

## **MULTIMEDIA AND ITS APPLICATIONS**

**Level II**

**Computer Book**

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## Preface

We take this opportunity to praise the Almighty for his leading Hitherto.

It is our great privilege to express our gratitude to our college **President Thiru. A.P.C.V.Chockaligam and Secretary Thiru.A.P.C.V.Shanmugam** providing us this opportunity to write this book and for their encouragement.

We extend my grateful thanks to our **Principal Dr.T.Kanagaraj** and our colleagues for enthusiastic inspiration, encouragement and favor to complete this book.

We are always indebted to family members, friends and our students for their kind co-operation, prayer, encouragement and support in carrying out this book publication.

This computer book description and analysis of the subject is the Indian context. It covers the syllabi of V.O.C.College of Education on this subject in simple and lucid language drawing examples from our society and Indian educational system.

We have presented this book in a very simple, lucid and self contained manner for the benefit of study and write examinations.

If there is any mistakes in this book please point out to us this is help to our growth and professional development.

Last but not least we are thankful to publisher and the printer who helped in publishing our work.

Thanking you

By,

**AUTHORS**

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## **COMPUTER SYLLABUS**

### **Level II MULTIMEDIA AND ITS APPLICATIONS**

#### **Unit I – Basic Tools in Photoshop CS4**

Exploring the New Interface-Title bar, Tool bar, Menu bar, The Options bar, Document Window, The Tool box; Working with Images - Differences between Vector and Bitmap Images - Editing Images - Different Color Modes in Photoshop CS4 - File Formats in Photoshop - Working with Selection Tools Drawing, Painting and Retouching Tools - Mastering Layers in Photoshop and Layer Style - Layers Palette - Masking Layers - Type Tools.

Performing Photo merge in Photoshop CS4; Text Editing in Photoshop CS4: Finding and Replacing Text; Creating 3D Artwork in Photoshop CS4: Creating 3D Shape, Editing 3D Shape, Loading a New Texture to 3D Shape, Animation in Photoshop CS4, Printing in Photoshop CS4.

#### **Unit II – Adobe PageMaker 7.0**

PageMaker Tools – File Menu – Edit – Layout – Type Menu – Element Menu – Utilities Menu – View Menu – Window Menu – Help Menu.

#### **Unit III – Cloud Computing**

Introduction to Internet – Creating E-Mail ID – Web Browsing – Signing In and Signing Out – Composing Messages – Checking Mail – Search Engines – Educational Websites – Google Groups – Google Drive.

#### **Unit IV – Video Creating and Animation**

Conversion of PPT slides into Video (AVI, MPEG, MP4) - Save PPT Files into PDF Files – Video Maker Application – Video Documentation – PDF Tools.

#### **Unit V - Social Media**

Facebook, Twitter, Whatsapp, Blog and MOOC.

### **PRACTICALS**

1. Create Text effects – Text Effect, Fire Effect, Blood Effect and Neon Effect.
2. Create an ID Card by using Photoshop CS4.
3. Create a Banner by using Photoshop CS4.
4. Create an Invitation by using Photoshop CS4.
5. Create a Theme by using Photoshop CS4.
6. Collage Work by using Photoshop CS4.
7. Create 3D Animation by using Photoshop CS4.
8. Create a Wrapper by using PageMaker 7.0.
9. Create a Newsletter by using PageMaker 7.0.
10. Create a Power Point Presentation and change into Video by using Video Maker.
11. Create a Blog.

### **PROJECT WORKS**

- 1. Create Mini Teaching Lesson Plan through Power Point Presentation**
- 2. Create an Invitation for your College Day.**
- 3. Create a Blog and upload your Pictures/Assignments/Class notes.**

### **EVALUATION**

**THEORY : 100 Marks**

**PRACTICAL : 50 Marks**

**PROJECT WORK : 50 Marks**

# UNIT I

## BASIC TOOLS IN PHOTOSHOP CS4

### GETTING FAMILIAR WITH PHOTOSHOP CS4

When digitization of information started in the early years of the advent of computers, nobody would have thought that a day will arrive when we will be able to digitize our memories and creativity, that is, transforming them, from photo-print paper, into digital images. This small assumption was turned into reality by the developer of Photoshop, **Thomas Knoll**, two decades ago when the first version of Photoshop was released in 1988. Ever since its first launch, it continues to witness success. The popularity of Photoshop speaks for itself. Over the years, Photoshop has been widely used in the graphic and publishing industries and by print designers, Web and multimedia designers, digital photographs and videographers.

The new version of Photoshop, Photoshop CS4 was introduced by Adobe with some breakthrough features, such as better raw image processing, more efficient Adobe Bridge from title handling, easy conversion from 2-D images to 3-D images, direct painting on 3-D images, 3-D animation, and sound rendering.

Going through the basic concepts, discussion tools, studying various palettes, applying filters and styles, learning different commands, this unit takes through the advance features of Photoshop CS4. This unit introduces with the new tools and attributes added in Photoshop CS4.

### EXPLORING THE NEW INTERFACE

Similar to any other application software, Photoshop CS4 has its own interface with self-adjustable docks, workspace presets and new palettes. Working in Photoshop CS4 it is easier than working in the earlier versions.

#### **The Toolbar**

The toolbar is located at the top of the Photoshop CS4 window.

#### **The Menu Bar**

The menu bar is a collection of 11 useful menus, including new 3-D menu.

#### **The Option Bar**

The option bar is located below the menu bar in the Photoshop CS4 window. The option bar displays options specific to the tool we select from the toolbox.

## **The Adobe Bridge Application**

The Adobe Bridge is a common application in Adobe Creative Suite 4.

### **Workspace**

Workspace is an arrangement of the working area in the Photoshop window, which includes the placement of the palettes and the Toolbox we need on the screen according to the requirements.

### **The Document Window**

The document window is a place where images are edited and only this part of the screen is printed.

### **The Document Title Bar**

Whenever we open an image in Photoshop, an additional Title bar appears on top of the image. The title bar of the image displays vital information about the image opened in Photoshop. This information includes the name of the file, its format, zoom size, color mode and bit of the image.

### **The Status Bar**

The status bar is located at the bottom of every document window and displays useful information about the file.

### **The Toolbox**

The Toolbox in Photoshop CS4 is sleek in design with a single column. The Toolbox is upgraded with some new tools, whereas old legacy tools of Photoshop, considered the key features of Photoshop, are retained unaltered. These tools are used to create and edit images in different ways.

NAME	Short Cut Key	PURPOSE
Move Tool	V	Enables to move images or objects
Rectangular Marquee Tool	M	Enables to make rectangular or square selection
Elliptical Marquee Tool	M	Enables to make circle or elliptical selection
Single Row Marquee Tool	M	Enables to make single row selection

Single Column Marquee Tool	M	Enables to make single column selection
Lasso Tool	L	Enables to make free form selection with a mouse click
Polygonal Lasso Tool	L	Enables to make straight edge selection
Magnetic Lasso Tool	L	Enables to make automatic free form selection on edges
Quick Selection Tool	W	Enables to make quick selection with a brush tip
Magic Wand Tool	W	Enables to select similar color in an image
Crop Tool	C	Enables to crop an image
Slice Tool	C	Enables to create slices in an image
Slice Select Tool	C	Enables to select the slices created by slice tool
Eye Dropper Tool	I	Enables to select color from an image
Color Sampler Tool	I	Enables to create color samplers in an image
Ruler Tool	I	Enable to position an image precisely between any two points
Notes Tool	I	Enables to add test note in an image
Count Tool	I	Enables to count objects in an image
Spot Healing Brush Tool	J	Enables to remove imperfections and blemishes from an image
Healing Brush Tool	J	Enables to repair pixels by blending them seamlessly
Patch Tool	J	Enable to repair the selected area with pixels of another area
Red Eye Tool	J	Enables to remove Red Eye effect from an image

Brush Tool	B	Enables to paint an image with specified color
Pencil Tool	B	Enables to paint hard-edged stroke
Color Replacement Tool	B	Enables to replace specific colors
Clone Stamp Tool	S	Enables to clone and duplicate the selected area
Pattern Stamp Tool	S	Enables to paint an image with desired pattern
History Brush Tool	Y	Enables to paint with a snapshot present in the History palette
Art History Tool	Y	Enables to paint an image using source data specified from a specified history state or snapshot
Eraser Tool	E	Enables to erase some region from an image
Background Eraser Tool	E	Enables to erase the background of an image
Magic Eraser Tool	E	Enables to erase pixels from similar colored area
Gradient Tool	G	Enables to fill gradients
Paint Bucket Tool	G	Enables to fill with foreground color
Blur Tool	-	Enables to blur an image
Sharpen Tool	-	Enables to sharpen an image
Smudge Tool	-	Enables to smudge an image as if it is retouched by a finger
Dodge Tool	O	Enables to lighten pixels in an image
Burn Tool	O	Enables to darken pixels in an image
Sponge Tool	O	Enables to change the saturation of color in a selected area

Pen Tool	P	Enables to create lines and curves with anchors points
Freeform Pen Tool	P	Enables to create lines and curves with automatic anchor points
Add Anchor Point Tool	P	Enables to add anchor point in a path created by Pen tool
Delete Anchor Point	P	Enables to delete anchor point from a path created by pen tool
Convert Point Tool	P	Enables to reshape curves in a path created by Pen tool
Horizontal Type Tool	T	Enables to type text horizontally
Vertical Type Tool	T	Enables to type text vertically
Horizontal Type Mask Tool	T	Enables to type text horizontally with masking effect
Vertical Type Mask Tool	T	Enables to type text vertically with masking effect
Path Selection Tool	A	Enables to select path, with anchor point, created by the Pen tool
Direct Selection Toll	A	Enables to change the placement of anchor in a path created by the Pen tool
Rectangle Tool	U	Enables to draw rectangle or square shapes
Rounded Rectangle Tool	U	Enables to draw round-edge rectangle or square shapes
Ellipse Tool	U	Enable to draw round or elliptical shapes
Polygon Tool	U	Enables to draw polygonal shape
Line Tool	U	Enables to draw straight lines
Custom Shape Tool	U	Enables to draw custom shapes

3D Rotate Tool	K	Enables to rotate a 3D object, model or shape
3D Roll Tool	K	Enables to rotate a 3D object, model or shape on its Z-axis
3D Pan Tool	K	Moves the object on the X and Y axis
3D Slide Tool	K	Enables to move a 3D object, model or shape horizontally, up or down to move the object, model or shape closer or farther
3D Scale Tool	K	Enables to increase or decrease the size of 3D object, model or shape
3D Orbit Tool	N	Orbits the view of an object on X and Y axis
3D Roll View Tool	N	Rotates the view of an object on the Z axis
3D Pan View Tool	N	Pans the view of an object on the X and Y axis
3D Walk View Tool	N	Enables 3D positioning of an object and allows to zoom in or zoom out the object
3D Zoom Tool	N	Enables to zoom in and out the 3D object
Hand Tool	H	Enables to navigate an image
Rotate View Tool	H	Enables to rotate the canvas in any direction
Zoom Tool	Z	Enables to zoom in or zoom out an image
Set Foreground and Background Colors	-	Enables to select and toggle between back and foreground colors
Edit in Standard Mode	-	Enables to edit an image in standard screen mode
Edit in Quick Mask Mode	Q	Enables to edit an image in Quick Mask Mode

## **Introduction**

### 1. Adobe Photoshop

- The professional image-editing standard

### 2. Two general usage of Photoshop

- Creating images

- Editing existing images

How to get started?

1<sup>st</sup> option

Click “Start” >>> Find and click “Photoshop CS4”

## **Preparation before starting work**

Option 1: Creating an image

Option 2: Editing existing images

\* Option 1: Creating an image

Step 1: Click “File” → Select “New”

Step 2: Type a name for our work in the name box

→ Decide the size of our work

\* Option 2: Editing existing image

Step 1: Click “File” → Select “Open”

Step 2: Search the location of our image in the box → Click “Open”

## **Menu**

### 1. File

a. Save, Save as, Save for web

Save

Save as: Save as a new file name

Save for web: Save an image as a form of “\*.jpg” or “\*.gif” which is used for web image

b. Import, Export

Import: Bring another image into the canvas we are working

Export: Sending the image we are working to other applications

c. Print

## 2. Edit

### a. Undo, Step Forward/Backward

Undo: Cancel the last work

Step Forward: Move to the next stage which we did

Step Backward: Move to the previous stage which we did

### b. Cut, Copy, Paste

Cut: Get rid of a part which we select

Copy: Copy a part we select

Paste: Attach the part we copied

## 3. Image

### a. Mode: Select a type of color

### b. Image size, Canvas size

Image size: Change the size of the image

Canvas size: change the size of the canvas where we are working

(Bottom of our image)

### c. Rotate canvas: Changing the direction of our canvas

## 4. Layer

### a. New, Delete

New: Create a new layer

Delete: Get rid of a layer we selected

### b. Arrange

Change the order of layers

### c. Merge

Make layers into one layer

## 5. Filter

Various kinds of technical effects

## 6. View

Zoom in/out

Zoom in

Zoom out

### b. Print size

Help to print only what we need

c. Extras

Showing horizontal and vertical lines by dividing into separate sectors

7. Windows

- The same function with “view” in other windows applications such as MS-Office
- We can select what we want to make visible on our page and what we don’t want to make visible on our page

**Toolbar**

1. Marquee, Lasso, Magic Wand, Crop
2. Move
3. Brush, Gradient, Paint Bucket
4. Erase
5. Clone Stamp, Pattern Stamp
6. Smudge, Dodge, Sponge
7. Text
8. Set Foreground/Background color

1. Marquee, Lasso, Magic Wand, Crop



a. Marquee: Select a part of an image we are working with arranged form such as rectangular and elliptical.



b. Lasso: Draw selection paths freehand with a mouse

- If we click and hold, we can change the tool so that we can draw polygons



c. Magic Wand: Select all the same-color or similarly colored adjacent pixels



d. Crop: Crop the image

The selected area will be surrounded with a blinking dotted line

## 2. Move



Move the image on a selected layer to other part of canvas we are working

## 3. Brush, Gradient, Paint Bucket



a. Brush: Basic tools for drawing a line



b. Gradient: This helps to paint stage by stage with more than 2 colors



c. Paint Bucket: Fill out a cropped part with just one click of this tool

## 4. Erase



Erase what we cropped or where we click with our mouse after selecting this tool.

## 5. Clone Stamp, Pattern Stamp



a. Clone Stamp: Copy a selected part and restore it where we want.



b. Pattern Stamp: This is nearly the same tool with clone stamp, but we can arrange the shape we cropped, and we can use it as a fixed shape.

## 6. Smudge, Dodge, Sponge



a. Smudge: Effect as such rubbing canvas with fingers



b. Dodge: Make it bright the part where we scrub with this tool.



c. Sponge: Saturate or desaturate selected part of an image.

#### 7. Text



Type in various characters

#### 8. Set foreground/background color



Foreground color: The color of image what we draw with a drawing tool such as brush tool.

Background color: When use the gradient tool, the color will be different from the foreground color.

### Move Tool

Move tool is used to move an image or a portion of the image from one location to another.

### Eyedropper Tool

Eyedropper Tool allows to select the foreground or background color of an image.

### Zoom Tool

Zoom tool gives a zoomed or contracted view of an image.

### Hand Tool

When we enlarge the size of an image, sometimes the entire image is not visible in the Document window.

### Type Tool

Type refers to text, where text is described as a set of mathematical expressions that define letters, numbers and other characters.

### Quick Selection Tool

Quick selection tool in Photoshop CS4 provides an easy way to make a selection in an image. It is a brush tip selection tool whose size can be increased and decreased. There are three main options available under Quick Selection Tool.

- New Selection

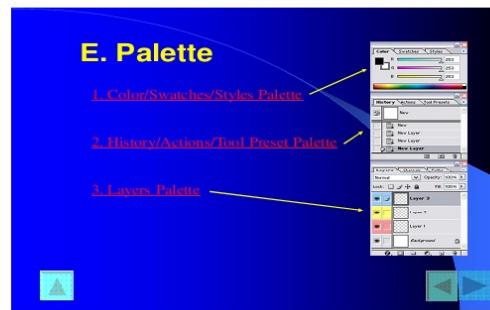
- Add to Selection
- Subtract from Selection

### 3-D Tools and Menu

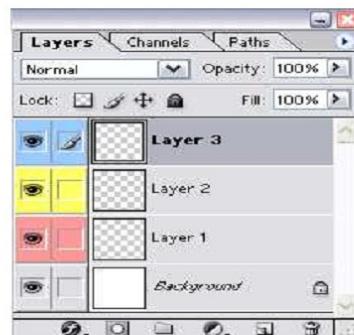
Photoshop CS4 comes with built-in 3-D tools and the 3-D menu.

### ALL NEW TABBED PALETTES

In Photoshop CS4, the palettes have a complete new look. They can be seen in the form of tabs or icons in the new Photoshop CS4 interface, which increases the work area. The palettes here can be managed better than that in previous versions of Photoshop.



### Layers Palette



Layer Palette: Separate each step of works from others.

By making layers and working different steps on each layer, we can make separate effects on each layer.

In a flat image, every pixel resides on one single plane. The layer named Background is the base layer. To start creating layers, they appear in a hierachal position above each other inside the Layers palette.

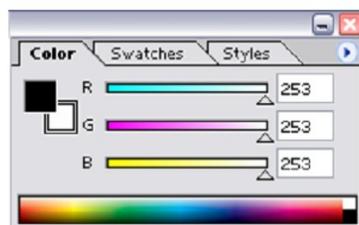
### Channels Palette

The Channels palette allows creating and managing channels. The channels palette lists all the channels in the image in the form of a composite channel (for RGB, CMYK and Lab images).

### Colors Palette

The colors palette allows us to select a color mode, such as RGB, CMYK and HSB for the background as well as the foreground.

### Color/Swatch/Styles Palette



Color Palette: Mix the color (basically RGB colors) and select it for the foreground and background colors. In case of another color type, we can choose it among the list of the pop-up menu



We can choose colors among the samples of colors.



We can choose a special effect of colors on the layer we selected, such as texts, buttons, and images

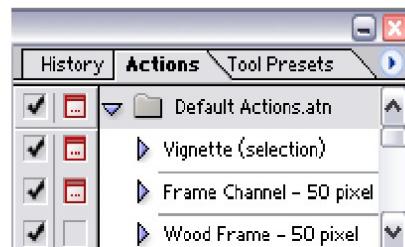
### **History Palette**

The history palette use to jump to any recent state of the image created during the current working session. Each time an image is modified, the new state of the image is added to the palette.

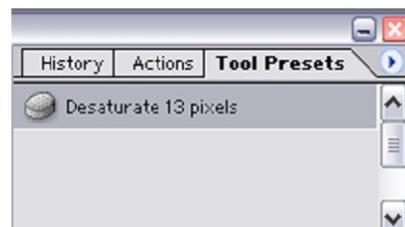
### **History/Action/Tool preset Palette**



History Palette: Photoshop automatically save the process of our works. (Basically 20 steps prior to the current work). Change the number of steps it saves: Edit > Preferences > General (History States)



Actions Palette: Save basic technical effects and adjust it to more than one image



Tool Preset Palette: Select the Brush which we made and saved.

### **Brushes Palette**

The brushes palette contains numerous options to set brush-painting characteristics, such as color dynamic, brush shape dynamics, texture and paint scattering. It contains a panel from where one can select a brush tip preset.

### **Clone Source Palette**

In the clone source palette, we can set up to five different sample sources for the Clone Stamp tools or Healing Brush tools.

### **Actions Palette**

The Actions palette of Photoshop displays built-in as well as user-defined actions.

### **Info Palette**

The Info palette shows the color values beneath the pointer and depending on the tool in use, gives other useful information.

## **SCREEN MODES**

The term screen modes refer to the way in which we view the documents in Photoshop. Photoshop provides different type of screen modes.

### **The Standard Screen Mode**

This is the default mode of viewing images. In the standard screen mode, a document appears in its standard form. In this mode and image is displayed with all the screen components, such as Title bar and Menu bar.

### **Full Screen Mode with Menu Bar**

The full screen mode with menu bar option is useful when we want to view an image on the entire window of Photoshop.

### **Full Screen Mode**

In the full screen mode, we can see the image set against a neutral background. The Title bar, Menu bar and image window disappear, but we can still see the Toolbox and different palettes on the screen.

### **Creating a New Document**

Whenever we create a new document, Photoshop displays the new dialog box in which we have to specify values for the options. The values specified in the new dialog box affect the height, width and resolution of the document.

### **Saving Files**

After creating the new file, it needs to be saved in order to store its data in the memory of the computer.

## Selecting a Workspace

A workspace is an arrangement of the work area, where our position and arrange palettes and menus. Photoshop offers different workspace according to the tasks wants to perform. When select a particular workspace the most frequently used palettes and menus of the selected workspace are displayed. For example, the color and tonal correction workspace highlights the options used to make color and tonal corrections in the images.

**Some important workspaces provided by Photoshop CS4 are as follows:**

- **Essentials:** Displays all commands under different menu commands and palettes by default. This is the default workspace of Photoshop CS4 and appears when we launch Photoshop for the first time. The essentials workspace is used when we want to work with all the menus and palettes.
- **Basic:** Displays menus with basic commands and palettes required for beginner-level users. On selecting this workspace, the Palette well appears minimized with only the basic palettes required to work in Photoshop. Generally basic workspace displays palettes, menus and menu commands for a beginner level user.
- **What's New in CS4:** Displays palettes of the previously active workspace and all new commands under different menus appear highlighted in color. This workspace is used when we want to know and use new commands included in Photoshop CS4.
- **Advanced 3D:** Displays palettes and commands used to create and work with 3-D images.
- **Analysis:** Displays palettes and commands that allow us to analyze minute details of an image. For example, this workspace displays Histogram, Channel and Info palettes, which are quite useful in obtaining the color profile of an image.
- **Automation:** Displays palettes and menu commands related to automation tasks carried out in Photoshop. The most common automation task carried out in Photoshop is creating actions.
- **Color and Tone:** Enables photographers to make frequent adjustment to the colors and tonal level of images to make them more attractive. This workspace displays palettes and menu commands related to color and tonal corrections.

- **Painting:** Enables to make new shapes and modify existing images. When we use this workspace, palettes used for painting and retouching appear in the palette well, where the menu commands related to painting and retouching images appear highlighted under different menus.
- **Typography:** Enables to type of work on text. This workspace displays palettes and menu commands related to text formatting.
- **Web:** Enables users either to create and modify images on the websites or to float these images over the internet.
- **Video:** Enables to edit video files in Photoshop. When we switch to this workspace, an additional panel, ANIMATION (TIMELINE) appears at the bottom of the Photoshop window. ANIMATION (TIMELINE) is used to edit video files frame-wise.

Saving and Deleting the Workspace with the use of Workspace combo box in the application bar.

## WORKING WITH IMAGES

An image is a representation of a real or an imaginary, living or non-living object. Nowadays, images are digitalized, which means that they can be edited by computer. Digital images are also known as Raster or Bitmap images and contain a fixed number of rows and columns of pixels. Raster images, however, usually need to be retouched to enhance their quality. For this, we need to use image-editing software. There are several image-editing softwares available in the market and among them; Adobe Photoshop is a very popular choice.

### **Differences between Bitmap and Vector Images**

Images can be categorized into two classes, Bitmap or Raster images and Vector images. Bitmap images consist of pixels and vector images consist of lines, curves and shapes, which are placed on top of each other to create the image. A vector image can be described by using mathematical definitions. Let's understand the difference between bitmap and vector images by considering an example.

Bitmap images are resolution dependent because the pixels that describe the image are fixed to a particular size. Enlarging a bitmap image redistributes the pixels in

the grid, often making the edges of the image appear jagged. However, bitmap images are more suitable for photo realistic images that require complex color variations.

Vector images, on the other hand, are resolution independent and are made up of lines and curves defined by mathematical objects called vectors, which describe an image according to its geometric characteristics. We can easily move, resize or reshape a vector image without losing detail or clarity.

### **Understanding Image Resolution**

Resolution can be defined as the number of pixels per unit of printed length in the image and it is measured in pixels per inch (ppi). A higher resolution means greater number of pixels per inch per square area of an image and a lower resolution means fewer number pixels per inch per square area of the image. In Photoshop, image resolution and pixel dimension are inter-related.

### **Changing the Resolution of an Image**

The image size command displays vital information about the image such as pixel dimensions and the resulting file size (the size of the file after making changes, such as increasing or decreasing the height or width of the image), the current document size and the resolution of the image. The file size is measured in kilobyte or megabyte. The pixel dimensions of a file can be changed by changing the resolution or document size of the image in the image size dialog box. If we want to maintain the same output dimensions, but enhance the quality of the image, we can do so by changing the resolution of the image.

### **Changing the Size of a Document**

Document size is defined as the height and width of an image. The height and width of an image can be measured in different measurement units, such as percent, inches, centimeters, millimeters, points and picas. The height and width can be increased or decreased in a constrained proportion, that is, if we increase the width of the file, the height increases automatically in the same proportion. This can be done by selecting the Constrain Proportions check box in the Image Size dialog box.

### **Edit Images**

In Photoshop, there are several ways to edit an image. The way we select depends on the type and extent of editing required in the image. There are a few

commonly used editing tasks, including rotating, cropping and hiding an image. In addition we also learn how to adjust the size of the canvas and create a duplicate of an image.

### **Rotating an Image**

In Photoshop, we can rotate an image at a predefined angle or at an angle of our choice. Perform the following steps to rotate an image at a predefined angle:

1. Open an image we want to rotate in the Photoshop window.
2. Select Image → Rotate Canvas → 90° CW from the Menu bar.

### **Cropping an Image**

Cropping is the process of removing unwanted portions from the image to create focus. Cropping also helps us straighten tilted images and reduce the size of the document. In Photoshop, we can crop an image by using the Crop tool, the crop command or the Trim command. Each of these cropping processes works in different ways. From the image to create focus. Cropping also helps us straighten tilted images and reduce the size of the document. In Photoshop, we can crop an image by using the Crop tool, the crop command or the Trim command. Each of these cropping processes works in different ways.

### **Crop Tool**

#### **Perform the following steps to crop an image by using Crop Tool**

1. Open the image we want to crop.
2. Select Crop Tool from the Toolbox. The shape of the mouse pointer changes and appears as a Crop Tool cursor.
3. Drag the mouse pointer over the image to create a rectangular selection over the part of the image that we want to keep and then release the mouse button.

### **Adjusting the Canvas Size**

Canvas size is the complete area of an image that can be edited. Using the Canvas size option in the image menu, we can increase or decrease the size of a canvas. Increasing canvas size adds space around an existing image and decreasing the canvas size crops the image.

## **Duplicating an Image**

In Photoshop, we can also create a duplicate of an image. The duplicate image includes layers, layer masks and channels of the original image, even if they are not saved permanently in the hard disk and are only available in the temporarily memory of the computer.

## **DIFFERENT COLOR MODES IN PHOTOSHOP**

Color mode stands for a color model, where the color of each pixel of an image is combination of the basic colors for the model in different proportions. For example, if an image is in the RGB (Red, Green and Blue) mode, all the colors used in the image will be defined as combination of red, green and blue colors in different ratios. Each image in Photoshop has its own color mode. The name of the color mode used in an image appears in the Title bar of the image. Photoshop has eight different color modes. Let's discuss these color modes available starting with RGB.

### **The RGB Color Mode**

Often images are scanned or captured in the Red, Green and Black (RGB) mode. In this mode, all the colors used in the image are defined as combinations of red, green and blue. The intensity value for each pixel ranges between 0 (black) to 255 (white). When the values of all the three colors are equal, the result is a shade of a neutral gray and when the value is 255, the resultant colors is pure white. However, when the value of all the three colors is 0, the color we get is pure black. Working in the RGB mode is recommended as it is more compatible than the CMYK (Cyan, Magenta, Yellow and Black) mode.

### **The CMYK Color Mode**

After an image is completely edited and is ready to be printed, it is always better to convert it into the CMYK mode because CMYK mode is printer friendly. When an image is converted from the RGB mode to CMYK mode, any color that is outside the CMYK gamut is adjusted by Photoshop to its nearest printable color. The gamut of a mode can be described as the range of colors supported by that particular mode. If we print an image without converting it into the CMYK mode, the colors outside the CMYK gamut are not printer properly, which may result in a low quality print.

Perform the following steps to view the portions of an image that are outside the CMYK gamut:

1. Open an image that is in the RGB color mode to view the range of colors that is not available in the CMYK mode.
2. Select view → Gamut Warning from the Menu bar.

### **The Indexed Color Mode**

The indexed color mode is used in multimedia and web images. This color mode uses up to 256 colors. When an image is converted into the indexed color mode, Photoshop creates a color table. If a color in the original image is not in the table, Photoshop selects the closest matching color or makes a new color from the available color. We can also open the indexed color mode table and edit the colors of the table. To open the color table simply select image → Mode → Color Table from the Menu bar. However, customizing the color table can also produce special effects on images in the indexed color mode with limited colors.

### **The Duotone Color Mode**

The Duotone mode defines an image in two colors. To convert an image into the duotone mode, we first have to convert it into the Grayscale mode.

### **The Grayscale Color Mode**

In case it is not necessary to print an image need in color, then it is advisable to convert it into the Grayscale mode. This reduces the file size and therefore reduces the time taken to complete a task.

### **The HSB Color Mode**

This color mode consists of three components: Hue, Saturation and Brightness. The following is a short description of these components.

1. **Hue:** Represents colors in their purest form, measured in degrees.
2. **Saturation:** Refers to the purity of colors. For instance, zero saturation is equal to the gray color.
3. **Brightness:** Refers to the degree of lightness or darkness of a color. For instance, the value zero for brightness represents the black color.

### **The Lab Color Mode**

The Lab color mode has been prepared by an organization known as CIE (Commission International Exchange). The Lab color mode provides a consistent color display. This model includes the gamut of both the RGB and CMYK models. The lab color mode is the preferred editing mode for color experts because it is device independent (that is, it appears consistent on various devices, such as computers, mobiles and touch screen devices).

The Lab color mode consists of lightness channel and two additional A channel and B channel, in the CHANNELS palette. This palette contains a range of colors under both the channels. The colors that range between green and red are in channel A and those that range between blue and yellow are in channel B.

### **The Multichannel Color Mode**

Images in the Multichannel mode mainly comprise 256 levels of Gray color. The multichannel mode is quite useful in specialized color printing. If we delete the RGB, CMYK or Lab color mode from an image, the color mode of the image automatically turns to Multichannel color mode.

### **Changing the Color Mode**

As discussed earlier, Photoshop offers eight different color modes and enables us to convert image from one mode into another. The color mode we select for a particular image depends on the file format we save it in and the end use for the image. Some modes need to be saved in a specific file format; for example, an image in the CMYK color mode cannot be saved in the GIF file format. On the other hand, if we plan to use an image for the internet, we must use in RGB mode and if we are going to take a grayscale printout of the image, we must first convert the image into the Grayscale mode.

#### **Perform the following steps to convert an image from one mode into another;**

1. Open an image with the RGB color mode.
2. Select Image → Mode → CMYK Color from the Menu bar.

## **FILE FORMATS IN PHOTOSHOP**

A critical component in saving a file is selecting the right format for the file. File format refers to the way the data of a file is represented and saved. Photoshop CS4 supports nearly 20 different file formats. The format for a file we select depends on the

purpose of the file. For example, if we want a file to save more data in less space, then the file should be saved in the format which is designed for file compression. Similarly, if we want to export a file to another application, we should save the file in a format that can run on that application.

#### **Photoshop document (PSD)**

PSD is the default Photoshop file format and offers optimum options for all image editing tasks in Photoshop. It saves all the detail applied to a Photoshop document, such as channels, layers and transformations. Photoshop works more quickly with a file that is in its native format (PSD file format) than in any other format.

#### **Bitmap (BMP)**

BMP is the standard windows format and is compatible with most of the windows and DOS application. It supports millions of colors in the form of the RGB, Indexed color, Grayscale and Bitmap color modes.

#### **Encapsulated PostScript (EPS)**

This file format supports the lab, CMYK, RGB, color, Grayscale and Duotone color modes. EPS can contain both bitmap and vector images. This file format does not support alpha channels and clipping paths.

#### **Tagged Image File Format (TIFF)**

This is the standard format to exchange images between different applications and computers running on different operating system. It is basically a flexible bitmap image format supported by almost all image editing applications.

#### **Graphics Interchange Format (GIF)**

This file format is commonly used to save indexed color images or Hyper Text Markup Language (HTML) files, which are used to create web pages. The GIF format also used LZW compression to reduce the size of a file.

#### **Joint Photographic Experts Group (JPEG)**

This format is commonly used for photographs and images in HTML documents and supports the RGB, CMYK and the Grayscale modes. Saving a file in the JPEG format can lead to loss of data since it discards pixels to reduce the size of a file.

## **Portable Document Format (PDF)**

PDF files accurately display and preserve fonts, page layouts and vector and bitmap images, based on the EPS imaging model. In addition, PDF files can contain text search tools and navigation features, such as electronic links. PDF supports 16 bits per channel images. Adobe Acrobat includes the Touch up object tool, which is used for minor editing of images in a PDF file.

## **WORKING WITH SELECTIONS**

### **Working with selection tool**

Photoshop provides a number of selection tools that are used to make selection in different ways for different shapes. Using these selection tools, we can cut an area from the background of an image, adjust the color of a selected area of an image, apply image morphing paint a selected area of an image in order to add more details to the image and make it eye-catching.

In Photoshop, Shape-based Selection tools are categorized under the following three major groups:

1. Marquee tools
2. Lasso tools
3. Quick selection and Magic Wand tools

### **Marquee Tool**

Marquee selection tools help to select desired areas of an image in geometrical patterns. We can select areas of an image in rectangular, square, elliptical or circular shapes by using various Marquee tools. When we use Marquee Tool and select an area of an image by dragging the mouse pointer, the selected area of the image is surrounded by a dashed border. This area bears the geometrical shape corresponding to the Marquee tool used and is referred to as the selection Marquee.

#### **Click any of the tools under the fly out to enable the tool**

1. Rectangular Marquee Tool: Selects portions of an image in the shape of a rectangle or square when Ctrl key is on.
2. Elliptical Marquee Tool: Selects portions of an image in an elliptical or circular shape when Ctrl key is on.
3. Single Row Marquee Tool: Select a single row of pixels of an image

4. Single Column Marquee Tool: Selects a single column of pixels of an image.

After having brief knowledge of different Marquee selection tools, let's proceed ahead and learn about making selections with Marquee tools.

### **Lasso Tools**

In addition to the Marquee tools, Photoshop offers different type of Lasso tools to make selections. These tools allow to make free hand selections on an image. When we use Marquee tools, we make selections in a defined shape, such as rectangular, elliptical and circular. With the Lasso tools, we can select any kind of shape.

#### **Using Lasso Tool**

Before selecting an area of an image with Lasso Tool, we must set the options for the Lasso Tool in the options bar.

#### **Using Polygonal Lasso Tool**

Polygonal Lasso Tool is used to make straight-edged selections, either horizontal or vertical. The first click is considered as the starting point of the selection and as we drag and click to extend the selection path, a node is created at the particular point. Once the selection process is complete, we need to close the selection path clicking the same point where we started the selection.

#### **Using Magnetic Lasso Tool**

Magnetic Lasso Tool is easier to use as compared to other tools because when we drag this tool onto an image, the tool adheres to the edges of the object being selected and keeps adding nodes to the selection. This simplifies the process of making free hand selections.

#### **Magic Wand Tool**

Magic Wand Tool is used to select adjacent areas of the same luminosity in an image. The selection depends on a value referred to as the tolerance setting. If we specify higher tolerance value, then a wider range of pixels will be selected. In Photoshop CS4, Magic Wand Tool is present in the fly out menu of Quick selection Tool. We can use magic wand tool by clicking the small black triangle on quick selection tool in the toolbox and selecting magic wand tool from the fly out.

## DRAWING, PAINTING AND RETOUCHING TOOLS

### Setting the Current Foreground and Background Colors

The colors of the canvas on which an image is placed or set is called the Background color and the colors in which the image is drawn or painted are collectively known as foreground colors. In Photoshop, we can set the foreground and background colors of an image in a variety of ways by using the color picker dialog box Swatches palette, Eyedropper tool and color sampler tool.

As mentioned earlier, we can set the current foreground or background color of a Photoshop document by using the following components:

1. The color picker dialog box
2. Eyedropper tool
3. The color palette
4. The swatches palette

### Eyedropper Tool

Suppose we want to use a color of an image in another image but are not able to find the color in the color picker dialog box. In such a case, we can use eyedropper tool to take a sample of the color we do not have from the image that has the color and set it in the colors palette to be used as a foreground or background color. This is an easy and convenient method for adding and selecting colors not originally found in the color picker dialog box. In the following sections, we learn how to select the foreground and background colors by using eyedropper tool and toggle the background and foreground colors.

### Using Custom Shape Tool

Custom shape tool includes a collection of predesigned shapes, such as star, sun, moon, flower, circle, rectangle, square, polygon and animal silhouettes.

### The Painting Tools

Photoshop provides several tools to paint images and edit their color. For example, Brush tool works similar to a traditional painting tool and can be used to apply color with brush strokes. Similarly, Gradient tool and paint bucket tool are used to apply color to large areas of an image or selection. In the options bar for each tool, we can set the way we want the color to be applied to an image and also select a brush size from the

brush presets picker. In the following sections, we learn about gradient tool, paint bucket tool, brush tool, pencil tool and color replacement tool.

### **Gradient Tool**

Gradient tool is used to fill an area with transitions (ascending or descending) from one color to another. We can fill an area with linear, radial, angle reflected, diamond and multi-colored gradients. A gradient fill can be applied to a selection or an entire layer. The starting point (where the mouse button is clicked on an image) and ending point (where the mouse button is released) affect the gradient's appearance, depending on the pattern selected by the used gradient tool cannot be used on images in the bitmap or indexed color modes.

The following give type of gradient fills that can be applied to a selection or a layer:

- **Linear:** Applies the gradient from the start point to the point in a straight line
- **Radial:** Applies the gradient in a circular pattern
- **Angle:** Applies the gradient at a defined angle
- **Reflected:** Applies symmetric linear gradients on either the left or right side of the starting point
- **Diamond:** Applied to create a starting point in the outward diamond pattern.

### **Paint Bucket Tool**

Paint bucket tool is used to change the color of pixels to those of the foreground color based on a tolerance setting. If the tolerance value is low, pixels within a range very similar color values will be filled and a high tolerance value fills pixels within a broader range. Paint bucket tool fills the entire area with the foreground color with just a single click. This tool can be used within a selection or on the entire image.

### **Brush Tool**

Brush tool as the name suggest, works similar to a traditional paintbrush. This tool creates smooth strokes for the foreground color of an image. Brush tool appears with a circle icon as the cursor, which indicates the current position of the brush.

### **Pencil Tool**

Pencil tool is a hard edged brush. This tool always creates a hard edge that is not anti-aliased. Pencil tool is used to fill an area in a single shade or to draw a basic drawing. Some shapes with hard edges created by using pencil tool.

### **Color Replacement Tool**

Color replacement tool simplifies the process of replacing specific colors in an image. We can edit an image or a selection and replace its original color with a new one. Color replacement tool does not work in bitmap images or in the indexed or multi-channel color modes.

### **Retouching Tools**

Many tools in Photoshop are used to enhance or retouch images. Some retouching actually fixes the elements that reduce image quality, such as a patch, scan line or red eye. We can remove these and other such defects from our images with the help of the retouching tools. In the following sections, we learn how to use these retouching tools. The most commonly used retouching tools we discuss are spot healing brush tool, healing brush tool, patch tool clone stamp tool, eraser tool, blur tool, sharpen tool, smudge tool, dodge tool, burn tool and sponge tool.

#### **Spot Healing Brush Tool**

Spot healing brush tool quickly removes blemishes and other imperfections in an image. This tool works similar to healing brush tool. It paints the sampled pixels taken from an image or pattern, matching elements such as texture, lighting, transparency and shading of the sampled pixels and paints the targeted pixels with the characteristics of the sampled pixels. Unlike healing brush tool, we do not need to specify a sample spot while using spot healing brush tool. This tool automatically samples pixels around the retouched area.

#### **Healing Brush Tool**

Healing brush tool allows us to remove imperfections by making them disappear into the surrounding area. Similar to cloning tools, use healing brush tool to paint with sampled pixels from an image or pattern. However, similar to spot healing brush tool, healing brush tool also matches the texture, lighting transparency and shading of the

sampled pixels to the source pixels. As a result, the repaired pixels blend seamlessly into the rest of the image.

### **Patch Tool**

Patch tool allows us to repair a selected area or a pattern from within an image or another image. Similar to healing brush tool, patch tool matches the texture, lighting and shading of the sampled pixels to the source pixels. We can also use patch tool to clone isolated areas of an image. Patch tool works similar to lasso tool.

### **Clone Stamp Tools**

Clone stamp tool is the perfect tool for retouching or repainting an image. This tool is also called rubber stamp tool and is used to clone or duplicate selected areas of an image and remove blemishes or scratches from them.

### **Pattern Stamp Tool**

Pattern stamp tool works in the same way as clone stamp tool, except that pattern stamp tool clones from predefined areas of pixels, such as a pattern, rather than from a source point in the image. When using pattern stamp tool, we first have to define a pattern by using the define pattern option in the edit menu and then clone this pattern by using pattern stamp tool on an image.

### **Eraser Tool**

Eraser tool works similar to an ordinary eraser to erase portions of an image. When working on the background layer, we can use eraser tool to erase pixels to transparency, that is, the pixels from the background layer are removed and as a result the underlying layer in the layers palette is exposed. When working on a layer other than the background layer, the pixels of that layer are removed to expose the pixels of the background layer.

### **Background Eraser Tool**

Background eraser tool erase pixels of an image and makes it transparent. In multi-layered images, the pixels of the background layer are erased. As we click the image and drag the mouse pointer, background eraser tool automatically converts the background layer to a normal layer with a transparent background.

The option bar of background eraser tool provides the following types of sampling:

- **Continuous:** Allows us to set different samples continuously as we drag over an image. This is helpful when we have to erase pixels of different colors from adjacent areas.
- **Once:** Limits the erasing action to the pixels similar in color to the portion where we clicked first (that is, where we clicked the first time to select the pixel).
- **Background Swatch:** Erases only the portion containing the current background color.

Similarly, the limits option in background eraser tool provides the following three options:

- **Discontinuous:** Erases similarly colored areas from non-adjacent areas.
- **Contiguous:** Erases similarly colored areas from adjacent areas.
- **Find Edges:** Erases pixels from similarly colored adjacent areas while preserving the edge contrast so that the edge boundaries of the image remain unaffected.

### **Magic Eraser Tool**

Magic eraser tool can be compared to magic wand tool, which is used to select similarly colored areas in an image based on a tolerance setting. Magic eraser tool is used to erase pixels from similarly colored ears of an image based on the tolerance values. The tolerance value, in the options bar, determines the range of colors of the pixels to be erased. The opacity value determines the strength of the erasure. For instance, 100% opacity completely erases the pixels from an area of an image, while 50% opacity performs partial erasing. If the contiguous check box is cleared in the options bar, the pixels of the color similar to the sampled area (the portion of the image we clicked the first time) area erased from the entire image or selection. In addition, if the anti-aliased check box is selected, magic eraser tool preserves the smoothness of the edges in the erased area.

### **Blur Tool**

Blur tool softens an image or makes it blurry. It works by reducing the contrast between pixels. Blur tools is used to highlight an area in an image by blurring the rest of the image or to smooth jagged edges.

### **Sharpen Tool**

Sharpen tool is used to increase the contrast and clarity of blurred images with soft edges sharpening enhances the definition of edges in an image. Whether taken from a digital camera or scanner, most images benefit from sharpening. The degree of sharpening needed varies depending on the quality of the digital camera or scanner. Remember that sharpening cannot correct a severely blurred image. The following are some notes and tips to remember when sharpening an image.

### **Smudge Tool**

Smudge tool is powerful tool of Photoshop as it drags out the image pixels and creates the effect of smudging wet paint with a finger.

### **Dodge Tool**

Dodge tool is used to lighten the pixels in an image. This tool is based on a traditional photographer's technique that regulates the exposure on specific areas of a print. Photographers hold back light to lighten an area on the print known as dodging.

### **Burn Tool**

Burn tool is opposite in function to dodge tool in that it darkens the pixels. This tool is used to darken a specific area of an image. Sometimes, excessive diffusion of light can also spoil the quality of the image. For instance, an excessively lightened image may not be very pleasant to look at. In such a case, we can use burn tool to darken the pixels of the image to make it more pleasing to the eye. The options bar of the burn tool is similar to the options bar of the dodge tool. We can select the shadows, midtones and highlights options from the range option to burn the image. We can also set the level of exposure in the exposure option in the options bar. Exposure determines the extent to which the area is to be darkened.

### **Sponge Tool**

Sponge tool is used to change the color saturation of an area in the image. For example, while working in the grayscale mode, sponge tool increase or decrease the contrast of an image by moving the gray levels away from or toward the middle gray. We can use sponge tool to select a part of an image or the entire image. However, from beginners, it is recommended to make a selection in the image before using sponge tool. This reduces the chances of working outside the required area in the image.

## MASTERING LAYERS IN PHOTOSHOP AND LAYER STYLE

### About the LAYERS Palette

Before starting to work with layers, we must learn about the LAYERS palette. The LAYERS palette is a palette that contains the name of all the layers in an image. It also shows us whether a layer is currently visible or not. Using the LAYERS palette, we can create, delete, show and hide layers. We can also create layer sets, link layers and merge layers.

Let's discuss the important features of the LAYERS palette.

- **Layers:** The layers palette contains the names of all the layers (visible and hidden) in the image
  - Layer 1
  - Background layer
- **The Eye Icon:** The eye icon presents on the left most columns of the layers palette indicates the visibility of a layer. We can show/hide a layer using this icon.
- **Blending Modes:** A layer's blending mode determines how its pixels blend with underlying pixels in an image. We can create a variety of special effects using blending modes. We can select a blend mode by clicking the down arrow button beside the normal option and selection any blending modes from the list that appears.
- **Opacity Value:** When we click the button on the opacity combo box, a slider bar appears. Drag the slider bar handle to increase or decrease the opacity value of the selected layer.
- **Lock Transparency:** Locks the transparent areas only of the layer and restricts any modifications.
- **Lock Image:** Locks the entire layer (including the transparent areas) and restrict any modifications.
- **Lock Position:** Prevents the movement of the contents of a layer.
- **Lock All:** Disables any kind of editing on the layer.

### **Let us briefly discuss the controls of bottom most bar of layers palette**

- **Link Layers:** Links two or more layers or group. Unlike multiple layers selected at the same time, linked layers retain their relationship until we manually unlink them. We can move, apply transformations and create clipping masks from linked layers.
- **Add a Layer Style:** Adds a number of styles to the layer. Styles add visual effects, such as drop shadow, glow, bevel and emboss to a layer and thereby improve the appearance of the image. The list of the available style appear as a pop-up menu when we click the small black arrow which is present at the right bottom corner of the add a layer style icon.
- **Add Layer Mask:** Creates a layer mask.
- **Create a New Adjustment Layer:** Creates a new adjustment layer. An adjustment layer allows us to view the image in a different size or style without changing the content of the original image. A detailed discussion on the adjustment layer has been provided later in this chapter.
- **Create a New Group:** Creates a layer group. Once the layer group is created, drag the layers into the layer group folder. We can expand or collapse the layer group with the help of a small triangle that appears before the group name to see or hide the layers in the layer group.
- **Create a New Layer:** Creates a new layer
- **Delete Layer:** Delete the selected layer. The selected layer is the one that is highlighted in the layers palette.

### **Working with Layers**

Layers facilitate us in expressing our creativity, whether it is to merge several images into one or adding different layer styles to different layers. We can edit endlessly and that tool speedily and efficiently with the help of layers. However, before going further, we must know how to work with layers. In this section, we learn to:

- Create new layers
- Show and Hide layers
- Sort and Reposition layers

- Link and merge layers
- Flatten all the layers in an image into one
- Delete layers

### **Creating a New Layer**

A new layer is created to add a sheet of pixels to an image, where we can copy, paste or create some shape, object or image and edit them separately. We can also create a new layer from the layers palette available under the layer menu.

### **Changing the Stacking Order of the Layer**

We can change the appearance of an image by re-ordering the hierarchy of layers. Whenever a layer is moved up or down in the layers palette, its content (object/pixels/drawing) also moves in the image. In Photoshop, we can change the stacking order of layers from the layers palette. Depending on the new position (placed before or after an existing layer) of the layer in the layers palette, the overall look of the image changes in the document window.

### **Relocating layers in the image**

In the Photoshop file, we can also change the position of layer's content in the document window without changing the hierarchy of layers in the layers palette. The move tool is commonly used to move the content of a layer in the document window.

### **Merging Layers**

Photoshop allows us to merge two or more layers into one, which, in turn, not only allows the simultaneous editing of the merged layers, but also helps in reducing the size of the file since the file size increase with the number of layers in a file. Perform the following steps to merge layers into a single layer.

### **Flattening Images**

Merging all the layers of an image into a single layer is known as flattening. When the layers in an image are flattened, then all of them are treated as one layer. Flattening an image reduces the file size and results in only a single background layer.

### **Moving Layers between Images**

We can also move layers from one image to another. This avoids copying a layer from one document and pasting it into another one.

### **Linking and Unlinking Layers**

We can link two or more layers or groups. Unlink multiple layers selected at the same time; linked layers retain their link with other layers until we unlink them. We can either move or apply transformations to linked layers.

### **Deleting Layers**

Sometimes an image may contain unnecessary layers or layers that are no longer required at the time of final output. Therefore, to avoid clustering of layers in the layers palette and maintain a moderate file size, unwanted layers are deleted. We can delete a layer either from the layer menu or from the layers palette.

### **Working with Adjustment Layers**

Adjustment layers provide flexibility while editing images in Photoshop. The adjustment layers option is used to get an idea of the appearance on an image in case we make some changes to it, without actually changing the image. The adjustment layers option facilitates us in controlling the appearance of an image by altering brightness/contrast, color balance, levels and the rest. The functionality of the adjustment layer option is similar to that of a lens placed on the pixels to obtain an enlarged, diminished or stylized view of image. In this way, we can preview an image before the changes are actually applied to it. We can apply the adjustment layer option as a permanent change if we find the result satisfactory or else we can discard it.

### **APPLYING BLEND MODES**

Blend modes determine how the colors in different layers interact with each other. Blend modes help produce a multitude of interesting, sometimes even unusual, effects. We can easily apply, change or discard blend modes with no permanent damage to our layers.

In addition to these, we have a number of blending modes in Photoshop, which are available in the layers palette. We can apply any of these blending modes according to our requirement. Let's learn about the various blending modes:

- **Normal:** Allows each pixel to appear in its original state. At 100% opacity, the selected layer colors do not blend with that of the layer beneath it. This mode is the default blending mode.

- **Dissolve:** Works with a layer that has an opacity setting of less than 100%. The effect of dissolve blending mode appears best when a layer has a lower opacity value. The effect is created by allowing some pixels from layers, which are randomized, to show through the target layer.
- **Darken:** Converts lighter pixels to darker and keep darker pixels unchanged. If the pixels on the selected layer are lighter than the layer beneath, the lighter pixels turn darker. On the other hand, if the pixels on the selected layer are darker, they appear unchanged.
- **Multiply:** Searches first the color information in the selected layer and darkens all colors of the layer beneath the selected layer. The final color in the image is always a darker color. The effect is similar to that of drawing on the image with multiple marking pens.
- **Color Burn:** Searches for the color information in the selected layer and darkens the layers beneath it in the layers palette. This mode increases the contrast of the image.
- **Linear Burn:** Darkens the layers beneath the selected layer. This effect is similar to the multiply effect but tends to make specific portions of we image into pure black.
- **Darker Color:** Operates on all channels simultaneously rather than operating on one channel at a time (similar to the lighter color option). When blending two colors with this mode, only the darker color is visible. This blend mode works in the same way as the darken mode.
- **Lighten:** This mode has the inverse effect to that of the Darken mode. If the pixels on the layer are darker than those beneath, the darker pixels turn transparent. If the pixels on the layer are lighter, they appear unchanged.
- **Screen:** In this mode, channel information of each color is searched for by the Photoshop and then multiply the blend and base colors. The result color is always a lighter color. Screening with black, leaves the color unchanged. Screening with white produces white. The effect is similar to that of projecting multiple photographic slides on top of each other.
- **Color Dodge:** Checks the color information in each channel and brightens the base color to reflect the blend color by decreasing the contrast. Blending with black produces no change.

- **Linear Dodge:** Checks the color information in each channel and brightens the base color to reflect the blend color by increasing the brightness. Blending with black produces no change.
- **Lighter Color:** Operates on all channels, simultaneously. The lighter color is visible when blending two colors with this mode. This mode works in the same way as the lighten mode. The only difference is that, lighten modes operate only on a single channel at a time.

Multiplies the colors, depending on the base color. Patterns or colors overlay the existing pixels while preserving the highlights and shadows of the base color. The base color is not replaced, but is mixed with the blend color to reflect the lightness or darkness of the original color.

- **Soft Light:** Darkens or lightens the colors, depending on the blend color. The effect is similar to that of shining a diffused spotlight on the image. If the blend color (light source) is lighter than 50% gray, the image is lightened as if it were hidden. If the blend color is darker than 50% gray, the image is darkened as if it were burned. Painting with pure black or white produces a distinctly darker or lighter area but does not result in pure black or white.
- **Hard Light:** Multiplies the colors, depending on the blend color. The effect is similar to that of shining a harsh spotlight on the image. If the blend color (light source) is lighter than 50% gray, the image is lightened, as if it were screened. This is useful for adding highlights to an image. If the blend color is darker than 50% gray, the image appears darker. This is useful for adding shadows to an image painting with pure black or white results in pure black or white.
- **Vivid Light:** Burns or hides the colors by increasing the contrast, depending on the blend color. If the blend color (light source) is lighter than 50% gray, the image is lightened by decreasing the contrast. If the blend color is darker than 50% gray, the image is darkened by increasing the contrast.
- **Linear Light:** Burns or hides the colors by decreasing or increasing the brightness, depending on the blend color. If the blend color (light source) is lighter than 50%

gray, the image is lightened in increasing the brightness. If the blend color is darker than 50% gray, the image is darkened to decreasing the brightness.

- **Pin Light:** Replaces the colors, depending on the blend color. If the blend color (light source) is lighter than 50% gray, pixels darker than the blend color are replaced and pixels lighter than the blend color do not change. If the blend color is darker than 50% gray, pixels lighter than the blend color are replaced with colors of layer beneath it in the layers palette, which leads to darker pixels than the blend color. This is useful for adding special effects to an image.
- **Hard Mix:** Applies a pasteurization effect based on the selected layer's opacity value. A higher opacity value of the selected layer creates high pasteurization effect.
- **Difference:** Checks the color information in each channel and subtracts either the blend color from the base color or the base color from the blend color, depending on which has a greater brightness value. Blending with white inverts the base color values; blending with black produces no change.
- **Exclusion:** Creates an effect similar to, but lower in contrast, than the difference mode. Blending with white inverts the base color values. Blending with black produces no change.
- **Hue:** Creates the luminance and saturation effect of the base color and the effect of the blend color.
- **Saturation:** Creates the luminance and effect of the base color and the saturation of the blend color. Painting with this mode in an area with no (0) saturation (gray) causes no change.
- **Color:** Creates the luminance of the base color and the effect and saturation of the blend color. This preserves the gray levels in the image and is useful for coloring monochrome images, and for tinting color images.
- **Luminosity:** Creates the effect and saturation of the base color and the luminance of the blend color. This mode creates an inverse effect, as compared to that of the color mode.

## **MASKING LAYERS**

Masking layers is a valuable compositing technique for combining multiple pictures into a single image or for making color and tonal corrections. Masking layers allows showing or hiding portions of a layer or protecting specific areas of an image from editing. There are two types of masks; layer mask and vector mask.

### **Layer Masking**

Layer masks are resolution dependence bitmap images that are created with either painting or selection tools. A layer mask is a grayscale bitmap image, therefore, areas that we paint in black seem hidden, areas we paint in white appear visible and areas we paint in shades of grey appear in various level of transparency.

### **Vector Masking**

Vector masks are resolution independent and are created with pen, shape tool or type tool. A vector mask creates a sharp edged shape on a layer and is useful anytime we want to add a design element with clean, defined edges. After we create a layer with the vector mask, we can apply one or more layer styles on it and edit them, if required.

### **Type Masking**

The type mask tool is provided in the fly out of the type tool in the toolbox. When we use the horizontal type mask tool or vertical type mask tool, we create a selection in the shape of the type. Type selection appears on the active layer and can be moved, copied, filled or stroked just like any other selection.

### **Shape Masking**

Shape masking works in the same way as type masking. The only difference between type and shape masking is final output. In shape masking a cutout image emerges as final output and shape of the cutout image depends upon the shape selected by the user.

## **LAYER STYLE**

Photoshop provides a number of styles that can be applied to layers. This makes working with layers both exciting and satisfying and also provides a better control on images since can apply styles on the layers individually. Some of the commonly used styles include drop shadow, glow and bevel and emboss. When a layer is applied a particular style or effect, an icon appears after the name of the layer in the layers palette.

When we move or edit the pixels of a layer, the style applied to that layer is updated automatically. We can also save the layer effects we create for future use.

### Using the layer style dialog box

A layer style to a layer is applied from the layer style dialog box. Therefore, before applying a layer style, we should know how to access the layer style dialog box. There are two ways to open layer style dialog box. The first way to open the layer style dialog box by using the layer menu while second is by using the layers palette.

### Applying a Layer Style

Now that one have some idea about the layer style dialog box, and also noted the points to remember while using a layer style, let's learn how to apply a layer style to an image.

- **Drop Shadow:** Applies a soft shadow to the layer, making the layer appear to float in the air. We can apply a Drop Shadow effect to an image, type (text), or a shape contained within the layer. Photoshop allows us to specify the color, opacity, blend mode, position, size and contour of the effect.
- **Inner Shadow:** Applies basic drop shadows to the inside boundaries of an image, type of a shape contained within a layer.
- **Outer Glow:** Applies a circle of light around an image, type or a shape contained within the layer.
- **Inner Glow:** Applies glow effects to the inside boundaries of an image, type or shape contained within the layer.
- **Bevel and Emboss:** Applies a three dimensional edge effect to an image, type or shape contained within a layer. We can specify the style from the list that appears for the bevel and emboss option. Which includes outer bevel, inner bevel, emboss.
- **Satin:** Adds variations in opacity by creating waves of repeated color as defined in the contour option.
- **Color Overlay:** Coats a layer with a solid color
- **Gradient Overlay:** Coats a layer with a gradient.
- **Pattern Overlay:** Coats a layer with pattern selected from the pattern combo box.
- **Stroke:** Creates a colored outline around an image, type of shape contained within the layer.

## **3D ANIMATION AND PRINTING IN PHOTOSHOP**

### **Creating 3D Artwork in Photoshop**

Anyone who is working with Photoshop for quite a long time known that the word 3D is a blessing. For the first time, Photoshop users can create and distribute their 3D work without using any other software. On the menu bar, not only there is dedicated 3D menu which includes all options to convert we conventional images into eye catching 3D shapes, but also 3D tools in the toolbox which help we rotate 3D shapes.

In this unit learn to create a 3D shape, perform basic editing tasks on this 3D shape and load texture to 3D shapes.

### **Creating a 3D shape**

Photoshop provides different built in 3D shapes such as Hat, Pyramid, Donut, and Soda Can, which we can use to create 3D shapes. However, only one shape can be assigned to the image. Thus, we need to be very selective while choosing a 3D shape.

### **Editing 3D Shape**

Photoshop provides editing options in the 3D palette. By default, the 3D palette appears in the palette well. In case it is not appearing, then select Window → 3D from the menu bar. Once the 3D palette appears in the palette well, we can access various options and make changes in the 3D shape. For example, we can change the level of light for the 3D shape, load new texture in the 3D shape.

### **Loading a New Texture to 3D Shape**

Loading a texture to 3D shape means, adding an image to the existing 3D shape. Once we select an image, 3D shape appears with the new image.

### **Animation in Photoshop**

It is known that flash is an easy to use, and versatile software that creates animation quickly. However, this was true till animation technique was not introduced in Photoshop. Now, in Photoshop CS4 version, it is possible to create 3D animation. The key concepts of creating animation like timeline, frame, key frames, and frames per second (FPS), etc. are same in Photoshop as in other animation software such as flash. Therefore, anyone who is migrating from flash or is familiar with these terms will be able to grasp and master these animation techniques of Photoshop speedily.

## **Printing in Photoshop**

The print command allows us to print a document. To print a document, the necessary printing software (usually provided by the printer manufacturer) must be installed on our computer. Whether we are printing an image or sending it to a printing facility for mass scale printing, knowing a few basics about printing such as paper size, orientation, margins, duplex printing, makes the job smooth and helps ensure that the finished image appears as intended.

## INTRODUCTION

PageMaker was one of the first desktop publishing programs, introduced in 1985 by Aldus, initially for the Apple Macintosh and, in 1987, for PCs running Windows 1.0. As an application relying on a graphical user interface, PageMaker helped to popularize the Macintosh platform and the Windows environment. **PageMaker 7.0**, released 9 July 2001.

PageMaker is primarily used for designing and producing publication that requires a combination of text and graphics. PageMaker 6.5 has a rich array of facilities to import text and artwork from other computer application packages, as well as allowing you to generate these directly from within PageMaker itself. PageMaker can handle text better than Illustrator and PhotoShop and also give you the flexibility of graphic control not available in word processors.

## NEW FEATURES IN PAGEMAKER 7.0

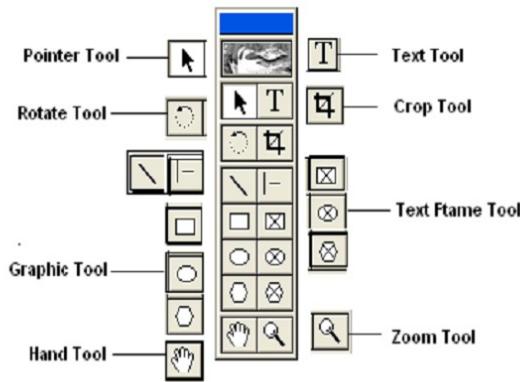
1. Place native Adobe Photoshop 5.0-6.0x files.
2. Expanded support for placing native Illustrator files.
3. Updated EPS filter.
4. User interface for exporting Adobe PDF files.
5. Create Tagged PDF support (eBooks)
6. Create Data Merge effectively.

## STARTING PAGEMAKER

- Click the Start button.
- Select Programs.
- From the Programs Menu select Adobe.
- In the Adobe Menu select PageMaker 6.5.
- Click adobe PageMaker 6.5.
- The PageMaker window is displayed.



## UNDERSTANDING PAGEMAKER TOOLS



### POINTER TOOL

Pointer tool is used to pick, drag and drop graphics and text.

### TEXT TOOL

Text Tool is used to edit and select text and insert text frames. Click the text tool and click anywhere in the document and start entering text. The text tool creating a free flowing text box.

### ROTATE TOOL

Rotate tool is used to rotate text and graphic objects. Click the rotate tool. Then click on the object reference point and drag to rotate the object.

### CROP TOOL

The Crop tool is used to crop imported graphic images to the required size. The crop tool only works on TIFF type of images. Click on the toll and, drag the image handles, to crop the image.

### OBLIQUE LINE TOOL

Oblique Line is used to draw slanting lines. To draw a line, click the oblique line tool, click and drag to draw a line in any direction.

### CONSTRAINED LINE TOOL

Constrained Line tool will draw lines at 45 degree intervals, i.e., horizontally, vertically or diagonally.

### BOX TOOL

Box tool is used to draw a box.

### RECTANGLE FRAME

Rectangle Frame is used to type text inside a box. First select the toll and draw the area to be enclosed by the rectangular frame, then select the text tool and click inside the drawn frame to enter text. The text will be constrained to the rectangular frame.

### **CIRCLE TOOL**

Circle tool is used to draw a circle or elliptical graphic. To draw a circle or an ellipse, select the tool, click and drag to draw a circle on the document.

### **CIRCULAR FRAME**

Circular Frame is used to type text inside a circle or an oval. Use the Circular frame tool to draw the frame and then click inside with the text tool to start entering text. The entered text will be constrained to the circular frame.

### **POLYGON TOOL**

Polygon tool is used to draw a shape with more than four sides. You can modify the polygon by selecting Element and selecting Polygon Settings.

### **POLYGON FRAME**

Polygon frame puts the text inside the polygon. Select the polygon frame tool, draw a polygon then select the text tool and click inside the frame to enter the text inside the frame to enter the text inside the polygon frame.

### **HAND TOOL**

Hand tool is used to move the screen. This tool is very useful when you are working with large documents. It helps you to easily navigate in a large page. To move a screen, just select the hand tool and click and drag the page to view different parts of the page.

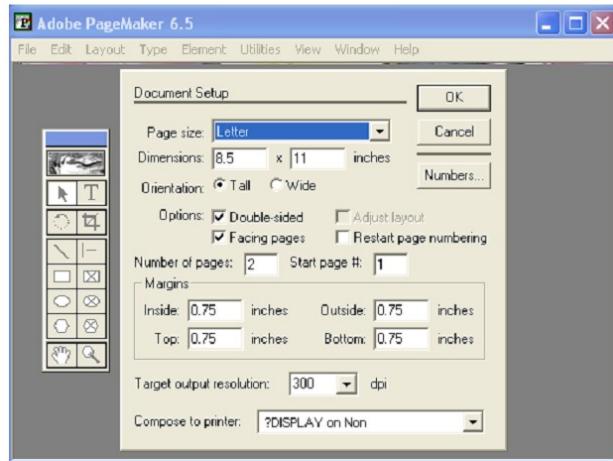
### **ZOOM TOOL**

Zoom tool allows you to zoom in and out of the document view. By default the zoom tool will be in the Zoom-in mode. To zoom out of page select the zoom tool and press control and click in the document window with the zoom tool.

## **FILE MENU**



**New:** New command is used to create a new publication. This command gives rise to a dialog box where you define the various options before opening a new page of the publication.

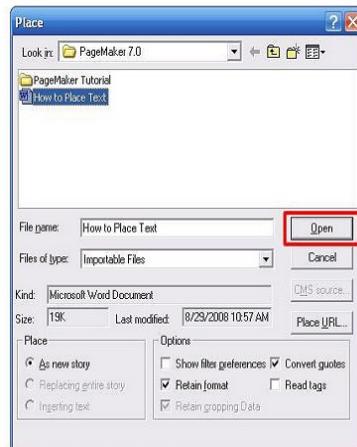


**Open:** Open allow you to open an existing PageMaker file.

**Save:** Save command saves the current publication. To save all the open files, press the shift key while choosing the Save option.

**Revert:** Revert command rolls back all the changes made since the last save. It is the same as closing the publishing without saving and opening it again.

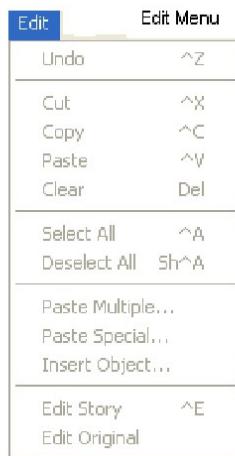
**Place:** Place command is used to place text and graphics into the publication.



**Acquire:** The Acquire command is used to scan an image into your publication.

**Export:** Export command lets you export your publications into the format you select.

## EDIT MENU



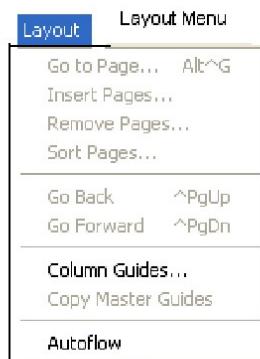
**Paste Multiple:** Paste Multiple lets you paste multiple copies of text or graphics.

**Paste Special:** Paste Special is used to specify the format to use when you paste an object into your publication.

**Insert Object:** Insert Object is used to specify the format to be used to insert an OLE embedded object within a PageMaker publication.

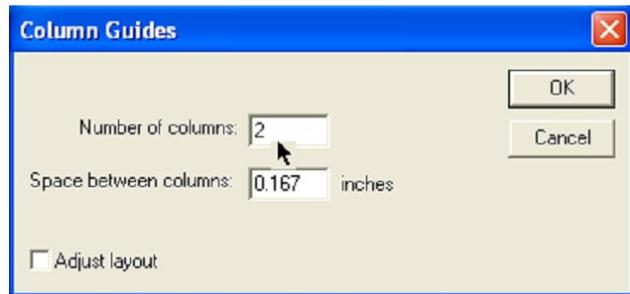
**Edit Story:** Edit Story is used to toggle between the word processing mode and the layout mode.

## LAYOUT MENU



**Sort Pages:** When you select Sort Page command, a dialog box appears with all the pages of the publication. You can rearrange the pages in the publication graphically.

**Column Guides:** Column Guides lets you divide the pages of the publication into different column of equal size.



**Auto Flow:** Auto Flow is used to flow the text onto the pages of the publication on its own from a loaded text icon. It flows the text into pages from columns to columns and also adds pages on its own depending on the availability of text.

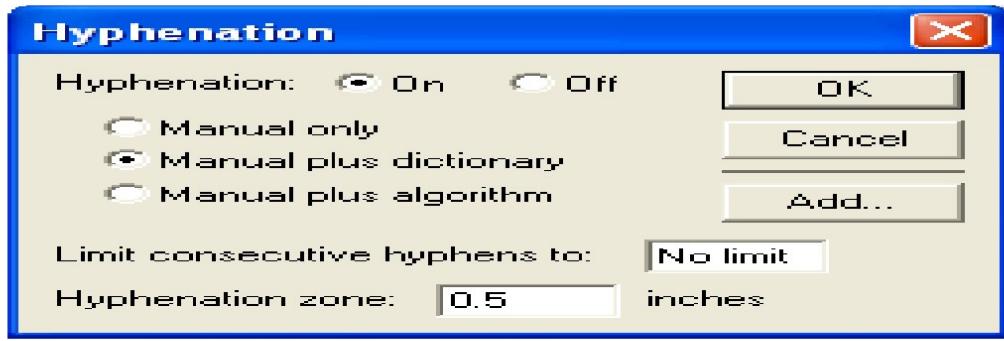
## TYPE MENU



### Hyphenation:

PageMaker hyphenates words to reduce the spacing between them in a justified text. The Manual only option hyphenates only the words that you have marked to hyphenate by inserting a discretionary hyphen in the word where it would normally break. Manual plus dictionary option hyphenates the words to which you have added discretionary hyphens, as well as words hyphenated in the PageMaker dictionary.

In addition to using the dictionary, Manual plus algorithm option, uses mathematical algorithm and your manually inserted hyphens to break words.



**Define Styles:** This option will present you a dialog box with the list of styles used in the publication. You can add, modify and delete styles from this dialog box.

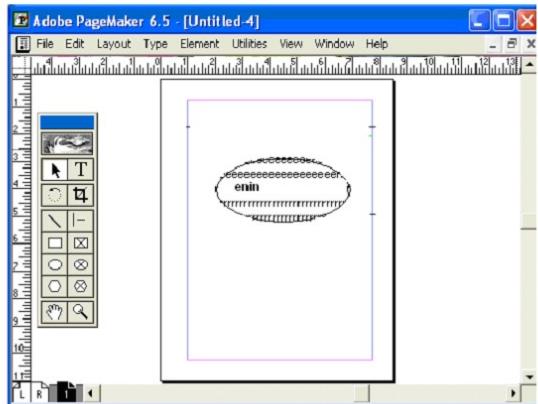
## ELEMENT MENU



**Frame:** Frame has options for frame alignment, position and margins.

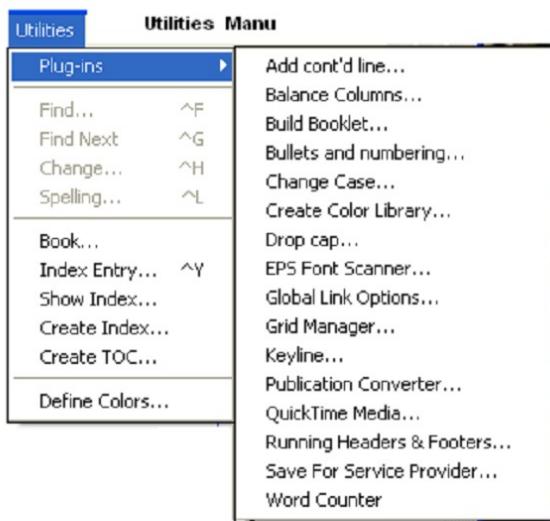
**Align Objects:** Align Objects lets you align multiple objects relative to each other.

**Masking Objects:** Masking is a way of covering part of an object so that only a portion of it appears through a shape drawn with the rectangle, ellipse, or polygon tool.



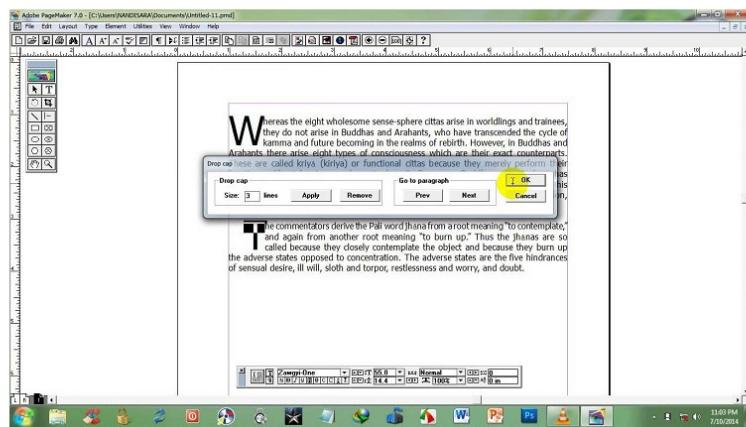
**Link Options:** Link Options is used to define whether the linked text or graphic is to be updated along with the publication in use and also its frequency.

## UTILITIES MENU



**Plug-ins:** Plug-ins has a list of sub commands, which lists out the various plugins, which have been included with PageMaker as additions.

**Drop caps:** Drop caps are one variety of initial capitals — those oversized letters used at the start of some paragraphs to catch the eye and lead the reader into the text. Here's how to use the drop cap plug-in.



## VIEW MENU



**Display Master Items:** Display Master Items toggle the display of items from the master pages to be reflected in the current page of the publication.

**Display Non-Printing Items:** Display Non-Printing items toggle the display of non-printing items.

## WINDOW MENU



**Show Tools:** Hide/Show tools toggles the display of PageMaker toolbar.

**Show Control Palette:** Show/Hide Control Panel toggles the display of control panel on the screen.

**Show Colors:** Show/Hide Colors Toggles the display of the Color Palette on the screen.

**Show Style:** Show/Hide Styles toggles the display of the Styles Palette on the screen.

**Show Layers:** Show/Hide Layers toggles the display of the Layers Palette on the screen.

**Show Master Pages:** Show/Hide Master Pages toggle the display of the Master Pages Palette on the screen.

**Show Hyperlinks:** Show/Hide Hyperlinks toggles the display of the Hyperlink Palette on the screen.