Computer Wizard

Teacher's Manual

Class 8

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Contents

Lesson 1 : Computer Networking

A. Multiple choice questions :
  1. WAN
  2. Intranet
  3. Server
  4. Simple Mail Transfer Protocol
  5. SMTP

B. State true or false :
  1. True
  2. False
  3. True
  4. False
  5. True
  6. True

C. Fill in the blanks :
  1. LAN
  2. collection
  3. POP
  4. HTTP
  5. intranet

D. Answer the following questions in short:
  1. A protocol is a set of rules to govern the data transfer between the devices.
  2. Topology refers to the layout of connected devices on a network.
  3. A gateway is a network device that allows the data to flow between two different network which may use different protocol.
  4. Client : It is a computer which depends on the server for all the resources. For example, a server might store a network version of Excel program.

     Server : A server is also called host computer. It controls the access to the hardware and software on the network.
  5. Advantages of ring topology are :
     - One computer cannot monopolize the network.
     - It continues to function even after the capacity is exceeded but the speed becomes a bit slow.

E. Answer the following questions in detail :

1. A computer network is a collection of two or more connected computers. When these computers are joined in a network, people can share their files, and peripherals, such as modems, printers, tape backup drives, or CD-ROM drives.

   Advantages of computer network :

   ✎ The information can be easily shared with each other.

   ✎ It reduces cost of hardware.

   ✎ Store information in one centralised location.

   ✎ Reduction in installation cost.

2. The basic types of networks include :

   ✎ Local Area Network (LAN)

   ✎ Wide Area Network (WAN)

   ✎ Metropolitan Area Network (MAN)

   ✎ Personal Area Network (PAN)

   Local Area Network : A local area network (LAN) is a network that is confined to a relatively small area. It is generally limited to a geographic area such as a lab, school, or building.

   Metropolitan Area Network : A metropolitan area network (MAN) covers larger geographic areas, such as cities, schools, or districts. By interconnecting smaller networks within a large geographic area, information is easily distributed throughout the network.

   Wide Area Network : Wide area network (WANs) connect larger geographic areas, such as Florida, the United States, or the world. Dedicated transoceanic cabling or satellite uplinks may be used to connect this type of network.

   PAN (Personal Area Network) : These are privately

owned network. PAN is used to establish the communication amongst the computers within the range of 20 to 80 feet. It can be wired or wireless.

3. Components of Computer Network :

Sender : A sender is a computer that wants to send information to other computer connected to the network.

Receiver : A receiver is a computer which is expecting the data from other computer on the network.

Transmission medium : It is a communication channel through which information is transferred from one computer to another on a network.

Message : A message is the information or data which needs to be transferred from one computer to another.

Protocol : A protocol is a set of standard rules used for communication.

4. Star Topology : A star network has a central connection point-like a hub or a switch. While it takes more cables, the benefit is, that if a cable fails, only one node is brought down.

Advantages of star topology are :

✎ The failure of a single computer or cable doesn't bring down the entire network.

✎ The centralized networking equipment can reduce costs in the long run by making network management much easier.

Disadvantages of star topology are :

✎ Failure of the central hub, causes a whole network failure.

✎ It is slightly more expensive than using bus topology.

5. Comparison Between Peer-to-peer networks and client/server networks

Peer-to-peer networks :

- ✎ Easy to set up
- ✎ Less expensive to install
- ✎ Can be implemented on a wide range of operating system
- ✎ More time consuming.
- ✎ Does not require a server

Client/server networks

- ✎ More difficult to set up
- ✎ More expensive to install
- ✎ A variety of operating systems can be supported on the client computers, but the server needs to run the operating system that supports networking.
- ✎ Less time consuming.
- ✎ Requires a server, for running a server operating system.

6. A protocol is a set of rules to govern the data transfer between the devices.

Types of Protocols

1. Transmission Control Protocol (TCP)
2. Internet Protocol (IP)
3. Internet Address Protocol (IP Address)
4. Post Office Protocol (POP)
5. Simple Mail Transfer Protocol (SMTP)
6. File Transfer Protocol (FTP)
7. Hyper Text Transfer Protocol (HTTP)
8. Ethernet

9. Telnet

10. Gopher

Lesson 2 : Advance Features of MS Excel

A. Multiple choice questions:

1. Chart area
2. Data series
3. Legend
4. Input Message
5. Freeze

B. State true or false :

1. True
2. True
3. True
4. True
5. True

C. Fill in the blanks :

1. chart
2. data marker
3. Axis
4. Data validation
5. freeze pane

D. Match the following :

1. (a)
2. (b)
3. (c)
4. (d)
5. (e)

E. Answer the following questions in short:

1. A chart is a tool in MS Excel that is used to communicate our data graphically. A chart can allow us to know the meaning behind our data.

2. We can easily change a chart type at any time. Following are the steps to change a chart type :

a. Select the chart.

b. On the Insert tab, in the Charts group, choose Column, and select Clustered Column.

3. Select the chart. We will notice that the Chart Tools contextual tab is activated

On the Design tab, click Switch Row/Column.

4. Types of Chart
   - Pie Chart
   - Column Chart
   - Line Chart
   - Bar Chart
   - Area Chart
   - Scatter Chart etc.

5. Data Tools are simply tools which make it easy to manipulate data. Some of them are used to save our time by extracting or joining data and others perform complex calculations on data.

6. Following are the steps to do so :
   - ✎ Select the sheet which we want to hide.
   - ✎ Now Click Hide Sheet from Hide & Unhide options from Cell group in Home Tab.
   - ✎ Click on Hide Sheet Option from Hide and Unhide.

F. Answer the following questions in detail :

1. Type the data in our excel worksheet.

   Before making a chart first of all we need to define a data series. A data series is a related set of data points. In an Excel worksheet it is usually one row of data with the associated column headings or one column of data with the associated row headings.

   To create a line chart, the steps are as follows :
   - ✎ Select the range A1:C6
   - ✎ On the Insert tab, in the Charts group, choose Line, and select Line with Markers.

2. Elements of a Chart
   - ✎ Chart area
   - ✎ Data marker (or Data point)
   - ✎ Data series
   - ✎ Axis
   - ✎ Tick mark
   - ✎ Plot area]
   - ✎ Gridlines
   - ✎ Chart text
   - ✎ Legend

3. To separate the contents of one Excel cell into separate columns. For this we can use the 'Convert Text to Columns Wizard'.

   Steps are as follows :

   1. Type the data in our worksheet.
   2. Select the range with full names.
   3. On the Data tab, click Text to Columns.
   4. Choose Delimited and click Next.
   5. Clear all the check boxes under Delimiters except for the Comma and Space check box.
   6. Click Finish.

4. Data validation is a powerful feature that is used to set up certain rules to dictate what can be entered into a cell. For example, we may want to limit data entry in a particular cell to whole numbers between 0 and 10. If the user makes an invalid entry, we can display a custom message.

   To create a data validation rule, the steps are as follows :

   1. Type the data in our excel worksheet.
   2. Select cell C2.
   3. On the Data tab, click Data Validation.

5. Split worksheet is division of the active worksheet into two or more new worksheets based on unique values.

   To split worksheet into upper and lower parts, steps are as follows :

   1. Click the split box above the vertical scroll bar.
   2. Drag it down to split your window.
   3. Notice the two vertical scroll bars.
      For example : use the lower vertical scroll bar to move to row 49.

6. We can use Freeze option if we have a large table of data in Excel. We can freeze either rows or columns. This way we can keep rows or columns visible while

scrolling through the rest of the worksheet.

Freeze Top Row : To freeze the top row, execute the following steps.

1. On the View tab, click Freeze Panes, Freeze Top Row.
2. Scroll down to the rest of the worksheet.

Result : Excel automatically adds a black horizontal line to indicate that the top row is frozen.

G. Define the following :

1. Plot area : It is the area where our data is plotted and it includes the axes and all markers that represent data points.
2. Gridlines : It make easier to view the data values represented by the tick marks.
3. Tick mark : It is a small line intersecting an axis.
4. Data validation : Data validation is a powerful feature that is used to set up certain rules to dictate what can be entered into a cell.
5. Chart Title : Chart title is a content control placed at the top of each chart control.
6. Error Alert : If users ignore the input message and enter a number that is not valid, we can show them an error alert.

Lesson 3 :

A. Multiple choice questions:

1.	Access	2.	Table
3.	Data items	4.	For Delete, Create table, Update
5.	Data types	6.	Filtering

B. State true or false :

1.	True	2.	True	3.	True
4.	True	5.	True		

C. Fill in the blanks :
1. RDBMS
2. data type
3. Auto number
4. Currency
5. table
6. Primary Key

D. Match the following :
1. (c)
2. (d)
3. (e)
4. (f)
5. (b)
6. (a)

E. Answer the following questions in short:
1. The components of MS Access are reports, queries, forms and table.
2. Data types that are used in MS Access are text, number, date and time yes/no, currency Auto number, Memo, OLE Object, Calculated.
3. The advantages of MS Access are :
   ✎ Easy to install and use.
   ✎ Large amount of data.
   ✎ Easy to integrate.
4. Record is a set date stored in a table.
5. A table is a database object that you define and use to store data update DATA. A table consists of records and fields. The difference ways to create table :
   ✎ Creating tables in datasheet view : In datasheet view, you can enter data into a new table without first defining the table structure.
   ✎ Creating tables in design view : When you create a table in Design view, you have more control over the databases design.
6. Forms is a graphical representation of a table, in which we used can insert new data , change the present data or even can delete it. Forms and tables use similar data. Whenever we change any record in form, it will automatically change in table.

7. Reports in Access allow you to print assembled data in a custom layout.

F. Answer the following questions in detail :

1. Before designing a database you must have to follow some guidelines.
   - Identify all the fields needed by you to produce the required information.
   - Organize each piece of data into its smallest useful part to make the design perfect.
   - Make group related fields into tables.
   - Determine each table's primary key which will uniquely identified.
   - You will have to include a common field in related tables.

2. Creating tables in datasheet view
   In datasheet view, you can enter data into a new table without first defining the table structure.
   - On the create tab, in the tables group, click the table button. A new blank table opens in the object window in datasheet view.
   Adding fields by entering data : Entering data in datasheet view is very similar to entering data in an excel worksheet. The main restriction is that data must be entered on contiguous rows and columns.

3. To create a table in Design view :
   - On the create tab, in the Table Design button. A New, blank table opens in the object window in Design view.
   - In the field name column, type a name for the first field. Field names can be up to 64 characters long. They can include any combination of letters, numbers, spaces, and brackets etc.
   - In the data type column click the down arrow and

select a data type from the list.

✎   In the description column, type a description for the field.

✎   Repeat steps 2 through 4 to add additional fields to the table. After entering the all fields save the table.

4.   Filters is the concept in MS-Access which allow you to view only the data you want to see.

To create a filter

✎   Click the drop-down arrow next to the field you want to filter by.

✎   A drop-down menu with a checklist will appear. Only checked items will be included in the filtered results.

•   Select and deselect items one at a time by clicking their check boxes.

•   Click Select All to include every item in the filter.

•   Click Blank to set the filter to find only the records with no data in the selected field.

✎   Click OK. The filter will be applied.

5.   Sorting : Arranging both text and numbers in ascending or descending order is called sorting.

Steps to sort are as follows :

✎   Select a field in the cell you want to sort by.

✎   Click the Home tab on the Ribbon, and locate the Sort & Filter group.

✎   Sort the field by selecting the Ascending or Descending command.

(a)   Select Ascending to sort text A to Z or to sort numbers from smallest to largest

(b)   Select Descending to sort text Z to A or to sort numbers from largest to smallest.

✎ The table will now be sorted by the selected field.

✎ To save the new sort, click the Save command on the Quick Access toolbar.

G. Define the following :

1. Data types : Describes the kind of information in the field.

2. Tables : A table is a database object that you define and use to store data update DATA.

3. Forms : It is a graphical representation of a table.

4. Queries : Query is in a database is a request for information from a DBMS.

5. Reports : It allows you to print assembled data in a custom layout.

6. Sorting : Arranging both text and numbers in ascending or descending order.

Lesson 4 : Adobe Photoshop

A. Multiple choice questions:

1. Title Bar   2. Action Palette

3. Blur   4. Dodge

5. Hue

B. State true or false :

1.	True	2.	True
3.	True	4.	True
5.	False		

C. Fill in the blanks :

1. Adobe Photoshop is an image

2.	Zoom	3.	healing brush
4.	crop	5.	Burn

D. Give the tools activated by following alphabet :

1. Path Selection   2. Brush

3. Crop	4. Eraser
5. Gradient	6. Hand
7. Eye dropper	8. Healing brush
9. Slice	10. Marquee
11. Pen	12. Horizontal type

E. Answer the following questions in short :

1. Adobe Photoshop is an image processing software mainly used for photo retouching and manipulating image using some image base you may also create some original piece of art.

2. Palette are the small window screen. It helps you to monitor and modify the images.

3. Lasso Tool lets you draw both straight edged and freehand segments of a selection border.

4. Colour modes determines the colour model used to display and print image.

5. You can get the image duplicated by following steps :

   Step 1 : Click on Insert menu

   Step 2 : Select duplicate from the list

   The current picture will be duplicated

F. Answer the following questions in detail :

1. Features of Adobe Photoshop

   ✎. New Paint Symmetry : This feature allow you to draw reflected strokes by using pen, pencil and brush tools.

   ✎. Rich Tool Tips : This feature display tips of using tool in form of text or video.

   ✎. Artificial Intelligence Assisted Upscale : This feature preserve important details and texture.

✎. Easy Copy and Paste Layers : This feature allows you to copy and paste layers within a document and among documents.

2. The opening screen of Photoshop consist of :

A. Title Bar : This indicates the name of software, file name, control button and also the size of the work area in percentages.

B. Menu Bar : Menu bar gives the display of different menu used to perform different task on the software.

C. Tools Option Bar : This is the bar which displays the options available by software.

D. Palette : Palette are the small window screen. It helps you to monitor and modify the images.

3. Hue : The word refers to the shade of colour being used in an image. It is generally identified by the name of the color. While adjusting the Hue of the colour it changes the value of color as it move around the color wheel.

Saturation : In Saturation the colour scheme Shifts away or towards the center of the colour wheel and so you can find the difference in the image.

To change the saturation you can change the sliders of saturation in any of the following way.

Move Right : To increase the saturation.

Move Left   : To decrease saturation

4.   The act of cutting the unwanted part from the image is called Cropping.

The image can be cropped by the crop tool. Select the crop tool from the toolbox, select the area in the Image that you need to crop.

Photo paint will display a confirmation box as waiting for your confirmed answer as soon as you give positive

confirmation, the final image appears after cropping.

5. The steps given below as :

Step 1 : Click on File menu

Step 2 : Select Save from the list

Step 3 : Give the file name

G. Give the use of following tools :

1. Rectangle Marquee Tool : Rectangle Marquee tool is used to make a rectangular selection.

2. Elliptical Marquee Tool : It is used to make an elliptical selection.

3. Lasso Tool : Lasso Tool lets you draw both straight edged and freehand segments of a selection border.

4. Eraser Tool : The Eraser Tool changes pixels in the image as you drag through them. If you are working in the background, then the pixels change to the background colour otherwise, the pixels are erased to transparent.

5. Gradient Tool : The Gradient Tool create a gradual blend between multiple colour. You can choose from present gradient files or create your own.

6. Blur Tools : The blur tools softens hard edges or areas in an image to reduce detail.

7. Rectangle Tool : Rectangle Tool is used to draw rectangles.

8. Line Tool : Line tool is used to add lines to the drawing pane.

9. Polygon Tool : Polygon Tools is used to draw polygon.

10. Dodge Tool : Dodge Tool is used to lighten area of the image.

11. Horizontal Type Tool : Horizontal Type Tool is used to type text horizontally.

12. Slice Tool : You can create user defined slices with the Slice Tool.

Lesson 5 : More about Adobe Photoshop

A. Multiple choice questions:

1.   Repair
2.   Cloning
3.   Blur, Sharpen and Smudge
4.   Burn
5.   Background Eraser
6.   Magic Eraser

B. State true or false :

1.   False
2.   False
3.   True
4.   False
5.   True

C. Fill in the blanks :

1.   healing brush
2.   cloning
3.   Dodge
4.   sponge
5.   selection tool

D. Answer the following questions in short:

1.   The healing brush allows the user to select an area of an image and remove blemishes.

     The patch tool can be used to easily remove unwanted objects from an image.

2.   The pattern stamp adds texture to an image.

3.   Tolerance specifies the tools sensitivity. The lower the tolerance number the lower the number of like color pixels chosen. The larger the tolerance number the greater the number of color pixels or ranges is chosen.

4.   There are four text tools: horizontal text, vertical text, horizontal mask tool, vertical mask tool.

5.   Filters are effects that can be added to an overall image.

     a.   Choose an image that the filter will be applied to

     b.   Choose the filter options from the pull down menu labeled Filters

E.   Answer the following questions in detail :

1.   The cloning tools allow the user to copy images within a graphic or use items within the image to replace other images.

   a.   Choose the Cloning Tool

   b.   Holding down the alt key and pressing the mouse, you make a selection area to choose your image from.

   c.   Release the alt key and the mouse, position the mouse over the area that you wish the cloned image to appear, click and begin to paint. This tool work similar to the healing brush.

2.   These tools will do the process as they are described by name. These tools are used to blend object together or to hide imperfections.

   Each one of these tools works through the use of a paint brush and the options for each tool can be set to allow for small or large areas.

3.   Dodge tool will lighten the image as it is painted on the screen. The Burn tool will darken the image or give a burned effect to the image.

4.   Replacing Part of an Image

   ✎.   Using a selection tool, create the selection that you want to remove

   ✎.   Open the image that will be the replacement

   ✎.   Draw a selection area on the new image

   ✎.   Choose Edit Copy

   ✎.   Return to the first image and choose Edit

   ✎.   Select Paste Into

5.   There are three different eraser tools: eraser, background eraser, and magic eraser.

- ✎ The eraser tool is used to erase object on the canvas
- ✎ The background eraser is used to erase with tolerance and to erase background objects on layer without affecting foreground objects.
- ✎ The magic eraser erases using pixels.

F. Define the following :

1. Repair Tool : The repair tools include the healing brush and the patch tool.

2. Cloning Tools : The cloning tools allow the user to copy images within a graphic or use items within the image to replace other images.

3. Eyedropper : The eyedropper tool is used to select a colour from an image or any Photoshop documents.

4. Magic eraser : The magic eraser is best used when you want to erase a large area that is in the same color scheme.

5. Burn Tool : The burn tool will darken the image or give a burned effect to the images.

Lesson 6 : Flash

A. Multiple choice questions:

1.	Internet	2.	Flash
3.	Web	4.	HTML
5.	layers	6.	Panels

B. State true or false :

1.	True	2.	True
3.	False	4.	False
5.	True	6.	False

C. Fill in the blanks :

1.	web	2.	unique

3. movie   4. Timeline

5. visible   6. lasso

7. smooth

D. Write the key/key combination for the following :

1. F5   2. Ctrl + R

3. F8   4. Ctrl + G

5. Ctrl + B   6. Ctrl + R

E. Answer the following questions in short:

1. The default dimension size of a stage is 550 × 400 pixels.

2. The default frame rate is 24fps.

3. Extension of Flash Movie file is .swf.

4. Extension of Flash player file is .swf.

5. .fps stands for frames per frames per second i.e. the number of images displayed in succession per second.

6. The Pencil Tool draws lines in three different modes : straighten, smooth, ink.

F. Answer the following questions in detail :

1. Flash is one of the most popular technologies on the Internet, which has created a way of including multimedia on web. It is the gateway to the state of art web contents. It is a stand-alone piece of software for producing and delivering high-impact multimedia and web experiences.

   Flash is one of the best multimedia formats on the Internet today for following reasons :

   ✎ Interactivity

   ✎ Cross-Browser Compatibility

   ✎ Creativity

2. Stage is an area where you directly draw or arrange or import enquired artwork from other sources to create a movie.

3. The Timeline organises and controls a movie's content in layers and frames. The essential components of the Timeline are layers, frames and the play head.

4. Library in a Flash movie stores symbols, including those created in Flash and those imported into it. It allows you to view and organize these files as you work. The Library window displays a scroll list with the names of all the items in the library. An icon next to an item's name in the library window indicates the item's file type.

5. Properties Panel is placed just below the Stage and appears by default when Flash is launched. Using the Properties Panel, you can easily manipulate all your movie contents from one place.

   The Properties Panel is contextual; it changes with the type of tool chosen.

6. Symbols are reusable elements that you use in a movie. There are three types of symbols: Graphic, Button and Movie. When you create a symbol, it is stored in the Flash library. When you place a symbol on the Stage from the library, you create an instance of that symbol i.e. a copy of the symbol.

   When a particular element is required more than once in a movie. By converting the element into a symbol, we can simply drag it from the library to the stage each time we need that element i.e. the instance of that symbol.

7. It allows to make an object move across the stage, increase or decrease the size, rotate, change color or change shape. Animations, like movie films are made up of many frames, each of which has a slight change from the last one.

8. There are two methods for creating an animation sequence in Flash :

- Frame-by-Frame Animation
- Tweened Animation

Frame-by-Frame Animation : In frame-by-frame animation we create the image in every frame. This is the most time consuming method,

Tweened Animation : Creating an animation by using frame-by-frame technique requires lot of work and attention

9. Flash has three types of Tweenings

Motion Guide Tweenings : Moving objects from position A to B along a customized path.

Tint Tweenings : It includes going from one keyframe to another while taking small steps for each of frame in between.

Shape Tweenings : Graduated change in the shape of an object into another shape.

10. Motion Guide Tweenings : Moving objects from position A to B along a customized path.

Tweening simply means going from one keyframe to another while taking small steps for each of the frames in between. Sometimes you want to add an effect that is graduated over several frames.

For example, Sun moves from the left side of the screen to the right side. Instead of moving a sun a little bit in each frame, you can simply position the sun on the first frame and then insert a keyframe where the sun should stop and finally instruct Flash to tween between the two keyframes.

11. A keyframe is a frame in which you define a change in an animation and include frame actions to modify a movie.

12. Shape Tweenings : Graduated change in the shape of an object into another shape.

F. Arrange the following steps in correct order :

S 1 : Draw the Sun and convert it into a symbol (F8) select the Graphic option and name the symbol as Sun I. Delete it from the stage.

S 2 : Move to the Library panel and drag the sun onto the stage.

S 3 : To enter a keyframe in frame 20, click the frame 20 and then press F6.

S 4 : Now right-click the 1st frame in the Timeline and select Create Motion Tween from the pop-up menu .

S 5 : In the frame. move the sun to a different position i.e. right side of the stage.

S 6 : Select the 10th frame and insert a Keyframe (F6) and move the sun to another different location say, above the current position to create a motion sequence (automatically tweened by Flash) as shown below:

S 7 : Save your work and test the Movie (Ctrl + Enter). Finally you have created simple animation using Motion Tween.

Lesson 7 : Advanced Features of HTML

A. Multiple choice questions:

1.	Ordered	2.	SRC
3.	ALT	4.	JPEG
5.	Target		

B. State true or false :

1.	True	2.	False
3.	True	4.	False
5.	True	6.	False

C. Fill in the blanks :

1.	src	2.	<img>
3.	GIFs, JPEGs	4.	Hyperlinks

5.   href   6.   <input>

7.   Table columns

D.   Answer the following questions in short:

1.   HTML offers three different type of lists.

   a.   Ordered list

   b.   Unordered Information

   c.   Definition List

2.   Links that take you directly to other pages and even specific parts of a given page. These links are known as hyperlinks.

3.   Target attribute, define where the linked document will be opened. By default, the link will open in the current window.

4.   A table element consists of three different HTML, tags including the <table> tag, <tr> (table rows) and the <td> (table columns) tags.

5.   The <input> element, is used to select user information.

E.   Answer the following questions in detail :

1.   Empty Elements : These elements are called empty or void elements and only have a start tag since they can't have any content. They must not have an end tag in HTML. Instead they do something on their own. For e.g.
 tag breaks the line and displays the text from the next line.

   Container Elements : In HTML, the container is the area enclosed by the beginning and ending tags. For example: <HTML> encloses an entire document while other tags may enclose a single word, paragraph, or other elements. In HTML code, all container must have a start and stop tag to close the container.

   For example : <HTML> -- </HTML>

2.   A definition list may contain numerous terms and descriptions, one after the other.

A definition list starts with a <DL> tag (definition list).

Each term starts with a <DT> tag (definition term).

Each description starts with a <DD> tag (definition description).

Inside the <dd> tag, you can put paragraphs, line breaks, images, links, other lists, etc.

3.   GIFs can have no more than 256 colours, but they maintain the colours of the original image. The lower the number of colors you have in the image, the lower the file size will be.

JPEGs on the other hand use a mathematical algorithm to compress the image and will distort the original slightly. The lower the compression, the higher the file size, but the clearer the image.

4.   You can insert any image in your web page by using <img>tag.

The <img> tag is an empty tag, which means that it can contain only list of attributes and it has no closing tag.

The src attribute tells the browser where to find the image.

5.   An anchor can point to any resource on the Web.

The <a> tag is used to create an anchor to link from, the href attribute is used to tell the address of the document or page we are linking to, and the words between the open and close of the anchor tag will be displayed as a hyperlink.

6.   To create an email link, you will use mailto: plus your email address. Here is a link to ACC's Help Desk:

Email Help Desk

7.   Radio buttons let a user select ONLY ONE of a limited number of choices :

```
<form>
<input type = "radio" name = "sex" value = " male">
Male <br>
<input type = "radio" name = "sex" value = " female">
Female <br>
</form>
```

Lesson 8 : Artificial Intelligence (AI)

A. Multiple choice questions:
1. Pattern recognition
2. AI
3. CV
4. Making a machine intelligent
5. Humans
6. Big data

B. State true or false :

1.	True	2.	True	3.	True
4.	True	5.	True		

C. Fill in the blanks :

1.	human, machine	2.	NLP
3.	Computer vision	4.	smaller
5.	space		

D. Answer the following questions in short:
1. Artificial Intelligence is the branch of computer science that aims at creating expert and intelligent computer system.
2. AI's can be defined as massive amount of stored data which when analysed properly could reveal valuable insights into industry to which data belongs.
3. NLP stands for Natural Language Processing, is the study of methods by which computers can recognize and

understand spoken or written human language.

4. A subset of mainstream AI that deals with science of making computers or machines visually enabled.

5. Self driving cars uses computer vision to examine surroundings and plan its path.

E. Answer the following questions in detail :

1. Some main areas of application of AI are :

   Natural Language Processing : It is the study of methods by which computers can recognize and understand spoken or written human language. Speech recognition software are an example of NLP where computer translate spoken speech into text.

   Pattern Recognition : This type of software comprises of a camera and software which together identify repetitive patterns and establish connections between the patterns stored in the database and the perceived patterns. Finger print identification and automatic voice recognition software are some examples of pattern recognition software.

2. Various advantages of artificial intelligence are :

   a. Process Automation : Human have the tendency to get bored while performing repetitive tasks, which can alter their productivity. Such tasks can be done by intelligent machines.

   b. Quick Decision Making : The speed at which human take decision is much smaller than AI systems

3. It can be defined as massive amount of stored data which when analysed properly could reveal valuable insights into industry to which data belongs.

   Internet is biggest data provider of consumer habits, likes and dislikes, activities and personal preferences

which were otherwise not possible.

Social media accounts, online profiles, product reviews, tagged interest, shared content, almost every information adds value to big data.

4. NLP stands for Natural Language Processing, is the study of methods by which computers can recognize and understand spoken or written human language. Speech recognition software are an example of NLP where computer translate spoken speech into text.

Lesson 9 : Computer Safety and Security

A. Multiple choice questions:

1.	disks	2.	VIRUS
3.	Software	4.	Viruses
5.	pen drives	6.	boot
7.	script	8.	computers

B. State true or false :

1.	True	2.	False
3.	True	4.	True
5.	False	6.	True

C. Fill in the blanks :

1.	Hardware	2.	access, deleted
3.	appearing	4.	Macro virus
5.	Hacking	6.	Phishing
7.	Biometric	8.	firewall, security

D. Answer the following questions in short:

1. Software attacks (logic bombs, Trojans, worms and viruses) are deliberate and can also be significant. Software threats can be general problems or an attack by one or more types of malicious programs.

2. A virus is a piece of code or program developed to corrupt the data or program files stored on computer system.

3. Hacking is to practise of modifying the features of a system, in order to accomplish a goal outside of the creator's original purpose.

4. A Trojan horse, or Trojan, is a hacking program that is a non-self-replicating type of malware which gains privileged access to the operating system while appearing to perform a desirable function but instead drops a malicious payload, often including a backdoor allowing unauthorized access to the target's computer.

5. Encryption is a very sophisticated security measure used in scenarios where security measures are extreme. A code language is developed and transmitted to the receiver. This is called encryption.

E. Answer the following questions in detail :

1. Antivirus is a kind of software used to prevent scan, detect and delete viruses from a computer. Once instald, most antivirus software runs automatically in the background to provide protection against virus attacks. Eg. Norton, MCAfee.

2. This virus loads itself to the boot sector of the floppy disk or master record of hard disk in order to be loaded to the memory before the operating system is loaded. As soon as the virus becomes residence it will be able to infect each inserted disk to that computer.

3. Following precautions should be taken to secure and protect important data –
   a. Back up your data.
   b. Use strong passwords and multi-factor authentication.
   c. Be aware of your surroundings.

d.   Be aware of suspicious e-mails.

   e.   Install anti-virus and malware protection.

   f.   Protect your device.

4. Phishing is a very specific type of cybercrime that is designed to trick you into disclosing valuable information such as details about your bank account or credit cards. Often, cybercriminals will create a fake website that looks just like a legitimate site such as a bank's official website. The cybercriminal will try to trick you into visiting their fake site typically by sending you an email that contains a hyperlink to the fake site. When you visit the fake website, it will generally ask you to type in confidential data such as your login password or PIN.

5. A firewall is a security device that can be a software program or a dedicated network appliance. The main purpose of a firewall is to separate a secure area from a less secure area and to control communications between the two. A firewall is a system designed to prevent unauthorized access to or from a private network. You can implement a firewall in either hardware or software form, or a combination of both. Firewall prevent unauthorized Internet users from accessing private networks connected to the Internet.

6. Computer virus is a piece of code or program developed to corrupt the data or program files stored on computer system. Two type of viruses are :

   File-infecting virus : This virus technique is to attach itself to the executable files, which are the files ending with .exe, .com, .all, and .drv, and these are the main program files and drivers.

   Boot sector virus : This virus loads itself to the boot sector of the floppy disk or master record of hard disk in order to be loaded to the memory before the operating

system is loaded. As soon as the virus becomes residence it will be able to infect each inserted disk to that computer.

F.   Write a line about the following :

1.   File-infecting virus : This virus technique is to attach itself to the executable files, which are the files ending with .exe, .com, .all, and .drv, and these are the main program files and drivers.

2.   Boot sector virus : This virus loads itself to the boot sector of the floppy disk or master record of hard disk in order to be loaded to the memory before the operating system is loaded. As soon as the virus becomes residence it will be able to infect each inserted disk to that computer.

3.   Macro virus : Macro virus is a type of mini-program that can easily infect a particular computer system. Macro virus runs inside another program. Macro virus possesses immense ability to spread in a swift manner thus infecting popular applications used for everyday computing purposes.

4.   Script virus : This type of virus is written using script languages. They spread and infect files by taking advantage of vulnerability- ties in the Microsoft Windows operating systems; opening e-mails or accessing web pages.

5.   Polymorphic virus : This virus has the ability to change each time it replicates using different encryption routines through its additional unique mutation engine.