

Class - 12

Computer Applications

(Humanities)



General Education Department

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Chapter 1**INTRODUCTION TO PUBLISHING****Overview**

This chapter discusses the ways in which content can be presented attractively. The different press related processes and post press activities in printing are also discussed. The recent developments in electronic publishing and types of electronic publishing are explained. A brief description about e-book readers are also included.

Focus Area

- DTP Software
- Elements of design
- Principles of design
- Electronic publishing (Web based, Digital distribution)

Publishing – The creation, compilation and mass reproduction of graphic and text images making information available to the public.

Eg: Books, newspapers, notices, etc.

Publishing can be classified into Print media and Electronic media.

Stages of Publishing

Pre-press - Making the document ready for printing.

Printing - Actual printing happens inside a press.

Post press - Include binding, cutting, etc.

DTP -Desk Top Publishing

It is the creation of page layouts for documents using DTP software.

Eg: Scribus, Adobe InDesign, QuarkXPress, etc.

Designing

Designing is the arrangement of visual elements in a page.

Elements of design

Line: To divide space and to draw the attention. Direction of a line conveys mood.

Shape: Used to emphasize a portion of a page.

Colors: Create mood. It is applied to elements or background.

Space: Three dimensional volume. Creates the feeling of actual depth.

Typography: It is the art and technique of arranging letters to make the document readable and beautiful.

Two styles of fonts are,

Sans serif – Fonts without feet (Eg: Arial, Thahoma and Verdana)

Serif- Fonts with a little feet (Eg: Times Roman, Garamond and Palatino)

Principles of design

Principles are concepts used to organise or arrange the elements of design.

Balance: Distribution of visual weight of objects.

Balance is *formal* when both sides are equal and *informal* when both sides are not equal. Informal balance is more dynamic.

Repetition: Repetition with a pattern makes the artworks look active. It can give the work a sense of motion. Repetition can be *with variation* and *without variation*.

Contrast: It is the association of opposite elements like colors, direction etc. to highlight key elements.

Harmony: Presentation of visual elements that is related and complementary to each other.

Unity: It is the relation of design elements with the idea. It also refers to visual linking of various elements.

Dominance: Gives emphasis. It raises interest and reduce confusion.

Electronic publishing

It is the digital publication of e-books, magazines and the development of digital libraries and catalogues. It is also called e-publishing or digital publishing.

Advantages of electronic publishing

- No need of paper and ink.
- Low cost.
- Anyone can publish with basic knowledge of internet.
- Vast audience.

Two types of electronic publishing are:

1. **Web based:** Web (Online) publishing is the process of publishing the content on the Internet . User can browse and read.

Eg: wikipedia, online newspapers, blog etc.

2 **Digital distributions:** Published documents are downloadable and can be read using e-reading devices. Eg: e-books, e-journals etc.

e-book reader: A device used for reading e- books and digital periodicals.

Advantages of e-book readers are portable, better readability and longer battery life.

Eg: Amazon Kindle, Apple iPad, etc.

Expected Questions

1. Briefly explain DTP software with example.
2. Prepare short note on elements of design.
3. Which are the principles of design?
4. What is Typography?
5. What is electronic publishing? List the classification of electronic publishing?
6. What are the advantages of using e-books?
7. Observe the following pair and identify the relationship

Line: Divides the space

Now, select the pair from the following that has the same relationship.

a) Shape: Arranging Letters.

- b) Colour: Emphasis a portion.
- c) Space: Three dimensional volume.
- d) Typography: Creates the mood.

8. Read the following statements

- Balance is the distribution of the visual weight of objects, colours, texture and space.
- Repetition creates unity within the artwork.
- Contrast is the association of opposing elements like opposite colours, tone, direction, etc.
- Harmony is the visually satisfying effect of combining similar, related elements.

Choose the most appropriate answer from the following.

- a) Statements i and ii are correct
- b) Statements i and iii are correct
- c) All statements are correct
- d) All statements are wrong.

Chapter 2

INTRODUCTION TO WORD PROCESSOR

Overview

This chapter introduces a type of software called word processor that helps to perform prepress activities when the text material is ready. In this chapter the features of word processors are discussed. LibreOffice Writer software is introduced here and its various features like editing, formatting and printing are discussed.

Focus Area

- Features of a word processor.
- Short-cut keys (New, Save, Open, cut, copy, paste, undo, print)
- Navigation keys
- Header and Footer
- Comparison of cut-paste and copy- paste.
- Drop Caps.

Word processor: It is an application software tool or package used to create documents.

Document is a file that contains text or images

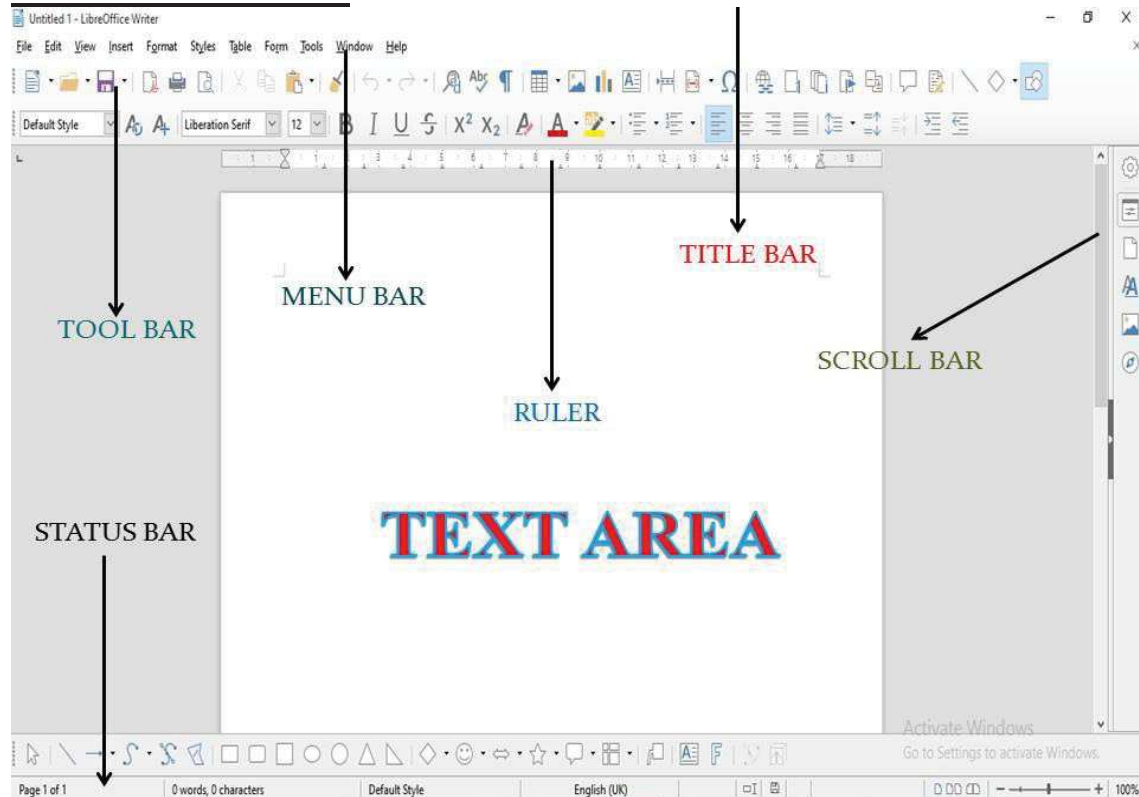
Eg: LibreOffice Writer, Microsoft Word, AbiWord, etc

Features of word processor

- **Quickness**- Easy creation of a new document and manipulation of the content. Tools are available for speedy typing, editing and formatting. Document files can be saved, retrieved and printed quickly and easily.
- **Word wrapping**: The automatic placement of word not fitting in a line to next line.
- **Editing features**: Editing processes like insertion, deletion, copying etc. can be done easily.
- **Drawing and graphics**: Tools are available for drawing shapes and figures. Pictures can be inserted.

- **Formatting:** Provides character formatting, paragraph formatting and page formatting. Formatting the content makes a document more legible and beautiful.
- **Header, footer and page number:** Provide features to include header, footer and page number. *Header* is the common text appearing at the top of all pages and *Footer* is the common text appearing at the bottom of all pages.
- **OLE- Object Linking and Embedding (OLE)** helps to include other software objects like images, charts, equations etc.
- **Spell check and grammar checking:** Helps automatically to identify any spelling or grammatical error in the document.
- **Mail merging:** Helps to print many documents with same content to different address.
- **Index and Table of Content:** Index includes important terms or words appearing in the document. Table of Contents contains the main headings and sub headings appearing in the document. Both can be easily created using word processor.
- **Templates:** Templates are predefined document formats available with the software.

Libre Office Writer



IDE

Components IDE	
Title bar	It shows the name of document, name of software and control buttons.
Menu bar	It contains the available menus in the software. File, Edit, View, Insert, Format, etc.
Tool bar	It contains the shortcut commands in the form of buttons.
Scroll bars	Helps moving up and down or left and right through the document window. There are 2 scroll bars-vertical and horizontal.
Ruler	Helps to change the left and right margins of the document. There are 2 ruler bars- one at the top and the other at the left side.
Status bar	It displays page number, column and line number where the cursor is located, the selected language etc.
Text Area	At this area we type the text matter of the document to be created.

Short-Cut keys	
Ctrl+N	Creates new document.
Ctrl+S	Saves a document.
Ctrl+O	Opens an existing document.
Ctrl+X	Cuts selected text/graphics.
Ctrl+C	Copies selected text/graphics.
Ctrl+V	Pastes the selected text/graphics that is copied or cut.
Ctrl+Z	Undo an activity.
Ctrl+P	Prints the document.

Navigation: Moving from one point to another in a document.

Navigation keys	
Arrow keys	To move cursor to very next character.
Home	To move cursor to the beginning of the current line.
End	To move cursor to the end of the current line.
page up	To place the cursor one screen size up.
page down	To place the cursor one screen size down.
Ctrl+>	To move cursor to the beginning of the next word.
Ctrl+<	To move cursor to the beginning of the previous word.
Ctrl+home	To move cursor to the beginning of the document.
Ctrl+End	To move cursor to the end of the document.

Cut-Paste	Copy- paste
1. Doesn't duplicate text	1. Duplicates text
2. Presents only at the destination	2. Presents at both the source and the destination
3. Moves the text	3. Copies the text

Indentation - Indent refers to the distance between text boundaries and page margin. There are mainly four types of indents.	
1. Positive Indent	Text is placed a little inward from the margins.
2. Negative Indent	Text is placed outward from the margins.
3. First line Indent	First line of the selected paragraph is placed a little inward .
4. Hanging Indent	Text other than the first line is moved little inward .

Drop Caps: The first letter in a paragraph takes the height of two or more lines.

Page Orientation: Refers to whether the text is to be printed length-wise or width-wise. Two types of page orientation are,

Portrait: Text is printed or typed length-wise

Landscape: Text is printed or typed width-wise

Questions

1. Name the two toolbars seen in the Writer IDE.
2. Explain the features of LibreOffice Writer IDE window. (March 2019)
3. Write the main components of LibreOffice Write IDE window.
4. Write the use of Home key. (March 2020)
5. What is the use of End Key? (March 2020)
6. What are the keys used in Navigation? (March 2017, March 2019)
7. What is meant by paragraph indentation? What are the different types of indentation? (March 2016, March 2018, March 2020)
8. Explain the Drop Cap feature. (March 2017, March 2019, March 2020)
9. What is the difference between Save and Save as... commands?
10. What is the difference between Cut-Paste and Copy-Paste functions?
11. What is meant by indentation?
12. What are the two types of page orientations in Writer?
13. Distinguish between first line indent and hanging indent.

Chapter 3

CREATING PROFESSIONAL DOCUMENTS

Overview

This chapter explores the powerful features of Writer to prepare professional documents. It includes various features like inserting graphics, drawings, drop caps, symbols and watermarks in the documents. Creating and managing tables, converting the text data directly into a table, spellcheck and grammar check, using equation editor, multi column style to the document matter, generating table of contents for the documents, defining index entries, use of mail merge features etc. are discussed in this chapter.

Focus Area

- Tables(Creating a table, Borders to tables, Managing tables)
- Inserting graphics(Adding an image, Using drawing tools, Inserting charts)
- Inserting page borders
- Inserting watermarks
- Converting text to table
- Splitting text into columns
- Mail merge.

Tables

Table is an arrangement of data in the form of rows and columns. There are 3 ways to create tables.

1. Click on **Table** icon in the Standard Toolbar



or

2. Table Menu → Insert table

or

3. Ctrl+F12

Insert Table dialog box appears → Enter Table name → number of columns and rows
→ Click **Insert** button

The following options are also available.

Don't split table over pages: Prevents the table from spanning to more than one page.

Auto format button: Gives a set of predefined table styles.

Applying border to table: Table → Table properties → Table format dialog box.

Set border, line style, width and colour.

Managing Tables

- **To change width of column and row:** Click and drag using mouse at boundary

- **Inserting**

✓ New Row- Table→Insert→Rows

✓ New Column-Table→Insert→Columns

- **Deleting**

Table→Delete→Rows/Columns

- **Merging rows/columns:** Combining the selected cells into single cell is called merging.

Table →Merge cells or (Right click on the cell, Cell→Merge)

- **Splitting Rows/Columns:** Table→Split Cells or (right click in the cell, Cell→Split)

Select vertically or horizontally in the Split Cells dialog box.

Inserting Graphics

There are 3 basic types of graphic content that can be inserted in a document.

1.Adding an image:

- Insert→Image→From file. OR
- **Image icon** in the standard tool bar

2. Using Drawing tools

If it is not present in the current window, it can be added by clicking

(View → Toolbars → Drawing)

Some important tools in Drawing Toolbar are,

Line tool : To draw straight lines

Rectangle and Ellipse Tool : To draw rectangles and

ellipses Free form Tool	:	To draw freehand figure
Text tool	:	To insert textbox
Basic shapes, Symbol shapes, Block arrows, flow charts, callouts, stars .	} :	To create shapes in these categories.
Font work gallery tool	:	To create graphical text art objects
Extrusion on/off	:	To give 3D effect for selected object

3. Inserting charts

Steps:

- Select the table
- Insert→Object→Chart→Chart wizard,
Select the chart type, Data range, Data series and Chart elements.
- Click Finish button.

Inserting page border

- Format→Page→Page Style dialog box →Border tab
Select Border style, Line style, Width, Color and Distance between boarder line and content.

Exporting to Pdf & Inserting Water marks

- File→Export as PDF→Type Water mark→Export

Water mark: This is lightly coloured text or graphics in the background of a document.

Converting text to table

- Select the text matter.
- **Table→Convert Text to Table.**
- Select the column separator.
- Click OK

Splitting text into columns

- Select the matter.
- **Format→Columns.**

- Select No of columns, width of columns, spacing, Separator lines etc.
- Click OK.

Mail merge: To create letters, mailing labels and envelopes by linking a main document to a set of data.

Tools → Mailmerge Wizard

Steps

1. Select starting document
2. Select document type(letter or e-mail)
3. Insert address book
4. Create salutation
5. Adjust layout
6. Edit document
7. Personalise
8. Save, Print or Send

Questions

1. is an arrangement of data in the form of rows and columns.
2. Table icon is intoolbar
3. Short cut key to create a table is.....
4. A is the intersection of a row and a column.
5. What is the use of Autofit feature?
6. Combining the selected cells into single cell is called.....
7. What is auto format feature?
8. Explain two ways to create a table.
9. Write the steps to apply border to a table
10. What is the use of 'Don't split table over pages' in insert table dialog box?
11. Write the steps to split a row or a column.
12. Write the steps to merge cells.
13. Write the two ways to set width of column or row in a table.

14. is used to give 3d effect for an object
15. tool is used to draw freehand figures
16. What is the use of Font work gallery tool?
17. Write the procedure to view the drawing toolbar (if it is not present).
18. Write the steps to add an image in word document.
19. List out four drawing tools in Libre Office Writer.
20. What is watermark?
21. Write the steps to convert text to table.
22. Write the steps to insert a chart in word document.
23. How can we insert watermark in a word document?
24. Write the steps to give border to a table.
25. Write the steps for mail merging.

Previous year's questions

1. (a) What is the use of mail merge ? (2) [Say 2020]
(b) Explain the steps involved in mail merge. (3)
2. Which short-cut key is used for inserting a table in Writer ? (1) [MAR.2020]
(a) Ctrl + S (b) Ctrl + F12 (c) Shift + F12 (d) Ctrl+C
3. What is watermark? (2)[MAR.2020]
4. How do you convert text data directly to a table in Writer Software? (2)[MAR.2019]
5. Following are the steps of Mail Merge Process in Writer Software. (3)[MAR.2019]
Arrange them in proper order:
 - Adjust layout
 - Select document type
 - Create Salutation
 - Edit documents
 - Select starting document
 - Insert address block
 - Save, Print or send
 - Personalize document

Chapter 4

WEB TECHNOLOGY

Overview

This chapter presents an overview of communication over the Internet and the role of web servers in it. The different tools and technologies that are available for developing websites are introduced here. The concept of dynamic web pages and an overview of the scripting languages used to make web pages dynamic are also discussed. The fundamentals of creating web pages using HTML is also discussed.

Focus Area

- Static and Dynamic web pages
- Comparison of Client side and Server side script
- Structure of HTML code
- Container tags and empty tags
- Common attributes of <BODY> tag
- Use of important tags (text formatting tags, <MARQUEE>, ,) covered in this chapter.

Web Page: A web page is a hypertext document displayed by a browser.

Website: A website is a collection of web pages.

Static web page	Dynamic pages
Content and layout is fixed	Content and layout may change during run time
Never use database	Database is used
Run on the browser and do not require any server side application program.	Runs on the server side application program
Easy to develop	Require programming skills

Scripts: Program code written inside HTML Page

Scripting language: Language used for writing scripts.
Eg: JavaScript, PHP etc.

Client side scripting	Server side scripting
Script is copied to client browser	Script remains at Web server
Executed in the web browser	Executed in the server and result is displayed in the client browser
Used to validate data at the client	Used to connect to database
User can block scripting	Cannot be blocked by user.
Type and version of the browser affect the working of client side script	Features of browser do not affect the working of client side script
Eg. Java script	Eg: PHP

Basic concepts of HTML

- **HTML:** Hyper Text Markup Language. It contains tags and attributes. It is developed by Tim Berners Lee
- **Tag:** Tags are the commands used in the HTML document that tell web browsers how to format and organize the web pages to show the contents. Every tag consists of a tag name enclosed between the angle brackets '<' and '>'. There are two types of tags, they are
 1. **Container tag-** Tags that require opening tag as well as closing tag.
Eg: <BODY>..</BODY>
 2. **Empty tag-** Tags that do not require closing tag.
Eg:
, <HR>
- **Attributes-** Parameters used to provide additional information such as colour, alignment etc. in opening tag.
Eg: <BODY Bgcolor = "Yellow">
Bgcolor is an attribute of <BODY> tag and “Yellow” is the value of the attribute.

Essential HTML tags

- <HTML>....</HTML>- Starting and ending of a HTML page.
Attributes: dir- direction of the text. values- ltr, rtl
lang- language values- En, Fr, Hi, etc.
- <HEAD>....</HEAD> - Contains title, script used and style definition etc.
- <TITLE>....</TITLE> - Title on the browser’s title bar.

- <BODY>.....</BODY>- Creating document body section.

Common Attributes of <BODY> Tag

- Background-To set an image as the background of the web page.
Eg: <BODY Background="School.jpg">
- Bgcolor- To set a background color to the web page.
Eg: <BODY Bgcolor="Blue"> or <BODY Bgcolor="#FF1020">
- Text- To set color of the text content in the page
Eg: <BODY Text="Red">
- Link- To set color of the hyperlinks. The default colour for Link attribute is blue.
- Alink- To set color of the active hyperlink. The default Alink colour is green.
- Vlink- To set color of visited link. The default colour for Vlink is purple.
- Leftmargin and Topmargin- To set margin at left and top edges.
Eg: <BODY Leftmargin = "60" Topmargin = "70">

Text formatting tags

1. - Making text bold
2. <I> - Italicizing the text
3. <U> - Underlining the text
4. <S> and <STRIKE> - Striking through the text
5. <BIG> - Making the text big sized
6. <SMALL> - Making the text small sized
7. - Making bold text
8. - Emphasizing the text (same as <I>)
9. <SUB> and <SUP> tags - Creating subscripts and superscripts

Eg: $H_2SO_4 \rightarrow H₂SO ₄$
 $A^2+B^2 \rightarrow A²+B²$

- <MARQUEE>- To insert scrolling text
Attributes- Height, Width, Direction.
- - To Specify font characteristics

Attributes- Color, Face, Size.

- - To insert images

Attributes- Width, Height, Vspace and Hspace, src and alt.

Questions

1. The web page that displays results of examinations by accepting register number is

- a) static b) dynamic c) both a & b

2. Given below is a part of HTML code to make the background colour red. Correct it.

<BODY BACKGROUND="RED">

3. Select the odd one out.

- a) Text b) Background c) Bgcolor d)Src

4. What is the meaning of the HTML code given below?

<Body Text="Red">

5. Write the tag and its attribute to make a picture as background of a web page.

6. Given below are two types of tags used in HTML Identify them. Write the difference between the two.

- i) <HTML> </HTML> ii)

7. Write the meaning of the following statements

a) <body bgcolor=red>

b) <body background="flower.jpg">

c) <body text="blue">

8. Match the following:

i) 	a)Underline
ii) <S>	b)
iii) <U>	c)Strike through
iv) <I>	d)Bold

9. Correct the code given below to get the output as H₂O₂

H²O²

10. Correct FONT tag attribute to give the name of font as Arial

Chapter 5

WEB DESIGNING USING HTML**Overview**

In this chapter, we discuss the HTML tags required to use different list tags to present the content effectively in web pages. The different types of linking are also discussed. Representing data in tabular form in web pages, online form creation, arranging more than one web page in a single browser window are also discussed.

Focus Area

- List (Ordered, Unordered, Definition)
- <A> tag and HREF attribute
- Definition of internal and external linking
- Table tags
- Coding questions may focus only on simple list and tables.

Lists

List can make information more communicative. There are three kinds of lists in HTML – unordered lists, ordered lists and definition lists.

- **Unordered list** (Bulleted list)- Display bullets or other graphics in front of each items in the list.

Tag pair ... used to create unordered list and items in the list are presented by ...

Main attribute of tag is **Type**.

Its values are Disc, Square, Circle (Default value: Disc)

Eg: <UL Type="square">
 Kerala
 Tamil Nadu
 Karnataka

Output will be

- Kerala
- Tamil Nadu
- Karnataka

- **Ordered list**- Presents the items in numerical or alphabetical order.

Tag pair `...` used to create unordered list and items in the list are presented by `...`

Attributes- **Type** (values:1,i,I,a,A), **Start** (To change the beginning value)

Eg: 1) `<OL Type="I">`

```
<LI>Kerala</LI>
<LI>Tamil Nadu</LI>
<LI>Karnataka</LI>
</OL>
```

Output will be

```
I. Kerala
II. Tamil Nadu
III. Karnataka
```

2) `<OL Type="I" Start="5">`

```
<LI>Kerala</LI>
<LI>Tamil Nadu</LI>
<LI>Karnataka</LI>
</OL>
```

Output will be

```
V. Kerala
VI. Tamil Nadu
VII. Karnataka
```

- **Definition list-** List of terms and corresponding definitions.

Tags pair `<DL>...</DL>` to create definition list.

Each term is created by `<DT>`.

Definition is created by `<DD>`.

Links (Hyperlink): It is a text or an image in a webpage that allow to move to another page to another section in the same page by clicking on it. Two types of links are,

- **Internal link:** A link to a particular section of the same document is known as internal linking.

Tag: `<A>...`

Attributes- Name, Href

Eg: ` INTRODUCTION `

` Go to Introduction `

- **External link:** The link from one web page to another web page is known as external linking.

Tag: <A>...

Attributes- Href

Eg: Higher Secondary

Tables

Important tags: <TABLE>, <TR>, <TH>, <TD>

<TABLE>- It is a container tag.

Attributes of <TABLE> Tag

- Border-To specify the thickness of the border line.
- Bordercolor- To assign color to the table border
- Align- To specify Table position inside window. Values : left, right,center
- Bgcolor- To set the background color of the table
- Background- To set background image for the table
- Cellspacing- To set space between cells
- Cellpadding- To set space between content and cell border
- Width & Height- To set width and height of table

<TR>- Used to create rows in a table. It is a container tag.

Its main attributes are align, valign, bgcolor

<TH>- Used to define cell headings. Contents are displayed in bold face and center aligned.

<TD>- Used to define data cells.

The main attributes of <TH>and <TD> are- align, valign, bgcolor,

Colspan- Number of columns occupied by a cell

Rowspan- Number of rows occupied by a cell

<CAPTION>- To give heading to a table.

Questions

1. Write HTML code to display the list given below

- Apple

- Orange
- Grapes

2. What will be the HTML code for the following list

1. LP
2. HS
3. HSS

3. Correct the errors in the following code

```
<OL Type=disc>  
<UL Type=I>
```

4. Fill in the blanks

```
<A .....="www.google.com">
```

5. What are the differences between the two statements

```
<A href="#Home">  
<A href="Abc.html">
```

6. Predict the output of the code segment

```
<UL>  
<LI>Kerala</LI>  
<LI>Tamilnadu</LI>  
<LI>Karnataka</LI>  
</UL>
```

7. Predict the output of the code segment

```
<OL>  
<LI>Kerala</LI>  
<LI>Tamilnadu</LI>  
<LI>Karnataka</LI>  
</OL>
```

8. The code to display an ordered list is given below. Correct errors

```
<UL>
```

```
<LI>Kerala
<LI>Tamilnadu
</LI>Karnataka</UL>
```

9.Fill in the blanks with suitable tags

```
<OL>
<...>hardware<...>
<...>software<...>
<..>
```

10. Fill in the blanks with suitable tags and contents to display the following table

Regno	Name	Age
1021	Anil	23
3022	Binu	25

```
<.....>
<TR>
<....>Regno<....>
<....> <....>
<....> <.....>
<...>
<TR>
<....>1021<....>
<....> ... <....>
<....> ... <.....>
<...>
<....>
<....>.....<....>
<....>.....<....>
<....>.....<.....>
<...>
</Table>
```

11. Match the following

- | | |
|-----------|-----------------|
| I) <TR> | a)TYPE="I" |
| II) | b)TABLE HEADING |
| III) | c)TABLE ROW |
| IV) <TH> | d)TYPE="DISC" |

12. Categorize the following under suitable heading

<HTML>,
,<P>,,<BODY>,<HR>

Chapter 6

CASCADING STYLE SHEET

Overview

In this chapter, we will learn the basic concepts of using CSS in an HTML page and how we can enhance the look and feel of a website very easily. How we can control the appearance of entire web pages in a website, by simply modifying a single file in the website is also discussed.

Focus Area

- Advantages of using CSS
- Ways to add CSS to a web page (names only-Internal style sheet, External style sheet, Inline style)

Cascading Style Sheet (CSS): CSS is a style sheet language used along with HTML to enhance the look and feel of a website very easily.

Advantages of using CSS

CSS provides an easy way to set the layout of the entire website. The following are some of the advantages of CSS.

- **Easy to change layout-** A single CSS file can be used to set the layout of all pages in the website.
- **Reduce the size of a web page-** Separate CSS styles can be applied as separate files.
- **Reduction in bandwidth-** Use of CSS will reduce the network traffic load.
- **Consistency in web pages:** Consistency of entire web page will be maintained through the use of single a CSS file.
- **Viewing options-** Using CSS, web page content can be properly display to different screen size devices (mobile phone, laptop, tablet etc).
- **Saves time-**Use of CSS will reduce coding time for web designer and improves the speed of page loading.

Ways to add CSS to a web page

There are three different methods to include CSS in a web page.

- **Internal style sheet:** Here style rules are included inside the <HEAD> section of an HTML page.
- **External style sheet:** Style rules are saved in a separate CSS file and linked to web page using <LINK> tag.
- This is the most powerful and useful method to include style rules in a web page.
- **Inline style:** Here style attribute of the HTML tags are used to include style rules.

Questions

1. CSS stands for _____ (1)
 - a. Computer style sheets
 - b. Cascading style sheets
 - c. Creative style sheets
 - d. Colourful style sheets
2. State whether the statements are true or false (1 mark each)
 - a. Using CSS we can reduce coding time
 - b. CSS can reduce the size of the webpage
 - c. If we use CSS, it's difficult to change the layout of a webpage
 - d. By using CSS we can achieve consistency in webpages
3. What are the different ways in which you can add a CSS to a webpage? (3 marks)
4. List and explain advantages of using CSS in a webpage. (3 marks)

Chapter 7

WEB HOSTING

Overview

This chapter presents an overview of web hosting, its different types and general features. For accessing a website we need a domain name. How domain names are chosen and registered are also presented here. The various FTP client softwares available to transfer the files of the website from our computer to the server are also discussed. After learning this chapter, one will be able to register a domain name and host a website.

Focus Area

- Types of web hosting
- Use of FTP software
- Free hosting.

Web hosting: It is the service of providing storage space in a web server to serve files for a website to be made available on the Internet.

The companies that provide web hosting services are called *web hosts*.

Types of web hosting

1. Shared Web hosting:

- Different websites are stored on one single web server and they share server resources. (RAM, CPU etc.)
- Shared hosting is most suitable for small websites that have less traffic.
- It is the most common type of web hosting.

Merits:- Cheaper, easy to use.

Demerits:- Shared bandwidth slow down the service

2. Dedicated web hosting:

- In this type of hosting the client leases the entire web server and all its resources.
- If websites have large numbers of visitors, selecting dedicated web hosting.

Merits: Internet connectivity, round-the-clock power supply, technical expertise etc.

Demerits: Very expensive

If the client is allowed to place their own purchased web server in the service providers facility, then it is called *co-location*.

3. Virtual Private Server(VPS)

- A physical server that is virtually partitioned into several servers using the virtualization technology.
- Each VPS works similar to a dedicated server.
- This type of hosting is suitable for websites that require more features than shared hosting, but does not require all the features of dedicated hosting.
- Some popular server virtualization softwares are VMware, Virtualbox, FreeVPS etc.

Merits: Less expensive, easy to use, etc.

FTP client Software

FTP client software establishes a connection with a remote server and is used to transfer files from client computer to the server computer.

SFTP(Secure Shell FTP): It provides facilities for secure file transfer. It encrypts the data and send to the web server.

The popular FTP client software are FileZilla, CuteFTP, SmartFTP, etc.

Free hosting

- Free hosting provides web hosting services free of charge.
- The service provider displays advertisements in the websites hosted to meet the expenses.
- Free web hosting is useful for sharing content on the web, among groups having similar interests like family unions, nonprofit organizations, etc.
- Some free web hosting service providers are Sites. google.com, yola.com, etc..

Questions

1. Identify the odd one out. (1 mark)

a. SmartFTP b. FileZilla c. CuteFTP d. VMware

2. VPS stands for _____ (1 mark)

3. An example for virtualization software is _____
 - i. FreeVPS ii. FTP iii. Windows 10 iv. JavaScript
4. Choose the odd one out
 - a. Shared hosting b. Dedicated hosting c. DNS d. Virtual Private Server
5. List the factors to be taken in to consideration while choosing the type of web hosting?
(2 marks)
6. Suggest the most appropriate hosting type for the following websites given below.
 - a. Website for your school.
 - b. Website for online shopping facility
 - c. Website for your family without spending money
7. Explain the different types of web hosting? (3 marks)
8. Write the names of two companies (sites) which provide free hosting service? (2 marks)
9. Differentiate shared and dedicated web hosting (2 marks)
10. State whether the following statements true or false
 - a. Shared hosting offers the freedom to client to choose hardware and software for the webservice
 - b. Dedicated hosting is inexpensive
 - c. The users of the VPS are provided with the right to install and configure any s/w on their PS.
 - d. In free hosting, the service provider display advertisements in the website
11. List out the requirements for FTP Client software to connect to the web server.(2 marks)
12. Compare shared hosting and VPS (2 marks)

Chapter 8**DATA BASE MANAGEMENT SYSTEM****Overview**

Recognizes the need for files. Identifies the major limitations of the conventional file management system. Lists and explains the advantages of the Database Management System. Lists the various components of DBMS and explains their purpose. The types of users and their roles in the DBMS environment is discussed. Explains the levels of data abstraction and data independence in DBMS. Explains relational data model by citing examples. Uses different terminologies in RDBMS, appropriately. Applies and evaluates various operations in Relational algebra.

Focus Area

- Advantages of DBMS
- Components of DBMS
- Users of Database
- RDBMS terminologies.
- Database- organized collection of interrelated data
- DBMS- programs for storage, retrieval and managing database

Advantages of DBMS

- Controlling data redundancy- DBMS reduces duplication of data. DBMS store all data in a centralized database.
- Data consistency- DBMS ensure data consistency.
- Efficient data access: DBMS use a variety of techniques to store and retrieve data efficiently.
- Data integrity- DBMS ensures overall completeness, accuracy and consistency of data in the database.
- Data security- DBMS provides protection of data against accidental or intentional disclosure or unauthorized destruction or modification by unauthorized persons.

- Sharing of Data- Several users use same database.
- Enforcement of Standards- DBMS have different standard data formats. It facilitates exchange of data between different systems.
- Crash recovery- DBMS use some mechanism to recover data from crashes.

Components of DBMS

- Hardware- computers, storage devices, network devices and other supporting devices
- Software- DBMS, application programs and utilities
- Data- operational data and meta data (meta data-data about data)
Field- smallest unit (Eg. ad.no, name)
Record-collection of fields (Eg. Details of a student)
File- collection of records (Eg. Details of students in a class)
- Users- users of database(DBA, programmer, sophisticated user and naive user)
- Procedure- instruction and rules related to database

Users of database

- Database Administrator (DBA): The person who is responsible for the full control of database.
- Application Programmers: Computer professionals who interact with the DBMS through application programs.
- Sophisticated Users: Users who are thoroughly familiar with the facilities of the DBMS (engineers, scientists, business analysts etc)
- Naive Users: Users interact with the DBMS by invoking one of the per-written application programs. They are unaware of the details of DBMS (clerical staff in an office, billing clerk in a supermarket or hotels, bank clerk, etc.).

Relational data model

The relational data model represents database as a collection of tables called relations.

- Entity- An entity is a person or a thing in the real world that is distinguishable from others.

- Relation- Relation is a collection of data elements organized in the form of rows and columns.
- Tuple- Row (record) of a relation or table.
- Attribute- Column of a relation or table.
- Degree- The total number of attributes in a relation.
- Cardinality: The total number of rows or tuples or records in a relation.
- Domain- Pool of values from which actual values appear in a column. The possible values permitted for an attribute.
- Schema- Group of rows in a relation

Keys- Way to identify a row in a relation uniquely.

Candidate key- A candidate key is the minimal set of attributes that uniquely identifies a row in a relation.

Primary key- A primary key is one of the candidate keys chosen to be the unique identifier.

Alternate key- A candidate key that is not chosen as primary key.

Foreign key- A key in a table can be called foreign key if it is a primary key in another table.

Questions

- 1 Organized collection of interrelated data is known as.....
- 2 DBMS stands for.....
- 3Control the database
- 4 Number of rows in a table is known as.....
- 5 Number of columns in a table is known as.....
- 6 Pool of values from which actual values appear in a column is
8. List any four advantages of DBMS
9. List four types of users of database
10. What is the difference between candidate key and primary key?
11. Explains
 - a) Domain b) Cardinality c) degree d) tuple
12. Explain advantages of DBMS

13. Explain any three components of DBMS

14. Explain users of DBMS

Previous years questions

1. Name the user of database who is responsible for the control of centralized database.

(1)[Mar-19]

2 Explain the major components of DBMS. (3) [Mar-19]

3. The columns of a relation are called _____. (1) [Mar-20]

(a) Attribute (b) Tuple (c) Degree

4. List the names of major components of database system. (2) [Mar-20]

5. (a) Define database. (1) [Say-20]

(b) Write any four advantages of database. (2)

(c) Find the cardinality and degree of the following STUDENT Table (2)

Admino	Name	Marks
101	RAJU	445
102	RISHAD	385
103	BIJO	415
104	MEERA	528

Chapter 9**STRUCTURED QUERY LANGUAGE****Overview**

This chapter introduces a language called Structured Query Language (SQL) for various operations performed on relations. Structured Query Language (SQL) is a language designed for managing data in relational database management system (RDBMS). SQL provides an easy and efficient way to interact with relational databases. Relational database system is a structured collection of tables (relations) with columns (field) and rows (tuples or records) and columns are known as attributes.

Focus Area

- SQL Components
- SQL data types
- Use of Commands (DDL-CREATE TABLE, DROP TABLE
- DML- INSERT, SELECT, UPDATE, DELETE-with essential clauses only).
- SQL queries are to be avoided.

Components of SQL	Data Definition Language (DDL), Data Manipulation language (DML) and Data Control Language (DCL).
DDL commands	CREATE TABLE, ALTER TABLE, DROP TABLE, CREATE VIEW, DROP VIEW
DML commands	INSERT INTO, SELECT, UPDATE, DELETE FROM
DCL commands	GRANT, REVOKE
SQL Data Types	<p>MySQL data types are classified into three. They are numeric data type, string (text) data type, and date and time data type.</p> <p><u>Numeric Data types</u></p> <ul style="list-style-type: none"> • INT or INTEGER <p>An integer value can be represented by INT or INTEGER data type.</p> <ul style="list-style-type: none"> • DEC or DECIMAL

	<p>DEC(5,2) or DECIMAL(5,2) denotes that the column with this specification can store any value having a maximum of five digits, out of which two are after the decimal point.</p> <p><u>String (Text) data types</u></p> <ul style="list-style-type: none"> • CHAR or CHARACTER <p>CHAR is a fixed length character data type. It is mainly used when the data in a column are of the same fixed length and small in size.</p> <ul style="list-style-type: none"> • VARCHAR <p>VARCHAR represents variable length strings. The space allocated for the data depends only on the actual size of the string, not on the declared size of the column.</p> <p><u>Date and Time data types</u></p> <ul style="list-style-type: none"> • DATE <p>The DATE data type is used to store dates. MySQL represents date values in YYYY-MM- DD format.</p> <ul style="list-style-type: none"> • TIME <p>The TIME data type is used to specify a column to store time values It shows values in the standard HH:MM:SS format.</p>
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Command	Syntax	Use	Example
CREATE TABLE	<pre>CREATE TABLE Table_name (column_name data type <constraint>, column_name data type <constraint>, column_name data type <constraint>);</pre>	To create a table	<pre>CREATE TABLE Student (Adm_no INT, Name VARCHAR(20), Course VARCHAR(15));</pre>

DROP TABLE	DROP TABLE <table_name>;	To remove a table from a database.	DROP TABLE Student;
INSERT INTO	INSERT INTO table_name VALUES (val1, val2, ...);	To insert a record	INSERT INTO Student VALUES(1001,'Alok','Science');
SELECT	SELECT column_name1, column_name2, ... FROM table_name;	To retrieve information from table	SELECT name, course FROM Student;
UPDATE	UPDATE table_name SET column_name = value WHERE condition;	To modify the values in columns	UPDATE student SET Course='Humanities' WHERE name='Kaushi';
DELETE	DELETE FROM table_name WHERE condition;	To delete rows/records	DELETE FROM Student WHERE Adm_no=1027;

Questions

1. Distinguish between DDL and DML and give examples for each type.
2. Which command is used to delete the table?
 - (a) delete from (b) drop table (c) delete table (d) drop view
3. Differentiate between CHAR and VARCHAR data types in SQL.
4. Name the most appropriate SQL data types required to store the following data:
 - (a) Name of a student (maximum 70 characters)
 - (b) Date of Birth of a student
 - (c) Percent of marks obtained (correct to 2 decimal places)

5. Explain any two DDL commands.
6. Write the syntax of CREATE TABLE command.
7. Write any four DML commands in SQL.
8. Pick the odd one out and give reason:
a. CREATE b. SELECT c. UPDATE d. INSERT
9. Expand SQL
10. Which are the three components of SQL?
11. Which are the three types of data in MySQL?

Previous Questions

1. Write short notes on **(July 2020)**
a) DDL b) DML
2. Explain numeric data types in SQL. **(June 2016, March 2016, March 2017)**
3. Explain string data types in SQL. **(March 2017)**
4. Differentiate between char and varchar data types in SQL **(June 2016, March 2019, July 2020)**
5. Write any two DDL and DML commands. **(June 2019)**

Chapter 10**TRENDS AND ISSUES IN ICT****Overview**

In this chapter, we discuss the different technologies and services in mobile communication. The various mobile operating systems are discussed with special focus on Android operating system. Intellectual properties like music, films, software, designs, etc. have also ownership rights. These rights are called Intellectual Property Rights (IPR) and the issues related to them are discussed in this chapter. Every technology has a dark side. Some people use internet for performing illegal activities called cyber crimes. Various types of cyber crimes and how we can safeguard ourselves in the Internet are also discussed.

Focus Area

- Mobile Communication Services
- Mobile operating system
- Cyber crime against individual.

Mobile Communication Services**Short Message Service (SMS)**

- a. Text messaging service in mobile communication systems.
- b. Allows exchange of short text messages.
- c. SS7 protocol is used.

Multimedia Messaging Service (MMS)

- a. Allows exchange of multimedia content using mobile phones.
- b. MMS supports contents such as text, graphics, music, video clips and more.

Global Positioning System (GPS)

- a. Satellite based navigation system used to locate a geographical position anywhere on earth.
- b. Used in vehicle tracking, oil exploration, atmospheric studies etc.

Smart cards

- a. Plastic card embedded with an IC (integrated Circuit) or memory that stores and transacts data.
- b. In mobile communication, the smart card technology is used in SIM.
- c. It is secure, intelligent and convenient.

Mobile Operating System

- a. An operating system used in a mobile device.
- b. It manages the hardware, multimedia functions, Internet connectivity, etc.
- c. Application programs run on this platform.
- d. Eg: Android from Google, iOS from Apple, BlackBerry OS from BlackBerry and Windows Phone from Microsoft.

Cyber crimes against individuals

- a. **Identity theft:** Using another person's identifying information like name, credit card number, etc. without their permission to commit fraud or other crimes.
- b. **Harassment:** Posting humiliating comments focusing on gender, race, religion, nationality at specific individuals in chat rooms, social media, e-mail, etc.
- c. **Impersonation and cheating:** An act of pretending to be another person for the purpose of harming the victim.
- d. **Violation of privacy:** The intrusion into the personal life of another, without a valid reason.
- e. **Dissemination of obscene material:** Website contains prohibited materials, use of computers for producing obscene material, downloading obscene materials through the Internet, etc.

Questions

1. The protocol used to send SMS messages is _____.
2. Criminal activity using computer, mobile phone and Internet is termed as _____.

3. Stealing one's information such as username and password is _____.
4. Write a short note on Identity Theft.
5. What is a GPS?
6. Name the technology used to send multimedia content using mobile phones.
7. What is cyber crime against a person?

Previous questions

1. is a Linux based mobile operating system from Google
a). ios b). Blackberry c). Android d) Windows Phone **(March 2016)**
2. SIM stands for**(Say June 2016)**
(a) Subscriber Information Module. (b) Subscriber Identity Module
(c) Subscriber Identity Machine. (d) Subscriber Information Memory
3. What is Cyber Crime? Write a short note on any two cyber crimes against individuals.
2. GPS is useful for tracking vehicles by Transport Company. How is it possible?
(Say June 2016)
3. Write short note on mobile operating system. **(Say 2018)**
4. Define the following terms
I. SIM
II. MMS **(Say 2018)**
7. Name the following: **(March 2018)**
(a) Satellite based Navigation system
(b) Service used to send messages with Multimedia content.
(c) Packet oriented mobile data service on GSM
(d) Smart card technology used only in GSM phone Systems

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