GIMP Menus / Windows

- Menu Bar
- Edit Workspace
- Status Bar
- Layers, Channels, Paths, Undo History dock
- Tool Options

Rectangle Select Tool →	← Ellipse Select Tool
Free Select Tool →	← Fuzzy Select Tool
Select By Color Tool →	← Scissors Select Tool
Foreground Select Tool →	← Paths Tool
Color Picker Tool →	← Zoom Tool
Measure Tool →	← Move Tool
Alignment Tool →	← Crop Tool
Rotate Tool →	← Scale Tool
Shear Tool →	← Perspective Tool
Flip Tool →	← Cage Transform Tool
Text Tool →	← Bucket Fill Tool
Blend Tool →	← Pencil Tool
Paintbrush Tool →	← Eraser Tool
Airbrush Tool →	← Ink Tool
Clone Tool →	← Healing Tool
Perspective Clone Tool →	← Blur / Sharpen Tool
Smudge Tool →	← Dodge / Burn Tool
Foreground & background colors →	

Certification Test Goals

This module sets out essential concepts and skills relating to the ability to understand the main concepts underlying digital images and to use an image editing application to enhance images, apply effects, and prepare an image for printing and publishing.

Successful candidates will be able to:
- Know about the main concepts of using digital images and understand graphic format options and colour concepts.
- Open an existing image, save an image in different formats, and set image file options.
- Use built-in options such as displaying toolbars, palettes to enhance productivity.
- Capture and save an image, use various selection tools, and manipulate images.
- Create and use layers, work with text, use effects and filters, and use drawing and painting tools.
- Prepare images for printing or publishing.

Keyboard Shortcuts

General		Editing		Selection	
Open	Ctrl+O	Cut	Ctrl+X	Select All	Ctrl+A
Save	Ctrl+S	Copy	Ctrl+C	Select None	Shift+Ctrl+A
Print	Ctrl+P	Paste	Ctrl+V	Inverse	Ctrl+I
Close	Ctrl+W	Zoom In	+		
Undo	Ctrl+Z	Zoom Out	-		
Redo	Ctrl+Y				
Help	F1				

1 Imaging Concepts

1.1 Digital Images

1.1.1 Identify common uses of digital images like:
- **Web and print publishing** - Publish images to websites, social networks or photo sharing sites, or use for print publishing (magazines, brochures)
- **Distribution by e-mail and mobile phone** - Send your images to friends, colleagues
- **Home printing** - Use a printer, photo printer
- **Digital photo frames** - Display images on a digital photo frame

1.1.2 Understand the terms pixel, resolution.
- **Pixel** - the smallest part of a digital image on a screen or a single point in a raster image
- **Resolution** - the measure of the detail quality of a digital image

1.1.2 Identify the key features of a digital image:
- Composed of discrete pixels
- Represented digitally in binary code

1.1.3 Understand the terms lossy, lossless image file compression.
- **Lossy compression** creates a smaller sized compressed file that results in a lower resolution picture with pixel loss.
- **Lossless compression** ensures that the compressed data can be reconstructed to the exact original image without pixel loss.

1.1.4 Understand the term copyright and the implications for image use.
- **Copyright** - the rights granted to use, publish or distribute images, or other pieces of work for a specific time period

1.1.4 Understand the terms royalty-free images and rights-managed images.
- **Royalty-free images** incur a one-off fee that allows the user to use the image as many times as required with some restrictions.
- **Rights-managed images** have a copyright license which, if purchased by a user, allows the one-time use of a photo as specified by the license.

1.2 Graphic Formats

1.2.1 Understand the terms raster and vector graphics and distinguish between them.
- **Raster graphics** - represent a grid of pixels and cannot be scaled to a larger size without losing quality
- **Vector graphics** - created using points, lines and curves, based on mathematical equations and can be scaled to a large size without losing quality

1.2.1 Identify common raster (jpeg, gif) and vector (svg, eps) formats.

Raster File Format	File Extension
Joint Photographic Experts Group (JPEG)	.jpeg
Graphics Interchange Format (GIF)	.gif

Vector File Format	File Extension
Scalable Vector Graphics (SVG)	.svg
Encapsulated PostScript (EPS)	.eps

1.2.2 Recognize proprietary digital image editing application formats:

File Format	File Extension
Photoshop Native Format	.psd
Paint Shop Pro Native Format	.psp
GIMP Native Format	.xcf
Corel Photo-Paint Format	.cpt

1.3 Colour Concepts

1.3.1 Understand the term colour model.
- A mathematical model describing how colours can be represented as lists of numbers, typically as three or four values or colour components.

1.3.1 Recognize common colour models:
- **RGB** - Combines red, green and blue
- **HSB** - Combines hue, saturation and brightness
- **CMYK** - Combines cyan, magenta, yellow and key (black)
- **Grayscale** - Combines shades of gray, varying from black to white

1.3.2 Understand the terms colour palette, colour depth.
- **Colour palette** - the total colours available
- **Colour depth** - the maximum number of

distinct colours that are used in an image, higher depth gives a broader range of distinct colours and a more realistic image

1.3.2 Understand the terms hue, saturation, colour balance.
- Hue - A pure colour described by name like red or yellow
- Saturation - The dominance of hue in the colour
- Colour balance - The overall adjustment of the intensities of the colours

1.3.2 Understand the terms contrast, brightness, gamma.
- Contrast - The difference in colour and light level in an image
- Brightness - The degree to which an image radiates light
- Gamma - The way brightness is changed for the middle range of gray tones

1.3.2 Understand the term transparency.
- Transparency - The ability of light to transmit through an image

2 Image Capture
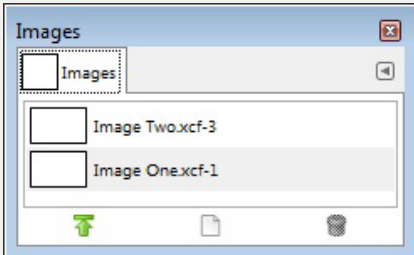
2.1 Capturing Images
2.1.1 Save an image from a digital camera to a location on a drive.
- Connect the digital camera to the computer.
- Follow the Wizard instructions to choose the image to save.
- Select the location on the drive and save the image.

2.1.2 Use the print screen facility to capture a full screen.
- Press the Print Screen key.
- Open an image editing application.
- Click the Edit menu.
- Click Paste.

2.1.2 Use the print screen facility to capture an active window.
- Open a window on the desktop.
- Press the Alt key + Print Screen key on the keyboard.
- Open an image editing application.
- Click the Edit menu.
- Click Paste.

2.1.3 Save an image from an image library, web page to a location on a drive
- Right-click the image.
- Select Save image as.
- Create a file name and navigate to the location required.
- Click Save.

2.1.4 Open a scanning application and scan an image: preview, set scanning parameters, scan, save.
- Place the image on the scanner.
- Click scan to view options.
- Follow the instructions to choose the scanning parameters.
- Navigate to the location required to save the image and scan.

3 Using the Application

3.1 Image Creation
3.1.1 Open an image editing application.
- Click the Start button.
- Select All Programs.
- Click GIMP2.

3.1.1 Close an image editing application.
- On the File menu, click Quit.

3.1.1 Open image files.
- On the File menu, click Open.
- Select file(s) to open and click Open.

3.1.1 Close image files.
- On the File menu, click Close to close the current image window or Close all to close all opened images.

3.1.2 Create a new image file and set options: colour model, size, resolution, background colour.
- On the File menu, click New.

- Set the file options.
- Click OK.

3.1.3 Create a new image file from clipboard.
- Ensure an item has been copied to the clipboard.
- On the File menu, select Create.
- Click From Clipboard.

3.1.4 Switch between open image files.

- On the Windows menu, select Dockable Dialogs.
- Click Images.
- Click the image file required from the Images dialog to switch to that file.

3.1.5 Save an image to a location on a drive.
- On the File menu, click Save.
- Create a file name and navigate to the required location.
- Click Save.

3.1.5 Save an image under another name to a location on a drive.
- On the File menu, click Save As.
- Enter a new file name over the existing file name and navigate to the location required.
- Click Save.

3.1.6 Save, export an image as another file type like: jpeg, gif, tiff, png.
- On the File menu, click Export.
- Click the Select File Type (By Extension) drop-down menu and click a file type.
- Click Export.

3.2 Settings
3.2.1 Set background colour, foreground colour.
- In the Toolbox, click the Set Background Color or Set Foreground Color option.
- Select the colour required.
- Click OK.

3.2.2 Set grid properties: units, horizontal spacing, vertical spacing, colour.
- On the Edit menu, click Preferences.
- Click Default Grid.
- Click the Line style, Foreground color and Background color required.
- Enter the spacing and offset required.
- Click OK.

3.3 Enhancing Productivity
3.3.1 Set basic options/ preferences in the application like: transparency, grid settings, measurement units.
- To set transparency, on the Edit menu, click Preferences.
- Click Display.
- Click the transparency Check style and Check size required.
- Click OK.
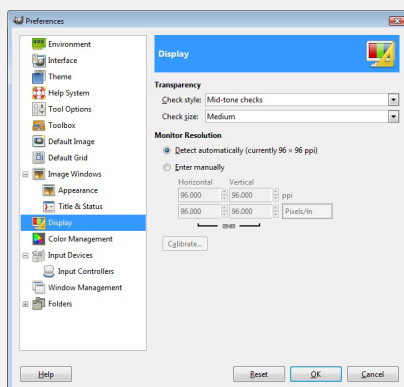
- To set grid settings, on the Edit menu, click Preferences.
- Click Default Grid.
- Click the grid Line style, Foreground color and Background color.
- Enter the gridline spacing and offset required.
- Click OK.
- To set measurement units, on the Edit menu, click Units.
- Check the checkboxes for the Units required.
- Click Close.

3.3.2 Use available Help functions.
- On the Help menu, click Help.

3.3.3 Use magnification/zoom tools.
- On the View menu, select Zoom (100%) and click Zoom Out or Zoom In.

3.3.4 Use the undo, redo command.
- On the Edit menu, click Undo or Redo.

3.3.4 Use the undo history.
- On the Edit menu, click Undo History.
- Select a state in the file history to revert to.

3.3.5 Display, hide built-in toolbars, palettes, windows.
- On the Window menu, select/deselect appropriate toolbar, palette, window.
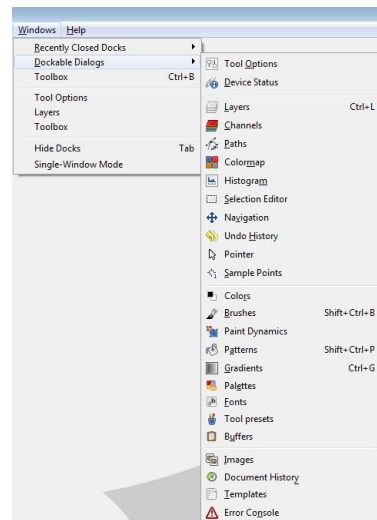
4 Working with Images

4.1 Selection
4.1.1 Select an entire image, layer(s).
- To select an entire image, on the Select menu, click All.
- To select a layer, in the Layers panel, click the layer required.

4.1.2 Set selection tool properties: relationship between multiple selections, feathering, antialiasing, width, height.
- In the Toolbox, click the required Selection Tool, choosing from the Rectangle, Ellipse, Free, Fuzzy, Select by color, Scissors Select Tool.
- In the Tool Options, select the required relationship between selections option.
- Check the feathering and antialiasing check boxes and enter the width and height required.

4.1.3 Select part of an image using selection tools: rectangular, elliptic, magic wand, magnetic lasso, freehand image.

Selection Tool	Description
Rectangle / Ellipse select tool	Draws square or rectangular selection borders or draws round or elliptical selection borders.
Fuzzy select tool (Magic Wand)	Selects pixels of similar colour with one click.
Scissors select tool	Draws a selection border using intelligent edge fitting.
Free select tool (Lasso)	Draws freehand selection borders. This tool is great for making very precise selections.

- In the Toolbox, click the required Selection Tool.
- Select a part of the image using the tool.

4.1.4 Inverse a selection.
- In the Toolbox, click the required Selection Tool.
- Select a part of the image using the tool.
- On the Select menu, click Invert.

4.1.5 Save a selection.
- In the Toolbox, click the required Selection Tool.
- Select a part of the image using the tool.
- On the Select menu, click Save to Channel. Enter a Selection Name.
- Click OK.

4.1.5 Load a saved selection
- In the Channels panel, choose the required selection.
- Click the red square icon to load the selection.
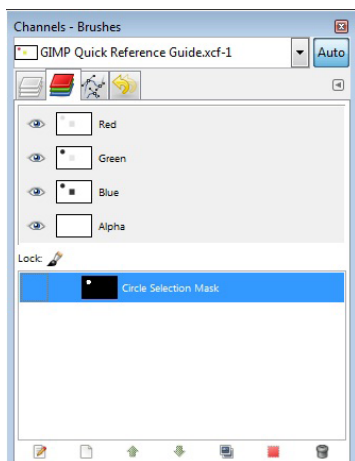
4.2   Image Manipulation

4.2.1 Change the canvas size of an image.
- On the Image menu, click Canvas Size.
- Enter the width and height required.
- Click Resize.

4.2.2 Resize an image in pixels, measurement units.
- On the Image menu, click Scale Image.
- Enter the width and height required.
- Select the required measurement unit.
- Click Scale.

4.2.3 Crop an image.
- In the Toolbox, click the Crop Tool.
- Click and drag to select the part of the image you wish to crop using the tool.
- Press the Return key to accept changes.

4.2.4 Copy image(s), selection within an image.
- In the Toolbox, click the Move Tool.
- Select the image and click Ctrl + C to copy.
- Paste the image selection into the desired location.

4.2.4 Move image(s), selection within an image.
- In the Toolbox, click the Move Tool.
- Select the image and click and drag to move.

4.2.5 Rotate, mirror an image, selection within an image.
- In the Toolbox, click the required Selection Tool.
- Select the image, part of image you wish to rotate, mirror.
- On the Image menu, click Transform and click the required rotation or flip (mirror) option.
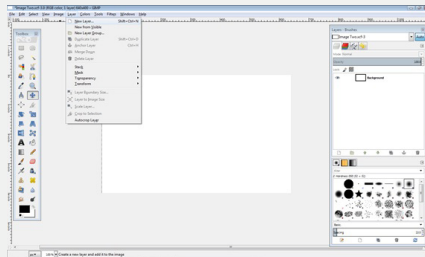
4.3   Layers

4.3.1 Define and understand the term layer.
- Layers are used to separate different elements of an image and are stacked on top of each other.

4.3.2 Create a layer.
- On the Layer menu, click New Layer.
- Enter the Layer Name, Width, Height required.
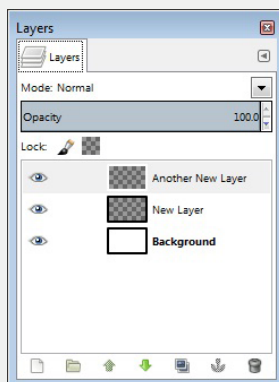- Check the Layer Fill Type check box required.
- Click OK.

4.3.2 Copy a layer.
- In the Layers panel, select the layer to copy.
- On the Layer menu, click Duplicate Layer.
- Edit a new layer name in the Layers dialog.

4.3.2 Delete a layer.
- In the Layers panel, select the layer to delete.
- On the Layer menu, click Delete Layer.

4.3.3 Set layer properties: name.

- In the Layers panel, double-click the layer to open layer properties.
- Edit the Layer Name.
- Click OK.

4.3.3 Set layer properties: hide, show.
- In the Layers panel, click the Eye symbol to Show/Hide a layer.

4.3.3 Set layer properties: lock.
- In the Layers panel, click to the right of Lock to Lock pixels or Lock alpha channel.

4.3.3 Set layer properties: opacity.
- In the Layers panel, adjust the Opacity slider to select the appropriate opacity.

4.3.3 Set layer properties: blending mode.
- In the Layers panel, click the Mode drop-down arrow.
- Select the appropriate blending mode.

4.3.4 Arrange layers.
- On the Layer menu, click Stack.
- Select the appropriate option to Raise / Lower the layer.

4.3.4 Merge layers.
- In the Layers panel, select the layer to merge.
- On the Layer menu, click Merge Down to merge to the layer below.

4.3.4 Link layers.
- In the Layers Panel, click to the right of the Eye symbol on appropriate layers to link these layers.

4.3.4 Flatten layers.
- On the Image menu, click Flatten Image to merge all layers into one.

4.3.5 Transform layer(s): scale.
- Select the layer to transform.
- On the Layer menu, click Scale Layer.
- Enter the desired Layer Size and Quality.
- Click Scale.

4.3.5 Transform layer(s): rotate.
- Select the layer to transform.
- On the Layer menu, click Transform and select the appropriate layer rotation option.

4.3.5 Transform layer(s): flip.
- Select the layer to transform.
- On the Layer menu, click Transform and select the appropriate layer flip option.

4.3.5 Transform layer(s): move.
- In the Layers panel, select the layer to move.
- Click the Move Tool, click and drag the layer to the required location.

4.3.5 Transform layer(s): trim.
- On the Layer menu, click Layer Boundary Size.
- In the Toolbox, click the Crop Tool.
- Enter the required Layer Size and Offset.
- Click Resize.

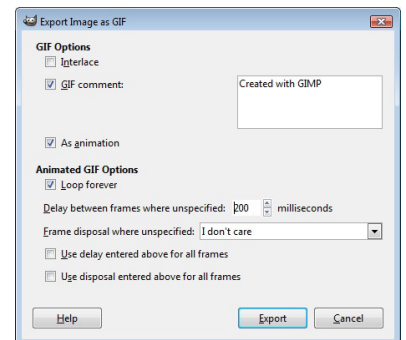**4.3.6 Convert a drawn object to a raster layer.**
- Select a text layer.
- On the Layer menu, click Discard Text Information.

Note: Only text layers can be converted to a raster layer in GIMP.

4.3.7 Create an animated gif from layers.
- On the File menu, click Export.
- Create a file name and navigate to the location required.
- Select GIF image as the file type.

- Check the As animation GIF Option checkbox and select any additional loop and frame delay settings.
- Click Export.
- Click Save.

Note: You must have two or more layers to create an animated gif.

4.4   Text

4.4.1 Add text.
- In the Toolbox, click the Text Tool.
- Click and drag on the image to create a text editing region.
- On the Options bar, select text options and enter text.
- Click outside the text editing region to accept changes.

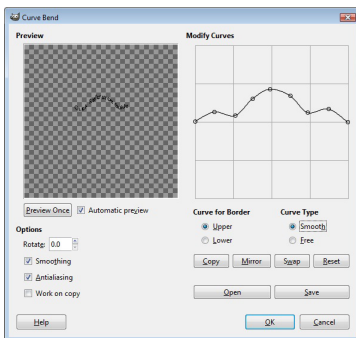**4.4.1 Edit text.**
- In the Toolbox, click the Text Tool.
- Double-click on existing text to open the text editing region.
- Edit the text as required.
- Click outside the text editing region to accept changes.

4.4.1 Delete text.
- In the Toolbox, click the Text Tool.
- Double-click on existing text to open the text editing region.
- Delete the text as required.
- Click outside the text editing region to accept changes.

4.4.2 Copy, move text.
- In the Toolbox, click the Text Tool.
- Double-click on existing text to open the text editing region.
- Select the text to copy, move.
- On the Edit menu, click Cut or Copy.
- Paste the text into the desired location.

4.4.3 Align text: left, centre, right, justified.
- In the Toolbox, click the Text Tool.
- Double-click on existing text to open the text editing region.
- Select the text to align.
- In the Tool Options, select the desired justify alignment.

4.4.4 Apply text formatting: font sizes, font types, font colour.
- In the Toolbox, click the Text Tool.
- Double-click on existing text to open the text editing region.
- Select the text to format.
- On the Options bar, select the desired font size, font type or font colour.
- Click OK to accept font colour changes.

4.4.5 Apply a text warp.

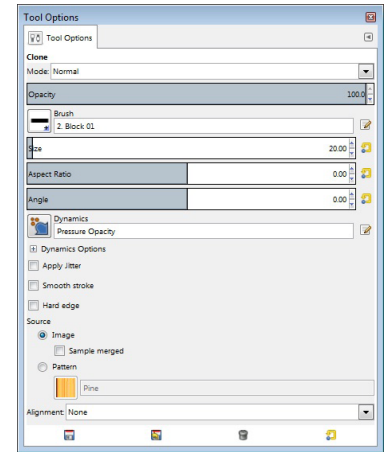- In the Toolbox, click the Text Tool.
- Double-click on existing text to open the text editing region.
- Select the text to text warp.
- On the Filters menu, click Distorts and Curve Bend.
- Select the desired Curve and adjust settings for Border, Type and Rotate.
- Click OK.

4.5 Effects and Filters

4.5.1 Apply artistic, distortion effects: pixelate, emboss, wind, ripple, twirl, desaturate.
- Select the image, part of image using a Select Tool from the Toolbox.
- To apply a pixelate effect, on the Filters menu, select Blur and click Pixelize.
- To apply an emboss effect, on the Filters menu, select Distorts and click Emboss.
- To apply a wind effect, on the Filters menu, select Distorts and click Wind.
- To apply a ripple effect, on the Filters menu, select Distorts and click Ripple.
- To apply a twirl effect, on the Filters menu, select Distorts and click Whirl and Pinch.
- To apply a desaturate effect, on the Colors menu, click Desaturate.
- Adjust the settings as required.
- Click OK.

4.5.2 Apply blur effects: gaussian, motion.
- Select the image, part of image using a Select Tool from the Toolbox.
- To apply a Gaussian blur effect, on the Filters menu, select Blur and click Gaussian Blur.
- To apply a motion blur, on the Filters menu, select Blur and click Motion Blur.
- Adjust the settings as required.
- Click OK.

4.5.3 Apply lighting effects: lighting, flare.
- Select the image, part of image using a Select Tool from the Toolbox.
- To apply a lighting effect, on the Filters menu, select Light and Shadow and click Lighting Effects.
- To apply a flare effect, on the Filters menu, select Light and Shadow and click Lens Flare.
- Adjust the settings as required.
- Click OK.

4.5.4 Apply adjustments: brightness-contrast, hue-saturation, colour balance.
- Select the image, part of image using a Select Tool from the Toolbox.
- To adjust brightness-contrast, on the Colors menu, click Brightness-Contrast.
- To adjust hue-saturation, on the Colors menu, click Adjust Hue-Saturation.
- To adjust colour balance, on the Colors menu, click Color Balance.
- Adjust the settings as required.
- Click OK.

4.5.5 Apply sharpen mask.
- Select the image, part of image using a Select Tool from the Toolbox.
- On the Filters menu, select Enhance and click Sharpen.
- Adjust the settings as required.
- Click OK.

4.5.5 Apply unsharpen mask.
- On the Filters menu, select Enhance and click Unsharp Mask.
- Adjust the settings as required.
- Click OK.

4.5.6 Apply red eye reduction.
- Select the image, part of image using a Select Tool from the Toolbox.
- On the Filters menu, select Enhance and click Red Eye Removal.
- Adjust the settings as required.
- Click OK.

5.2.6 Clone a portion of an image using a clone tool, selecting size, opacity.

- In the Toolbox, click the Clone Tool.
- In the Tool Options, click the Opacity, Brush and Size required, and adjust other settings as required.
- Hold the Ctrl key and make your clone selection.
- Click the required location to place the cloned content.

5 Drawing and Painting

5.1 Drawing Tools

5.1.1 Add a line to an image: straight line, free drawn line, curves. Set, modify line weight, style and colour.
- In the Toolbox, click the Paintbrush Tool or Pencil Tool.
- In the Tool Options, select the desired Brush, Size, Aspect Ratio and Angle.
- Draw the line.

5.1.2 Add a shape to an image: rectangle, ellipse, n-shaped polygon. Set, modify line, fill style and colour.
- In the Toolbox, click the Rectangle Select Tool, Free Select Tool or Ellipse Select Tool.
- Draw the shape using the select tool.
- To create a filled shape, in the Toolbox, choose a foreground color and fill the selection with the Bucket Fill Tool.
- To create an outline shape, on the Edit menu, click Stroke Selection.
- Adjust the settings as required and click Stroke.

5.2 Painting Tools

5.2.1 Pick up a colour value with the dropper.
- In the Toolbox, click the Color Picker Tool.
- Select the colour of the image to pick and click that colour to select.

5.2.2 Fill a portion of an image with the gradient tool, selecting opacity/transparency, radial, linear, position, rotation.
- In the Toolbox, click the Blend Tool.
- In the Tool Options, click the required Opacity, Gradient, Shape, Repeat and Offset.
- Click the gradient start location and drag to a finish location to apply the gradient.

5.2.3 Colour a portion of an image with the paintbrush tool, selecting colour, shape, size.
- In the Toolbox, click the Paintbrush Tool and click a Foreground Color.
- In the Tool Options, click the Brush and Size required.
- Colour the portion of the image.

5.2.4 Erase a portion of an image with the eraser tool, selecting its shape and size.
- In the Toolbox, click the Eraser Tool.
- In the Tool Options, click the Brush and Size required.
- Erase the portion of the image.

5.2.5 Fill a portion of an image with colour using the paint bucket tool.
- In the Toolbox, click the Bucket Fill Tool.
- Click a Foreground Color.
- Fill the portion of the image with the colour.

6 Prepare Outputs

6.1 Setup

6.1.1 Preview an image.
- On the File menu, click Print.
- Click the Image Settings tab to view the print preview.

6.1.2 Select appropriate colour depth, resolution, image size, graphic format for web, screen, print use.
- To adjust colour depth, on the Image menu, click Mode.
- Click the colour depth mode required.
- To adjust resolution or image size, on the Image menu, click Scale Image.
- Click the resolution or image size required.
- To adjust graphic format, on the File menu, click Export.
- Click the graphic format required.
- Click Export.

6.2 Print

6.2.1 Change print output orientation: portrait, landscape.
- On the File menu, click Print.
- On the General tab, click Preferences.
- Under Orientation, click Portrait or Landscape.
- Click OK.

6.2.1 Change paper size.
- On the File menu, click Print.
- On the General tab, click Preferences.
- Under Paper sizes, click the paper size required.
- Click OK.

6.2.2 Print an image to an installed printer using defined options, default settings.
- On the File menu, click Print.
- Select additional print options if required.
- Click Print.

For more information,
visit: **www.ecdl.org**