

## Computer Application (H) II – Notes

### 1. INTRODUCTION TO PUBLISHING

**Publishing**- Creation, compilation and mass reproduction of text and graphics.

#### Stages in publishing

**I Prepress**- stages before printing. From design to printing. DTP used

**A. Designing**- the layout preparation

*Elements of Design:* -

Line - convey moods

Shape- add interests

Colors- create mood

Space- three dimensional volumes

Typography- art of arranging letters

(two- sans serif-without feet serif- with feet)

*Principles of design:* -

Balance - distribution of visual weight

Repetition - a pattern to make the art active

Contrast - association of opposite elements

Harmony - relates and complement each other

Unity - visual linking of elements

Dominance - giving emphasis

**B. Pre-fighting** - checking of files for completion

Crop marks- marks of trimming the paper

Bleed - area to be trimmed

Margin - area between content and edge

**C. Creating proof**- the state of finished product.

**D. Printing plates**- used in offset press.

### II Printing

#### Process/ Types

Lithographic- repulsion of oil and water- *offset/plate*

Digital- *no plates*, inkjet or laser printing

Gravure- nylon, polyester, *laminated package* printing

Flexography- for printing on *packing material*

Screen printing- use woven mesh and ink blocking  
*stencil*

### III Post Press

Folding- folding of paper to get pages in correct order

Assembling- arranging of pages in correct order

Binding- physical assembling

Cutting- cutting of page ends after binding

### Electronic Publishing

Digital publication of e-books, magazines etc.

Web based -publishing the content on the internet

Digital distribution-downloadable publishing

### 2. INTRODUCTION TO WORD PROCESSOR

#### Features of word processor

Quickness- helps easy creation

Word wrapping- to next line at margin automatically

Editing features- easy correction and editing

Drawing and graphics- tools for drawing

Tables- data in rows and columns

Formatting feature- like character, paragraph, page

Header, Footer and Page number-

OLE- object linking and embedding

Spell check and grammar checking-

Mail merging- mails with same content and different address

Index and table of content-

Templates- predefined document formats

#### Libre Office writer IDE

Title bar- name of document and software at top

Menu bar- file, edit, insert, view etc.

Tool bar- buttons for commands

Scroll bar- to move up and down, left and right

Ruler- to change margins

Status bar- information of cursor position- at bottom

Text area- to type text matter

*To create new document*

File->New-> text document or Ctrl+N or New button

*Saving a document*

File-> Save or Ctrl+S or F2

*Opening a document*

File->open, Ctrl+O

*Closing a document*



File->Close or Close button in menu bar

*Closing software-*

File->Exit LibreOffice or Ctrl+Q, close button in title bar

### **Prerequisite for editing**

**A. Navigation** -moving one point to another

arrow keys-move to very next character home- to beginning of the current line End- to the end of the current line

page up- cursor one page up

page down- cursor one page down

Ctrl+-> to beginning of the previous word

Ctrl+<- to beginning of the next word

Ctrl+home to beginning of document

Ctrl+End to the end of the document

### **B. Insert/overwrite mode**

insert- insertion without losing existing

overwrite- insertion with replacing

### **C. Undo/redo**

undo- cancelling most recent action

redo- retrieving action cancelled by undo

### **D. Text Selection**

using mouse using key board

**Cut, Copy, Paste functions** (Clipboard – temporary memory)

Cut- moving a text. Edit->Cut or Ctrl+X or Cut button

Copy- copy from one place to another. Edit->Copy or Ctrl+C or Copy button

Paste- Edit->Paste or Ctrl+V or Paste button

**Find and Replace facility** (Edit-> Find and Replace)

Find- Ctrl+F

Replace- Ctrl+H

**Formatting-** General arrangements of text

**I. Character formatting** (format->character)-

Tabs in the dialog box

*Font-* family, style (Bold, Italic, Underline), size

*Font effects-* font color, effects (capital, small),

relief, over lining, strikethrough, underlining, out line, shadow.

*Position-* superscripting, subscripting, rotate,

spacing *hyperlink, background, borders*

### **Copying format**

Select the text-> click format paintbrush button->click where we want

## **II. Paragraph formatting** (Format-> paragraph)

*Paragraph alignment-*

Horizontal:-left, right, centered, justified

Vertical:- top, bottom, middle

*Indentation-* distance between text boundaries and page margin

Positive indent- inward from margin - before text

Right indent- outward from margin - after text

First line indent- only first line inward from margin

Hanging indent- other than first line inward from margin

*Line spacing-* space between two lines

*Drop caps-* First letter in height of two or more lines paragraph->drop caps

*Bullet and numbering* (edit-> bullet and numbering)

Bullet list, Numbered list

## **III. Page formatting**-setting of page layout

(Format->Page)

Page orientation- Portrait- lengthwise

Landscape- width-wise

Margin setting-using ruler bars and using page style dialog box

Header and Footer-insert->header, insert->footer

Printing- Ctrl+P or File->print

Print preview- File->print preview or Ctrl+Shift+O

## **3. CREATING PROFESSIONAL DOCUMENTS**

**Inserting Tables**-3 ways

*Standard Toolbar or Table->Insert->Table or Ctrl+F12*

Border to table- Table->Table Properties

Table->auto fit- makes equal width to selected columns

Inserting new row- Table->Insert->Rows

Inserting new column- Table->Insert->Columns

Deleting- Table->Delete-Rows

Merging rows/columns- Table->Merge cells

Splitting rows/columns- Table->Split cells

### Inserting Graphics(3 Types)

*Adding an image-* Insert->Image->From file, Select the image

*Drawing tools-* View->Toolbars->Drawing 3D effect for an object-Extrusion on/off

*Inserting Charts-* Insert->Object->Chart->chart wizard, select the chart type, finish

*Inserting Special Character-* Insert->Special Character

**Inserting Page Breaks-** Insert->Manual break. Select page break .OK(Ctrl+Enter)

**Inserting Page Border-** Format->Page->Border tab->select style

**Exporting to pdf & inserting water marks-** File->Export as PDF->type water mark->export

**Converting Text to Table-** Table->convert text to table. Select separator. OK

**Splitting text into columns-**Format->Columns. No of columns. OK

### Spelling Grammar (two ways)

1 Auto spell check button

2 tools->spelling and grammar

Auto correct-correcting common misspell words

**Inserting Formulas-** Insert->Object->Formula

**Table of Content** (two steps)

1 Creating TOC entry select the heading

Insert->Index and Tables-> Entry set index as table of contents insert

2 Creating table of contents, click on fresh page

Insert->index and tables-> index and tables table of content in type box, click OK

### Defining Index Entries (three steps)

1 Decide the words

2 Creating Index Entries-Click on a word.

Insert->index and tables->entry

3 Creating Index Page

Insert->Index and Tables->index and tables select alphabetical index in type box

### Templates- Document models

File->New->Template

Creating template- create a document.

File->Template->Save as templates

### Mail merge- to send a letter to many addressee select

Starting document

Select document type

Insert address book

Create salutation

Adjust layout

Edit document

Personalise

Save, Print or Send



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## Chapter 4 – WEB TECHNOLOGY

### Communication on Web:

1. Client to Web Server
2. Web Server to Web Server

DNS – Domain Name System

TCP/ IP – Transmission Control Protocol/ Internet Protocol

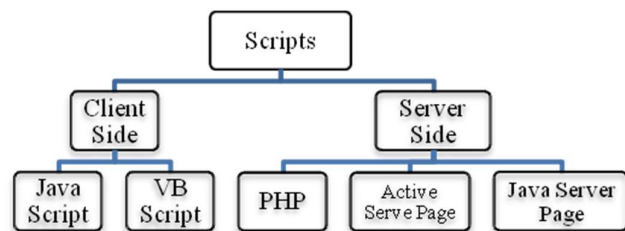
### Web Server Technologies:

1. Web Server: It always switched ON and connected to a high bandwidth internet connection
2. Software Ports: Hardware ports that connect external devices to the computer
3. DNS Server: It runs special purpose networking software

Static web page	Dynamic web page
The content and layout of a web page is fixed.	The content and layout may change during run time.
Static web pages never use databases.	Database is used to generate dynamic content through queries.
Static web pages directly run on the browser and do not require any server side application program.	Dynamic web page runs on the server side application program and displays the results.
Static web pages are easy to develop.	Dynamic web page development requires programming skills.

**Scripts:** Program code written inside HTML Page

## Types of scripting languages:



## Basic Structure of HTML document:

```

<HTML>
  <HEAD>
    <TITLE></TITLE>
  </HEAD>
  <BODY>
</BODY>
</HTML>
  
```

End tag (forward slash – '/'). Eg: <HTML>, <BODY>

**Empty Tag:** Only start tag. No End tag. Eg: <BR>, <INPUT>

Client side scripting	Server side scripting
Script is copied to the client browser	Script remains in the web server
Script is executed in the client browser	Script is executed in the web server and the web page produced is returned to the client browser
Client side scripts are mainly used for validation of data at the client.	Server side scripts usually used to connect to databases and return data from the web server
Users can block client side scripting	Server side scripting cannot be blocked by a user
The type and version of the web browser affects the working of a client side script	The features of the web browser does not affect the working of server side script

## Essential HTML tags: Refer Page No. 105 to 129

**Container Tag:** Tags used in pair (both Start tag and

S.No	Tag	Description	Attributes	Values
1.	<HTML>	Essential tag for HTML document	Dir, Lang	
2.	<HEAD>	Head of an HTML document		
3.	<TITLE>	Title of an HTML document		
4.	<BODY>	Specifies document body	Background BGColor Text Link, ALink, VLink Leftmargin, Topmargin	Sets an Image Sets background color Sets text color Sets text color Sets margin size
5.	<H1> to <H6>	Heading Tags	Align	Left, Right, Center
6.	<P>	Paragraph	Align	Left, Right, Center, Justify
7.	 	Insert Line break – New line		
8.	<HR>	Draw horizontal line	Size (thickness), Width (length), NoShade, Color	
9.	<CENTER>	Centering the Content		
10.	<B>	Making text Bold		
11.	<I>	Making text Italics		
12.	<U>	Making text Underline		
13.	<S>, <STRIKE>	Making text Striking through		
14.	<BIG>	Making text BIG sized		
15.	<SMALL>	Making text SMALL sized		
16.	<STRONG>	Making text Bold		
17.	<EM>	Emphasizing the Text		
18.	<SUB>	Sub Script		
19.	<SUP>	Super Script		
20.	<Q>, <BLOCKQUOTE>	Indenting a quotation		
21.	<PRE>	Pre formatted Text		
22.	<ADDRESS>	Display the Address		



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23.	<MARQUEE>	Scrolling the text	Height, Width, Direction Behaviour, ScrollDelay, ScrollAmount, Loop, BgColor, HSpace, VSpace	
24.	<DIV>	Formatting a block of text	Align, ID, Style	
25.	<FONT>	To set Font	Color, Face (font name), Size	
26.	<!-- -->	Comment		
27.	<IMG>	Insert Image	SRC Width, Height, VSpace, HSpace, Align, Border, Alt	Specify Source file name  Display alternative text

### Chapter 5 – Web Designing using HTML

S.No	Item	Tag	Description	Attributes	Values
1.	Lists	<UL>, <LI>	Unordered List	Type	Disc, Square, Circle
2.		<OL>, <LI>	Ordered List	Type Start	1, A, a, I, i Starting number
3.		<DL>, <DT>, <DD>	Definition List		
4.	Links – Anchor Tag	<A>	To set Hyperlink	HRef Name	Specify Webpage location (URL) Name for internal link
5.	Insert Music and Video	<EMBED>	To Insert Music or Video	SRC Height, Width Align, Alt Hidden	Specify Source file name  True, False
6.	Table	<TABLE>	To draw table	Border, Bordercolor, Align, Background, BgColor, CellSpacing, CellPadding, Width, Height, Frame Rules	URL of background Image  Space between cells Space between content and border  Void, Above, Below, Box Cols, rows, groups, all
7.		<TR>	Table Row	Align VAlign BgColor	Left, Right, Center Top, Middle, Bottom, BaseLine
8.		<TH>, <TD>	Table Head, Description	Align VAlign BgColor ColSpan RowSpan	Left, Right, Center Top, Middle, Bottom, BaseLine  Join Columns Join Rows
9.		<CAPTION>	To set Table Heading		
10.	Frame	<FRAMESET>	To set Frames	Cols Rows Border	Specify number of Columns Specify number of Rows

				BorderColor	
11.		<FRAME>	To set Frame contents	SRC Scrolling NoResize Marginwidth MarginHeight Name Target	Specify URL to display
12.		<NOFRAME>	If browser not supporting Frames		
13.	Forms	<FORM>	For Creating Forms	Action Method Target	Specify File handler URL GET, POST blank, self, parent
14.		<INPUT>	To create form controls	Type Name, Value Size, MaxLength	Text, Password, CheckBox, Radio, Reset, Submit, button
15.		<TEXTAREA>	To enter Multiline text	Name Rows, Cols	
16.		<SELECT> <OPTION>	To Set combo box and options	Name, Size, Multiple Selected, value	
17.		<FIELDSET> <LEGEND>	Grouping form data To set title for <FIELDSET>		

## 6. CASCADING STYLE SHEET

### Advantage of using CSS

- Easy to change layout
- Reduce the size bandwidth
- Reduction consistency
- Viewing options
- Save time

**Style rule** – how to display a particular elements (two parts)



Selector- CSS applying HTML tag

Declaration- property names and values

eg:- `p {margin:40px;}`

**Selectors** (4 types)

*Universal selector*(\*)- applicable to all elements

\*symbol and declaration

\*`{margin:40px;}`

*Type selector*- style to an element

Element and declaration `p {margin:40px;}`

*Class selector*(dot)- style to the desired element

`.mystyle {margin:40px;}`

*ID selector*(#) -style to single element

`#mystyle {margin:40px;}`

**Properties in CSS**- key word used in style rules

*Font properties*: font-family, font-style, font-weight, font-size

*Text properties*: text-align, text-decoration, text-indent, line-height

**Ways to add CSS in a webpage**

Internal- between <STYLE> and </STYLE>

External- separate CSS file linking using <LINK> tag

Inline style- in a



## 7. WEB HOSTING

**Web hosting-** giving storage space in web server web

Hosts- companies of web hosting

### Types of web hosting

*Shared-* Many websites sharing single web server,

RAM and CPU. Cheaper, Easy to use, Slow.

*Dedicated-* A web server for a website, Good performance, Expensive, **Co-location-** placing dedicated web server in service providers facility

*Virtual private Server-* a shared web server which feels dedicated virtually

### Buying hosting space-

Consider- Memory space, Supporting soft wares, Database support

### Domain name registration

Decide a domain name,

Ccheck for availability in WHOIS database

Fill information for WHOIS database

*WHOIS information:* Name, Address, Phone no.,Email, etc, Pay the annual fee

*ICANN-* Internet Corporation for Assigned Names and Numbers

*A record-* IP address of a web server connected to a domain name

*FTP-* Client- software to transfer file to web server

*SFTP -*Secure shell FTP

**Free hosting-** Hosting without charge

Eg- site.google.com, yola.com

**CMS- Content Management System:** Software used to create, admin and publish websites

*Features:* Security, Need less technical knowledge, Templates, Reduce repeat coding, Economical

### Responsive web design

Designing web pages able to adjust to the screen size of the device using

Flexible grid layout- set entire page size

Flexible images- set image/video dimensions

Media queries- set different styles

## 8. DATA BASE MANAGEMENT SYSTEM

Draw backs of conventional file management system

Duplication of data

Data inconsistency in accuracy

Less security

Not sure of data consistency if system crash

No standard

**Database-** Organized collection of interrelated data

**DBMS-** programs for managing database

Advantages of DBMS

Controlling data redundancy- centralized databases

Data consistency- by controlling data redundancy

Efficient data access-

Data integrity- by standard rules and error checking

Data security-

Sharing-

Standard enforcement

Crash recovery-

### Components of DBMS

Hardware- computers and supporting devices

Software- DBMS, application programs and utilities

Data- operational data and *Meta data* (Data about data)

Field- smallest unit

Record- collection of fields

File- collection of records

Users- users of database

Procedure- instruction and rules related to database

**Data abstraction-** *Hiding* of complexity from users

Physical- *how* data is stored

Logical- *what* data is stored

View level- the way in *which* user view the data

**Data independence-** modification data structure in one level without affecting higher level

*Physical-* modifying physical level without affecting logical level

*Logical-* modifying logical level without affecting view level





## Users of database

*Database Administrator (DBA)*- who control the database

Duties- Design of structure, Security, Data availability

*Application programmer*- who connect database through programs

*Sophisticated user*- who know about DBMS well

*Naive user*- common users

**Relation Data Model**- collection of *tables*

Entity- a person or a thing

Relation- data in tabular form

Tuple- the row

Attribute- column

Degree- No of attributes or columns

Cardinality- no of rows

Domain- pool of values of a column

Schema- structure of databases

Instance- is group of rows in a relation

**Keys**- way to identify a row in a relation uniquely

Composite key- having more than one column

Candidate key- column or columns that can be a key

Primary key- chosen key for a table from candidate keys

Alternate key- candidate key that is not primary key

Foreign key- a key in a table that is a primary key in another table

## Relational algebra

Select ( $\sigma$ ) - select rows on a condition

Project ( $\pi$ ) - select columns

Union ( $\cup$ ) - all tuples in either or both of the two relation

Intersection ( $\cap$ ) - all tuples in both of two relation

Set difference ( $-$ ) - tuples in first and not in second

Cartesian product ( $\times$ ) - all possible combination of tuples

## 9. STRUCTURED QUERY LANGUAGE

SQL- standard database language

## Features-

Database language, Simple, flexible, Powerful, Command for table modification and data usage, Databases uses for operation, Non procedural language, Data security, Concept of views

## Components of SQL

*DDL*- data definition language( defining structure)

CREATE, ALTER, DROP

*DML*- Data manipulation Language

SELECT, INSERT, UPDATE ,etc.

*DCL*- Data control language

GRANT, REVOKE

Creating database-

CREATE DATABASE <tablename>;

Opening database-

USE <tablename>;

## Data types-

Numeric- INT, DEC

String- CHAR- use of declared size,

VARCHAR- use of actual size

DATE (yyyy/mm/dd), TIME

## Rules for naming tables-

Contain letters, digit, under score

One character must

Not contain white space, symbols

No keywords

No duplicate

**Constraints**- rules on entering data in a column

*Column constraints*- constrains on single columns

NOT NULL- never empty

AUTO-INCREMENT-

UNIQUE - no two rows have same values

PRIMARY KEY

DEFAULT setting default values

*Table constraints*: Constraints on group of columns

Structure view of a table- DESC <tablename>;

Inserting data- INSERT INTO..

Retrieving - SELECT ...FROM

Eliminating duplicate- SELECT DISTINCT



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Condition	WHERE
Pattern matching	LIKE %, LIKE '___
Sorting	ORDER BY

### Aggregate functions

SUM()-	total of column values
AVG()-	average of column values
MIN()-	smallest in the column
MAX()-	Largest value
COUNT()-	number of non null values
COUNT(*)-	number of row

### Grouping of records- GROUP BY

HAVING-	condition in GROUP BY
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### Modifying data- UPDATE SET

### Changing table - ALTER TABLE

ADD(after, first), MODIFY, DROP, RENAME TO

### Deleting rows- DELETE FROM...

### Remove table- DROP TABLE...

### VIEW- virtual table

### CREATE VIEW AS SELECT

## 10. TRENDS AND ISSUES IN ICT

Mobile computing- computing and net use in motion

### Generation in mobile computing

1G- in 1980. Analog. Voice only

2G- Digital. Data service. MMS. Use GSM and CDMA.

GSM-global standard circuit switched network

GPRS- general packet radio service

EDGE- Enhanced data rates for GSM evolution

CDMA- Code Division Multiple Access- several signals at a time

3G- voice and data. Wireless broadband. WCDMA

4G- Long Term Evolution. ultra broadband. OFDMA. quality than TV

5G- next step. More connection. Less cost. Less energy.

### Mobile Communication Services

SMS- Text messages. SS7 protocol is used

MMS- Multimedia message.

GPS- Finding global position using satellite.

Smart cards- Plastic cards with computer chip.

### Mobile operating system

Android- linux based. Maintained by OHA. Touch input. Software development kit. Apache license. Apps.

### Information Security:

### Intellectual Property Right (IPR)

1. Industrial Property
  - a. Patents
  - b. Trademark
  - c. Industrial Design
2. Copyright



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### Infringement: Unauthorized use of IPR

- a. Patents
- b. Trademark
- c. Industrial Design
- d. Copyright

**Cyber Space:** It is a virtual/ simulated environment connected to Internet

**Cyber Crime:** Criminal activity by the help of Internet. It is against Individual, Property and Government.

#### A. Individual

- a. Identity Theft
- b. Harassment
- c. Impersonation and Cheating
- d. Violation of Privacy
- e. Dissemination of obscene material

#### B. Property

- a. Credit card fraud
- b. Intellectual property theft
- c. Internet time theft

#### C. Government

- a. Cyber terrorism
- b. Website defacement
- c. Attacks against e-Governance websites

**Cyber Ethics:** Cyberspace do not harm others

1. Use Antivirus, Firewall
2. Ensure Security of Websites
3. Do not respond unknown sources
4. Use unique and complex passwords
5. Avoid unauthorized software
6. Do not hide your identity
7. Do not use bad or rude language

**Cyber Law:** Legal and regulatory aspects of the Internet

1. IT Act 2000
2. Amended on 2008

**Cyber Forensics:** Combine element of law and computer science

**Info mania:** Excessive enthusiasm for acquiring knowledge

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