets

Introduction to Cascading Style Sheet (CSS), three ways of introducing the style sheets to your document. Basic Syntax; Creating and saving cascading style sheets. <STYLE> tag. Examples showing the linking of external style sheet files to a document; Inline and Embed, <DIV> tag; COLOR, BACKGROUND-COLOR, FONT-FAMILY, FONT-STYLE, FONT-SIZE and FONT-VARIANT; FONTWEIGHT, WORD-SPACING, LETTER-SPACING, TEXT-DECORATION, VERTICAL-ALIGN, TEXT-TRANSFORM; TEXT-ALIGN, TEXT-INDENT, LINEHEIGHT,

Introduction to Margin, Padding and Border;

MARGINS (all values), MARGIN-PROPERTY, PADDIND (all values), PADDINGPROPERTY; BORDER (all values), BORDER-PROPERTY, BACKGROUNDIMAGE, BACKGROUND-REPEAT; Additional Features, Grouping Style Sheets, Assigning Classes; Introduction to Layers, <LAYER>, <ILAYER> tag;

## **eXtensible Markup Language (XML)**

XML: Introduction;

Features of XML: XML can be used with existing protocols, Supports a wide variety of applications, Compatible with SGML, XML documents are reasonably clear to the layperson;

Structure of XML: Logical Structure, Physical Structure;

XML Markup: Element Markup i.e (<foo>Hello</foo>), Attribute Markup i.e. (<!element.name property="value"> ) ;

Naming Rules: used for elements and attributes, and for all the descriptors, Comments Entity Declarations :<! ENTITY name "replacement text">;

Element Declarations: <!ELEMENT name content>;

Empty Elements: <!ELEMENT empty.element EMPTY>;

Unrestricted Elements: <!ELEMENT any.element ANY>;

Element Content Models : Element Sequences i.e. <!ELEMENT counting(first, second, third, fourth)>, Element Choices <!ELEMENT choose(this.one | that.one)>, Combined Sequences and Choices;

Element Occurrence Indicators :-Discussion of Three Occurrence Indicators

? (Question Mark)

\* (Asterisk Sign)

+ (Plus Sign)

Character Content: PCDATA (Parseable Character data) <!ELEMENT text(#PCDATA),

Document Type Declaration (DTD) and Validation;

Developing a DTD: Modify an existing SGML DTD, Developing a DTD from XML Code, either automatically or manually;

Viewing XML in Internet Explorer, Viewing XML using the XML Data Source Object.  
XSL (Extensible Style Sheet Language) or CSS (Cascading Style Sheet);

### **Unit 3: Web Scripting**

#### **VBScript**

Introduction, Adding VBScript code to HTML page, VBScript Data type-Variant subtypes, VBScript Variables: (Declaring variable, Naming restrictions, Assigning value to variables, Scalar variables and Arrays), VBScript Constants, VBScript Operators, and Operator precedence;

MsgBox: functions of message box (Prompt, Buttons, Title, Helpline, Context), Return values of MsgBox function, button argument setting.

Conditional statements: If..Then.. Else, Select case;

Loops: Do loops, While.. Wend, For.. Next, For..Each..Next;

VBScript variables: Sub procedures, Function procedures;

Using VBScript with HTML form controls, Data handling functions, String functions, Date and Times functions;

### **Unit 4: Multimedia And Authoring Tools**

Graphics Devices: Monitor display configuration, Basics of Graphics Accelerator Card and its importance;

Basic concepts of Images: Digital Images and Digital Image Representation

Image Formats :TIFF, BMP, JPG/JPEG, GIF, PIC. PDF, PSD;

Theory of design, form, line, space, texture, color, typography, layout, color harmony, unity, balance, proportion, rhythm, repetition, variety, economy, still life, light and shade, Poster Design;

Still life, colored layout, Poster Design, Designing of Books, magazines brochures, children's literature, narrative text handling, scripts in Indian Languages, picture books, comics, illustrations with photographs, scientific illustrations, conceptual illustrations, handling of assignment for the market;

Image Scanning with the help of scanner: Setting up Resolution, Size, File formats of images; image preview, Bitonal, Grey Scale and color options;

Significance of PDF- creation, modification;

Animation, Morphing and Applications

Graphic Tools: Image Editing Software (Photoshop / Coreldraw)

Basic Concepts: An Introduction, creating, Opening and saving files, Menus, Toolbox, Color control icons, Mode control icons, Window controls icons; creating new images, Image capture (TWAIN) from scanner other files;

Image Handling: Cropping an image, adjusting image size, increasing the size of the work canvas, saving an image;

Layers: Adding layers, dragging and pasting selections on to layers, dragging layers between files, viewing and hiding layers, Editing layers, rotating selections, scaling an object, preserving layers transparency, moving and copying layers, duplicating layers, deleting layers, merging layers, using adjustment layers;

Channels and Masks: Channel palette, showing and hiding channels, splitting channels in to separate image, merging channels, creating a quick mask, editing masks using quick mask mode;

Painting and Editing: Brushes palette, brush shape, creating and deleting brushes, creating custom brushes, setting brush options, saving, loading and appending brushes, Options palette;

Opacity, pressure, or exposure, paint fade-out rate, making selections, using selection tools, adjusting selections, softening the edges of a selection, hiding a selection border, moving and copying selections, extending and reducing selections, pasting and deleting selections, Image tracing (CorelDraw).

Concept of Multimedia: Picture/Graphics, Audio, Video;

Sound: Recording Sound using Sound Recorder (Capture), Sound capture through sound editing software (ex: Sound forge), Sound editing, Noise correction, Effect enhancement ;

Voice Recognition Software Philips/Dragon, MIDI Player, Sound Recorder, MONO & Stereo.

Sound File Format: AIFF (Audio Input File Format from Apple Mac) , MIDI, WAV, MP3, ASF (Streaming format from Microsoft).

Importing audio and saving audio from Audio CD.

Sound Quality: CD Quality, Radio Quality, Telephone Quality;

## **Class XI (Practical)**

**Duration: 3 Hours**

**Total Marks: 30**

### **1. Hands on Experience 15**

A topic based homepage has to be developed by each student using various commands covered in HTML and VBScript

Web page should be designed with following features.

- HTML Basic Tags (html/head/title/body/B/I/U/BR/HR)
- Anchor/Image insertion/Linking
- Tables/Frame/Form
- CSS
- XML Markup / Declarations / Element Content Model
- Element Occurrence Indicators
- Buttons/Combo Box/Check Box/Text Box using VBScript

### **2. Practical File with following case studies 10**

The practical file should be made on the following domain specific area (with supported documents and printout)

- Make a web page for Crime against Poor Community,
- Link few more pages to the developed page, containing information about Crime and Steps taken by Government. (Use HTML tags to make a Static web page)
- Use inline styling to change appearance of contents of the web page.
- Use Style sheets (embedding or linking) to change the appearance of all the pages developed in the above case.
- Enhance the above web page by providing data in sheet format.
- At this step of web page development add dynamic features such as adding time and current date to the web page
- Collect user information using forms, for registration. Display the collected user details using message box, saying thank you for registration. (Use VB Script )

### **Case Studies:**

(These case studies can also be used to experiment the concepts learned during the course. Knowledge domain: HTML, DHTML, CSS, VB Script, and Image Editing Software's)

1. Website of a student containing personal information about student such as email address, photograph, likes, dislikes, hobbies, class, school name, achievements, favorite restra, favorite tourist places, ultimate aim of life, message to mankind, role model.
2. Website of a School providing information of a school containing Moto of school, photograph of school, brief description of school, name of the principal, facilities and infrastructure, labs, sports, faculty and departments information, results and achievements of students.
3. Website of a Restaurant providing information about types of food items, brief description about each item with pictures, price list, and availability timings.
4. Website of a Travel Agency to provide the information about various tourist places, various modes of journey available, types of hotels available.

### **Note:**

- For developing the website collect real information from various sources.
- It is advised to break up the above-mentioned case studies into smaller

modules as per coverage of the course.

- Teachers can provide alternative case studies also of similar kind.

### **3. Viva Voce 05**

Five questions from topics covered in the curriculum

# Multimedia and Web Technology (Code 067)

## Class XII (Theory)

Duration: 3 hours

Total Marks: 70

Unit No.	Unit Name	Marks
1.	COMPUTER SYSTEM	05
2.	WEB TECHNOLOGIES	10
3.	WEB DEVELOPMENT	40
4.	MULTIMEDIA AND AUTHORING	15

### Unit 1: Computer System

Database Terminology: Data, Record/Tuple, Table, Database

Concept of Keys: Candidate Key, Primary Key, Alternate Key, and Foreign Key;

Database Tool: Using MS– Access, Creating and Saving Table, Defining Primary Key, Inserting and Deleting Column, Renaming Column, Inserting records, Deleting Records, Modifying Records, and Table Relationship.

### Unit 2: Web Technologies

#### Communication and network concepts

Evolution of Networking: ARPANET, Internet, Interspace;

Different ways of sending data across the network with reference to switching techniques;

Data Communication terminologies: Concept of Channel, Baud, Bandwidth (Hz, KHz, MHz) and Data transfer rate (bps, kbps, Mbps, Gbps, Tbps);

Transmission media: Twisted pair cable, coaxial cable, optical fiber, infrared, radio link, microwave link and satellite link.

Network devices: Modem, RJ45 connector, Ethernet Card, Hub, Switch, Gateway;

Different Topologies- Bus, Star, Tree; Concepts of LAN, WAN, MAN;

Protocol: TCP/IP, File Transfer Protocol (FTP), PPP, Level-Remote Login (Telnet), Internet, Wireless/Mobile Communication, GSM, CDMA, WLL, 3G, SMS, Voice mail, Application Electronic Mail, Chat, Video Conferencing;

Network Security Concepts: Cyber Law, Firewall, Cookies, Hackers and Crackers;

#### Introduction to Open Source based software

Terminology: OSS, FLOSS, GNU, FSF, OSI, W3C

Definitions: Open Source Software, Freeware, Shareware, Proprietary software, Localisation, UNICODE

Softwares : Linux, Mozilla web browser, Apache server, MySQL, Postgres, Pango, OpenOffice, Tomcat, PHP, Python

Websites: [www.sourceforge.net](http://www.sourceforge.net), [www.openrdf.org](http://www.openrdf.org), [www.opensource.org](http://www.opensource.org), [www.linux.com](http://www.linux.com), [www.linuxindia.com](http://www.linuxindia.com), [www.gnu.org](http://www.gnu.org), [www.i18n.com](http://www.i18n.com)

**Multimedia Application:** Education ( use of CAI tool ), Entertainment , Edutainment , Virtual Reality, Digital Libraries , Information Kiosks, Video on Demand , Web Pages Video phone , Video conferencing and Health care.

### Unit 3: Web Development

Review Of HTML/DHTML, VBScript covered in Class XI.

Installation and Managing WEB-Server: Internet Information Server (IIS) / Personal Web Server (PWS).

Active Server Pages (ASP): Concept of ASP, features of ASP, other equivalent tools – JSP, PHP;

Constants: String and Numeric;

Data types: Integer, Floating Point (Single, Double), String, Date, Boolean, Currency, Variant, Object;

Variables: Explicit and Implicit Declaration;

Operators:

Arithmetic: +, - (Unary and Binary), \*, /, \ (integer division) mod, ^;

Comparison: <, >, <=, >=, <>, =;

Logical: AND, OR, NOT, XOR, EQV, IMP;

String Operator: & or + (for Concatenation);

Functions:

Conversion functions: Abs(), CBool(), CByte(), CInt(), CStr(), CSng(), CLng(), CDate();

String Manipulation Functions: UCase(), LCase(), Len(), Left(), Right(), Mid(), LTrim(), InStr(), RTrim(), LTrim();

Time & Date Functions: Date(), Day(), Hour(), Left(), Len(), Minute(), Month(), Monthname(), Now();

Arrays: Declaration and use of 1 dimensional and 2 dimensional arrays;

Controls: IF..THEN, IF..THEN..ELSE..END IF, IF..THEN.. ELSEIF..THEN.. END IF, SELECT..CASE..END SELECT, FOR..NEXT, FOR EACH.. NEXT, DO WHILE..LOOP, DO.. LOOP WHILE, DO UNTIL . LOOP;

Procedures and Functions, Passing parameters/arguments;

Concept of object model structure (client to server and server to client);

Objects: Properties, Methods, Events, Setting Object properties, Retrieving Object properties, calling objects/methods;

Types of Objects: Response, Request, Application, Session, Server, ASPError;

Response Object: Write Method, AddHeader, AppendToLog, BinaryWrite, Using Shortcuts <%=value/expr%>, Controlling information: Buffer, Flush Clear, End;

Request Object: Request Object Collection: QueryString, Form, ServerVariables, Cookies, ClientCertificate;

Application : Contents, Lock, Unlock, Remove, RemoveAll;

ASP Components: AD Rotator, Content Rotator, Counter, Page Counter, Permission Checker;

Text Files: Open and Read content from a text file;

Elementary Database Concepts: Concept of Table/Relation, Relationship, Candidate Key, Primary Key, Alternate Key, Foreign Key, Connecting with Databases: Creation of DSN, using OLE DB.

Working on Database: Inserting, Retrieving, Modifying/Updation of records from Tables in Databases using server objects (ADODB. Connection, ADODB. Recordset);

Server Variables: HTTP\_User\_Agent, REMOTE\_ADDER, REMOTE\_HOST, SERVER\_NAME;

## **Unit 4: Multimedia and Authoring Tools**

**Movie File Formats:** AVI, MPEG, SWF, MOV, DAT;

Movie Frames: Concept of Frame, Frame Buffer, and Frame Rate;

Authoring Tools; Making Animation, Embedding Audio/Video, and Embedding on the web page;

### **Multimedia Authoring Using Macromedia Flash**

Making of Simple Flash Movie, Setting Properties, Frame Rate, Dimensions, and Background Color;

Scene: Concept of Scene, Duplicate Scene, Add Scene, Delete Scene, and Navigating between Scenes;

Layers: Concept of Layer, Layer Properties, Layer Name, Show/Hide/Lock layers, Type of Layer - Normal/Guide/Mask, Outline Color, Viewing Layer as outline, Layer Height, Adding/deleting a layer;

Frame: Concept of Frame;

Creating a Key Frame, Inserting Text Into the Frame, Inserting Graphical Elements into the frame, Converting Text/Graphics to Symbol, Inserting Symbol into the Frame, Setting Symbol Property (Graphics/Button/Movie), Inserting Blank Frame, Inserting Blank Key Frame, Inserting Key Frame into the Blank frame, Selecting all/Specific frames of a Layer, Copying/Pasting selected Frames,

Special Effects: Motion Tweening, Shape Tweening, Color effect, Inserting Sound Layer; Testing a Scene and Movie;

Import/Export (Movie/Sound and other multimedia objects)

Publishing: Publishing A Flash Movie; Changing publish Settings; Producing

SWF(Flash Movie), HTML page, GIF image, JPEG Image (\*.jpg), PNG Image, Windows Projector (\*.exe), Macintosh Projector (\*.hqx), Quick Time (\*.mov), Real Player (\*.smil);

Testing with Publish Preview

# **Multimedia and Web Technology (Code 067)**

## **Class XII (Practical)**

**Duration: 3 Hours**

**Total Marks: 30**

### **1. Hands on Experience (15)**

A website based on a particular topic has to be developed by each student using various commands covered in HTML, VBScript and ASP with at least 4 web pages.

Web page should be designed with following features.

- HTML Basic Tags (html/head/title/body/B/I/U/BR/HR)
- Functions
- Conditional and Control Statements
- Objects: Response/Request / Application
- /Session /Server /ASP error
- Image Editing using Photo Shop /Corel draw
- Merging layers /Moving and Copying Layers
- Use of Multimedia Authoring (Using Macromedia Flash)

(Note: Output as Web page/Flash Movie/Windows Projector/Quick Time)

### **2. Practical File (05)**

**The practical file should be made on the following domain specific area (with supported documents and printout)**

- Make a Simple web page containing almost all the tags of HTML.
- Develop a Home page for Income Tax department (Simple and Textual) and store it in the directory used for Web Services on the Web-Server.
- View that web page on the Browser.
- Enhance the home page by providing links to other sample pages (e.g. Income Tax Zone, Income Tax Detail Form for an individual, Income Tax Notification, Income Tax News etc.)
- Embed Time and Date on the home page.
- Further enhance the website by providing User Registration Page. Collect the user details and Display a new web page showing Thanks For Registration. Also write appropriate functions to validate form inputs.
- Give a login facility to the user with Anonymous name and maintain the session till the User logs out.
- For user log in attempts, maintain a visitor count.
- Change the login module of the web page and now connect it to the IncomeTaxUser database on the server. This is to be done to store the registration detail and facilitate login to the user.
- The login page is to be made in a way that it should also provide facility to change password, if user forget password.
- Store some of the created or edited sound files on the Web-Server and provide links to play it.
- Change the appearance of the web page using pictures at appropriate places (e.g. Logo of Income Tax Department, Photograph of Income Tax Building etc.)
- Visit websites (State Govt./ Local language newspaper) and get 5 different printouts in local language.

(Note: Student can also improve the case studies from class XI and enhance it further with database and multimedia support)

### 3. Projects (05)

**Case Studies are to be divided into following parts:**

#### **Case study Part 1(Collection, Editing and Creation of Website Resources):**

Create an electronic movie with various pictures, audio clipping, movie clippings, and factual text related to school / organisation;

- Introduction to 3D Animation (Using 3D Studio)
- Embedding video and audio in web pages.
- An introduction to interactive walk-through.
- Embedding walk-through into web pages.

#### **Case Study Part 2(Development of Web Content with resources):**

Case studies covered in class XI with database support with Login, Online Registration, Booking and/or ordering facility.

#### **Sample Case Study**

(Note: Other similar type of case studies can also be used for the project work)

Mr. Verma is the CEO of *copsi* soft drinks (I) Ltd. His company is having a wide network of distributors for *copsi* branded soft drinks. With the increase in sales and distribution network, it is required to adopt a new technological intervention in the existing system. He wants that the company should have a global presence over the widely popular medium, called World Wide Web. Assume that you are appointed as the senior person of the development team. You are required to collect the company information and its current requirement. For your easiness we had collected the details of the company and are as follows:

#### **The company Information:**

**Name of the Company:** *copsi* soft drinks (I) Ltd.

**Zone:** East, West, North and South

**Distributors:** All over the world.

Mr. Verma said that the web site should be able to reflect company in terms of :

- Home Page
- Product & Promotion Page
- Distributor Login Page / Password Recovery Page
- Distributor Specific Details Page
- Registration Page for Distributor-ship
- Company News and Flashes
- Company Profile

#### **Technical Details:**

Web site Introduction is to be made in flash.

A proper database is to be maintained for the distributor information.

#### **Note:**

- For developing the above sites/movies collect the actual information from various sources.
- It is advised to break up the above-mentioned case studies into smaller modules as per coverage of the course.
- Teachers can provide alternative case studies also of similar kind.

### 4. Viva Voce (05)

Five questions from topics covered in the curriculum

## Reference Books

- HTML Complete – Sybex (BPB)
- Mastering HTML 4 Premium Edition – Ray (BPB)
- HTML Example Book – Farrar (BPB)
- Mastering WEB DESIGNING – Maccoy (BPB)
- Inside Adobe Photoshop 6 – Bouton (BPB)
- Multimedia on the PC – Sinclair (BPB)
- Multimedia Magic – Gokul, S (BPB)
- Mastering CorelDraw 9 – Altman (BPB)
- CorelDraw 9 – Training Guide – Lotia, M (BPB)
- Learn Advanced HTML with DHTML – Ramalho (BPB)
- Effective Web Design – Navarro (BPB)
- Web Enabled Commercial Application Development Using HTML, DHTML, JavaScript, Perl CGI – Bayross (BPB)
- ASP, ADO and XML Complete – Sybex (BPB)
- Mastering Active Server Pages 3 – Russell (BPB)
- Practical ASP – Bayross (BPB)
- Inside Flash 5 – Kea thing (BPB)
- MP3 Complete – Hart (BPB)
- Multi Platform Wireless Web Application (IDG)
- VBSCRIPT Interactive Course: Waite Group – Simon (BPB)