

Information Technology-Science (97)

Introduction

Government has to visualize Schools which will concentrate on a balanced development of students in intellectual, emotional and physical terms, with a view to developing a technology literate, creative, and critically thinking class of students to open the doors to the world of knowledge.

The curriculum has been devised to integrate a wide variety of knowledge, language, value elements and skills such as creative and critical thinking, personal, social, scientific, mathematical, and environmental and knowledge acquisition.

In order to execute these dreams we have to develop the relevant infrastructure. We should carry out a substantial reinvention and re-engineering of educational sector. Our existing curricula in educational institution in respect of computer courses have to be thoroughly revamped. Internet connectivity should be provided to all Schools. Recognized aided and unaided Educational Institutions should ensure that the entire student community, irrespective of subject chosen should become computer literate. IT should be the integral part of education system.

Objectives

The student should be able to

1. acquire basic knowledge of Computers.
2. acquire basic knowledge of Information Technology.
3. understand E-Commerce and related concepts.
4. understand concepts in Multimedia.
5. develop capabilities to access Information using Internet.
6. learn the basic concepts of Computer Networking.
7. develop an understanding of principles based on visual environment.
8. acquire skills for creation of Basic Web Pages.
9. acquaint with basic techniques and knowledge required for computing applications.
10. get aware about cyber laws and ethics.

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1 Introduction to Information Technology

- 1.1 Information Technology: Definition, Introduction, Information Systems, Software, Data
- 1.2 IT in Business, Industry, Home, Play, Education, Training, Science and Engineering.
- 1.3 Computers in Hiding

2 Office Suite

- 2.1 Word Processor- Microsoft Word and its main features
- 2.2 Spreadsheets – Microsoft Excel and its main features
- 2.3 Presentations – Microsoft PowerPoint

3 Multimedia

- 3.1 Multimedia-Definition, Communication, Components, Building Blocks, Scope, Uses, Application purposes



- 3.2 Overview of Computer Images
- 3.3 Digital Audio
- 3.4 Overview of Video
- 3.5 Flash – Overview and Introduction
- 3.6 Multimedia Design and Future Directions
- 4 Web Browsers, E-mail Clients and Messenger Utilities**
 - 4.1 Overview, Working of the Internet and WWW
 - 4.2 Role of Web Servers, Clients
 - 4.3 Web Browsers and their use, Popular Web Browsers
 - 4.4 E-Mail Servers and Protocols
 - 4.5 E-mail Clients and Web Based Mail Access using Browser
 - 4.6 Messenger Services and Clients
 - 4.7 FTP
- 5 Introduction to Networking**
 - 5.1 Communication and Network Technologies
 - 5.2 Internet, Network Communication and Protocols
 - 5.3 Transmission Media, Communication over Wires and Cables, Wireless Communication and Standards
 - 5.4 Network Architecture, Relationships and Features
 - 5.5 Cable Topologies
 - 5.6 Network Hardware
- 6 Visual Basic.net**
 - 6.1 Introduction to .NET framework
 - 6.2 Introduction to the Visual Studio/ Visual Basic IDE
 - 6.3 Console and Windows applications
 - 6.4 Introduction to Visual Basic.net Syntax
 - 6.5 Selection and Iteration Statements
- 6.6 Arrays and enumerations
- 6.7 Introduction to Windows forms, MessageBox and InputBox
- 6.8 Handling keyboard and mouse events
- 6.9 The Control Class Controls
- 6.10 Library functions
- 6.11 Simple programs based on all the above
- 7 HTML**
 - 7.1 Uses, Features, Properties and Limitations.
 - 7.2 Tags and Attributes, Basic Tags Paragraph and Heading Tags, Comments
 - 7.3 Ordered and Unordered Lists and Related Tags, Nested Lists
 - 7.4 Anchor Tag and Hyperlinks in HTML
 - 7.5 Division and Physical Style Tags, working with Fonts, font types, sizes and colours.
 - 7.6 Body background colour, text colour and hyperlink colours, Pre-formatting, Line Break, and Horizontal Rules, Displaying special characters in HTML
 - 7.7 Images in HTML, related tags and attributes, features of BMP, JPG and GIF Raster image formats.
 - 7.8 Tables in HTML and related tags.
 - 7.9 Marquee
 - 7.10 Java Applets
- 8 Introduction to JavaScript**
 - 8.1 Limitations of plain HTML
 - 8.2 Difference between Java and JavaScript, JavaScript as a scripting language
 - 8.3 JavaScript Basic Syntax
 - 8.4 Insertion of JavaScript in HTML
 - 8.5 JavaScript built-in function



- 8.6 Selection and Iteration in JavaScript.
- 8.7 Built in Object Properties and methods related to Array
- 8.8 Strings Math and Date
- 8.9 Simple HTML programs using JavaScript

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Practical List

1. Identification of Computer Systems and understanding LAB setup.
2. Exercise on Windows, Start Menu and Accessories.
3. Creating Documents, page formatting, use of fonts and colour and printing using Word
4. Mail merge and envelope printing using Word
5. Study of Spreadsheet using Excel
6. Microsoft Access: Creation of a Simple Table having at least 8 different types of fields and creation of Form to fill up data in the same.
7. Practical on simple Flash based animation
8. Study of a Web Browser for browsing different websites
9. Acquisition of e-mail ID on free web-based e-mail servers; sending and receiving emails with and without attachments.
10. Study and use of search engines and messengers.
11. Downloading and saving Web page content and images as files.
12. Simple Visual Basic. NET Program using Toolbox
13. Use of built in functions and event driven programming in Visual Basic. NET
14. Create a simple WEB page using basic

- HTML tags.
- 15. Creation of WEB page containing graphics and table.
- 16. Use of Hyperlinks on WEB pages.
- 17. Simple Practical in JavaScript using Selection Structure
- 18. Simple Practical in JavaScript using Iteration Structures
- 19. Simple exercise in JavaScript– to create an interactive Web Page using JavaScript.

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1 Web Publishing

- 1.1 HTML Page Frames
- 1.2 Image Mapping
- 1.3 Forms and Form Objects
- 1.4 Inserting Sound and Video
- 1.5 Use of Unicode and Indian Language Fonts
- 1.6 Cross-Browser Testing
- 1.7 Introduction to CSS
- 1.8 Web Server

2 Cyber Laws and Ethics

- 2.1 Moral, Ethics and Law
- 2.2 Ethics Culture and ethics for computer users, professionals and business
- 2.3 Information Service
- 2.4 Code and guidelines of ethics
- 2.5 Introduction to cyber laws and IT Act of India 2000
- 2.6 Digital Signature, Electronic Records- Attribution, acknowledgement and dispatch.
- 2.7 Ten Commandments of Computing
- 2.8 Security, Privacy and Control.
- 2.9 Intellectual Property Rights

3 E-Commerce

- 3.1 Electronic Commerce-Scope, Definition



- 3.2 Trade Cycle
- 3.3 Electronic market - Usage, Advantages and Disadvantages, Future
- 3.4 Electronic Data Interchange- Definition, Benefits
- 3.5 Internet Commerce, e-Commerce in Perspective
- 3.6 EDI Security
- 4 Client Side Scripting using JavaScript**
- 4.1 Difference in Client and Server Side Scripting
- 4.2 JavaScript as universal Client Side scripting language.
- 4.3 The Document Object Model
- 4.4 JavaScript events and event handling
- 4.5 Simple JavaScript programs
- 5 ASP.NET (using Visual Basic.NET)**
- 5.1 Introduction and Use of Web Applications, introduction to .net framework
- 5.2 Introduction to ASP.net
- 5.3 Introduction to the Visual Studio 2008/2010 IDE and Source View Control Class
- 5.4 Web Server Controls
- 5.5 HTML Server Controls
- 5.6 Validation Server Controls
- 5.7 Components and Applications
- 5.8 Introduction to Applications and State Management.
- 6 Database Concepts and interaction with ASP.NET**
- 6.1 Microsoft Access Table Relationships, Queries and Query types
- 6.2 Introduction to Reports
- 6.3 Introduction to SQL and comparison with Access.
- 6.4 Introduction to data Access with ASP.NET
- 6.5 Connected Data Access and Disconnected Data Architecture, ADO.NET Objects
- 6.6 The AccessDataSource Control, its properties and use.

Std. XII - Practical List

1. Creation of a Website
2. Creation of a Website with Frames and CSS
3. Hyperlinks on a Web Page using Client Side Image Mapping
4. Hyperlinks on a Web Page using Server Side Image Mapping
5. Use of Audio and Animation on Web Pages
6. Use of Video on Web Pages
7. Creation and Publishing a Website using FTP
8. Cross Browser Testing and Differences in Rendering
9. Creation of Webpage in Devnagri Script (Marathi or Hindi) using UNICODE. Use MS-Word with BarahaIME and Save as html
10. ASP.NET code to display a report of client IP Address, Browser etc.
11. ASP.NET code to display Server Side Time along with client-side script to display Client Side Time.
12. ASP.NET code to calculate the number of days a person has lived on basis of the Date of Birth/the number of days left before the next occurrence of select dates



13. ASP.NET code to display contents from a Text File
14. ASP.NET code to display Hit Counter/ Number of Votes cast
15. ASP.NET code that accepts data, and puts the same into a Database/ that verifies username and password from a Database
16. Creation of a database and ASP.NET code that allows a user to view relevant information from the same/ Use of database and ASP.NET code that allows a user to view as well as edit information
17. Use of Event Driven Client Side JavaScript
18. Use of JavaScript for Validation of Amount and Pin code/Telephone number
19. Use of JavaScript for Validation of Username and Password
20. Use of JavaScript for Validation of Date/ E-mail address

Note:

The practicals mentioned above must be strictly carried out by students as per Practical Slips prepared and printed by the Board for the Subject of Information Technology – Science. Colleges must obtain a set of the slips from the Divisional Board Office.

