



Gurukul Technicals Institute

Computer education · Robotics · Science projects · Delhi

FREE EBOOK

DESIGN AND DTP

DTP and CorelDRAW Study Book

The complete study notes, practice questions and glossary for DTP and CorelDRAW

INSIDE THIS BOOK

- What DTP Is and Page Layout Basics
- Typography for DTP
- Colour Models and Resolution for Print
- Vector and Raster Graphics
- The CorelDRAW Workspace and Basic Tools
- ...and 2 more chapters, practice questions and a glossary

Beginner

Students learning desktop publishing and graphic design

engineergurukul.com

+91 97116 99511

DTP and CorelDRAW Study Book

Learn desktop publishing from the ground up: page layout, typography, RGB and CMYK colour, print resolution, vector and raster graphics, the core CorelDRAW tools, and a visiting card and poster workflow ending in a print-ready PDF.

WHO IT IS FOR	Students learning desktop publishing and graphic design
LEVEL	Beginner
SUBJECT AREA	Design and DTP
WHAT IS INSIDE	7 chapters, practice questions with answers, and a glossary

HOW TO USE IT

Read one chapter at a time and try the examples as you go: on a computer, at your workbench or in your notebook. The boxes give tips, safety points and short activities. When you finish, test yourself with the practice questions and check your answers at the end. Words you may not know are explained in the glossary.



Gurukul Technicals Institute

A-10, Chief Commissioner Colony, opposite Rana Pratap Bagh, Delhi 110007
Phone 011 2721 1512 · Mobile and WhatsApp +91 97116 99511
engineergurukul@yahoo.co.in · engineergurukul.com

Free ebook. You may read, print and share this ebook for learning. It may not be sold or changed.

© 2026 Gurukul Technicals Institute. First edition, October 2026. The information was checked when it was written; software, prices and rules change, so for anything official always check the latest source.

What you will find inside

1	What DTP Is and Page Layout Basics	4
2	Typography for DTP	6
3	Colour Models and Resolution for Print	8
4	Vector and Raster Graphics	11
5	The CorelDRAW Workspace and Basic Tools	13
6	Working with Objects in CorelDRAW	15
7	Visiting Card and Poster Workflow, and PDF Export for Print	18
	Practice questions	20
	Answers	25
	Glossary	27

What DTP Is and Page Layout Basics

Desktop publishing (DTP) means designing printed and digital material on a computer by arranging text, images and shapes on a page. Before DTP software, layouts were assembled by hand for the printing press; today one operator can design, proof and send a job to the printer from a single PC.

What DTP operators make

- Visiting cards, letterheads and envelopes
- Pamphlets, brochures and menu cards
- Posters, flex banners and hoardings
- Wedding and invitation cards
- Certificates, ID cards and forms
- Books, magazines and school reports

Common DTP software

Software	Main strength
CorelDRAW	Vector design and layout: cards, logos, posters, banners
Adobe InDesign	Multi-page layout: books, magazines, brochures
Adobe Illustrator	Vector illustration and logos
Adobe Photoshop	Editing photos and other raster images
Corel PHOTO-PAINT	Photo editing, included in CorelDRAW Graphics Suite

Page size and orientation

Every job starts with the correct page size. In the ISO A series, each size is half of the one before it, so an A3 sheet folded in half gives A4.

Size	Width × height
A3	297 × 420 mm

Size	Width × height
A4	210 × 297 mm
A5	148 × 210 mm
Visiting card, a common size in India	3.5 × 2 inches (about 89 × 51 mm)

Portrait pages are taller than they are wide; **landscape** pages are wider than they are tall.

Layout terms

- **Margins:** the blank space between the content and the edge of the page.
- **Columns and gutter:** text is often set in columns; the gap between two columns is the gutter.
- **Guidelines and grids:** non-printing lines that help you place objects consistently.
- **Trim line and crop marks:** the trim line is where the paper will be cut; crop marks printed just outside the page show the cutter where to cut.
- **Bleed:** background colours or images that should run to the edge are extended past the trim line, commonly by about 3 mm, so that no white strip shows if the cut is slightly off.
- **Safe area:** important text is kept a few millimetres inside the trim line so that it is never cut off.

Principles of a good layout

1. **Hierarchy:** the most important item, such as the headline, is the largest and is seen first.
2. **Alignment:** items line up along common edges; nothing looks randomly placed.
3. **Proximity:** related items sit together, such as a name and a designation.
4. **White space:** empty space makes a design easier to read. Do not fill every corner.
5. **Contrast:** dark text on a light background, or light on dark, keeps text readable.

Confirm the finished size, bleed and paper with the printer before you start designing, not after the design is ready.

KEY POINTS

- DTP combines text, images and shapes into designs for print and screen.
- A4 is 210 × 297 mm; folding A3 in half gives A4.
- Bleed extends edge-to-edge colour past the trim line, commonly by about 3 mm.
- Keep important text inside the safe area, away from the trim line.
- Hierarchy, alignment, proximity, white space and contrast make a layout work.

TRY THESE EXERCISES

1. Collect five printed items from home, such as a visiting card, a pamphlet and a wedding card, measure each with a ruler and note its size in millimetres and its orientation.
2. Fold an A3 sheet in half and then in half again, measure the sheet after each fold to confirm the A4 and A5 sizes, and record the dimensions in a table.
3. Choose one pamphlet or poster and mark its hierarchy, alignment, margins and white space on a printout or photo of it, then write two ways its layout could be improved.

CHAPTER 2

Typography for DTP

Typography is the art of arranging text so that it is easy to read and looks right. In most DTP work the text carries the message, so good typography is what makes a design look professional.

Typeface and font

A **typeface**, or font family, is a design of letters, such as Arial or Times New Roman. A **font** is one style and weight of that family, such as Arial Bold. In everyday use the two words are often used for the same thing.

Kinds of typeface

Kind	Look	Typical use
Serif	Small strokes, called serifs, at the ends of letters	Books, newspapers, formal documents

Kind	Look	Typical use
Sans serif	No serifs; clean, even strokes	Signs, screens, modern designs, headings
Script	Like joined handwriting	Wedding cards and greetings, in short lines only
Display or decorative	Bold or unusual shapes	Large headlines and posters only

Times New Roman and Georgia are serif fonts; Arial, Calibri and Verdana are sans serif. All of them come with Windows.

Measuring type

- Type size is measured in **points (pt)**. In DTP software, 72 points make one inch.
- Body text in print is commonly set at about 9 to 12 pt; headings are larger.
- **Leading** is the distance from one line of text to the next. Too tight looks crowded; too loose breaks the flow of reading.
- **Kerning** adjusts the space between two particular letters, such as A and V.
- **Tracking** adjusts the spacing evenly across a whole word, line or paragraph.

Alignment

- **Left aligned** text is the easiest to read in long passages.
- **Centred** text suits short items such as invitations, titles and certificates.
- **Justified** text lines up on both sides, as in newspapers, but can leave wide gaps between words in narrow columns.
- **Right aligned** text suits short items such as dates or prices.

Good habits

1. Use no more than two or three typefaces in one design, often one for headings and one for body text.
2. Create hierarchy with size, weight and colour rather than with many different fonts.
3. Avoid setting whole paragraphs in capital letters; they are harder to read.
4. Check names, phone numbers and addresses twice. A mistake found after printing is expensive.

Hindi and other Indian languages

For Hindi, use a **Unicode** Devanagari font such as Nirmala UI, which comes with Windows 10 and 11, or Mangal. Older legacy fonts such as Kruti Dev do not use Unicode: text typed in them shows as wrong characters on a computer that lacks the font, and it cannot be copied or searched as real Hindi text.

Before sending a file to print, embed the fonts in the PDF or convert the text to curves, so that the printer sees exactly the typefaces you used.

KEY POINTS

- Serif fonts have small strokes at letter ends; sans serif fonts do not.
- Type is measured in points, and 72 points make one inch.
- Leading is line spacing, kerning is space between two letters, tracking is overall spacing.
- Use two or three typefaces at most in one design.
- Use Unicode fonts such as Nirmala UI or Mangal for Hindi.

TRY THESE EXERCISES

1. Type the same passage of two or three paragraphs at 11 pt in a serif font such as Times New Roman and in a sans serif font such as Arial, print both and compare which is easier to read.
2. Type the word WAVE in large capitals, print it and mark the letter pairs whose gaps look uneven, such as W and A or A and V, then set a short paragraph at three different line spacings and note which leading reads most comfortably.
3. Switch to the Windows Hindi keyboard with Windows key + Space (add Hindi in Windows Settings first if it is missing), type your name and address in a Unicode font such as Nirmala UI, then paste the text into Notepad and check that it still shows correctly.

CHAPTER 3

Colour Models and Resolution for Print

Colour that looks perfect on screen can look dull or different on paper. To avoid surprises you need to know the two main colour models and how resolution affects print quality.

RGB: colours of light

RGB (Red, Green, Blue) is an **additive** model: screens create colour by mixing light. All three at full strength make white, and none at all makes black. Monitors, phones, TVs and websites use RGB. Each channel commonly runs from 0 to 255, so pure red is R255 G0 B0.

CMYK: colours of ink

CMYK (Cyan, Magenta, Yellow and Key, meaning black) is a **subtractive** model: ink on paper absorbs some light and reflects the rest. Printing presses and most colour printers use these four inks, given as percentages, such as C0 M100 Y100 K0 for a strong red. Black ink is added because mixing cyan, magenta and yellow gives a muddy dark colour rather than a clean black.

	RGB	CMYK
Model	Additive (light)	Subtractive (ink)
Used for	Screens, websites, video, social media	Printed material
All at full strength	White	A very dark colour
Values	0 to 255 per channel	0 to 100% per ink

Why colours change in print

Screens can show some bright colours, such as vivid greens and electric blues, that CMYK inks cannot reproduce. The range of colours a device can produce is called its **gamut**. For a print job, set the document's colour mode to **CMYK** from the start, so that what you see is closer to what will print. When a brand colour must match exactly, printers can use **spot colours**, such as Pantone inks.

Black text

Set small black text to **100% black only**: C0 M0 Y0 K100. If black is built from all four inks, a slight misalignment of the plates on the press makes small text look blurred, with coloured edges. A **rich black**, black with some cyan, magenta or yellow added, is used only for large dark areas.

Resolution

Photos are raster images made of pixels. **Resolution** is how many pixels fit into an inch, written PPI (pixels per inch) or, very commonly in print shops, DPI (dots per inch).

- For good print quality, images should be about **300 DPI at the final printed size**.
- Images for screens are judged by their pixel size, for example 1920 × 1080, not by DPI.
- Large flex banners seen from a distance can be printed at a lower resolution; ask the printer what they need.

To find the pixels needed, multiply the print size in inches by the resolution. A 3.5 × 2 inch visiting card at 300 DPI needs 1050 × 600 pixels.

Enlarging a small image does not add detail. A photo 600 pixels wide, printed 10 inches wide, has only 60 pixels per inch and will look blurred or blocky.

Photos received over messaging apps are usually compressed and too small for print. Ask the client for the original file from the camera or phone.

KEY POINTS

- RGB mixes light for screens; CMYK mixes inks for print.
- K in CMYK stands for key, which is black.
- Set print documents to CMYK and small black text to 100% K only.
- Print images should be about 300 DPI at their final size.
- Pixels needed = print size in inches × resolution.

TRY THESE EXERCISES

1. Make a colour chart in CorelDRAW of ten filled squares with each square's CMYK values typed beneath it, such as C0 M100 Y100 K0, then print it and compare the printout with the screen.
2. Calculate the pixels needed at 300 DPI for a 3.5 by 2 inch visiting card, a 5 by 7 inch photo and an A4 flyer of about 8.3 by 11.7 inches, and write the answers in a table.
3. Check the pixel size of three photos on your phone or computer from their file details, and work out the largest size in inches each could be printed at 300 DPI.

Vector and Raster Graphics

Every graphic in a DTP job is either **raster** (also called bitmap) or **vector**. The difference decides which software you use, how big the file is and how well the job prints.

Raster graphics

A raster image is a grid of tiny squares called **pixels**, each with its own colour. Photos from cameras, phones and scanners are raster images.

- Best for photographs and images with smooth shading.
- Resolution-dependent: enlarging spreads the same pixels over a larger area, so the image looks blurred or shows jagged, blocky edges. This is called **pixelation**.
- File size grows with the number of pixels.
- Common formats: **JPG** (or JPEG), **PNG**, **TIFF**, **BMP** and **GIF**.
- Edited in programs such as Adobe Photoshop and Corel PHOTO-PAINT.

Vector graphics

A vector image is built from **paths**: lines and curves defined by points called **nodes**, with fill and outline colours.

- Best for logos, text, icons, illustrations, visiting cards and banners.
- Resolution-independent: a vector logo can be scaled from a visiting card to a hoarding and stay sharp.
- File size is usually small and does not grow with the print size.
- Common formats: **CDR** (CorelDRAW), **AI** (Adobe Illustrator), **SVG** and **EPS**. A **PDF** can hold vector objects, raster images or both.
- Edited in programs such as CorelDRAW, Adobe Illustrator and Inkscape.

Comparison

	Raster	Vector
Made of	Pixels	Paths, nodes and curves
Scaling up	Loses quality	Stays sharp
Best for	Photos	Logos, text and line art

	Raster	Vector
Typical formats	JPG, PNG, TIFF	CDR, AI, SVG, EPS

JPG and PNG

JPG uses **lossy** compression, which keeps files small but throws away some detail. Each time a JPG is edited and saved again it can lose a little more quality, and JPG has no transparency. **PNG** uses **lossless** compression and supports **transparency**, so a logo saved as PNG can sit on a coloured background without a white box around it.

Converting between the two

- **Vector to raster** is easy. CorelDRAW can export a design as JPG or PNG at the resolution you choose, or turn a selected object into a bitmap with **Convert to Bitmap**.
- **Raster to vector** needs **tracing**. CorelDRAW's **PowerTRACE** feature, opened from **Trace Bitmap** on the property bar when a bitmap is selected, turns the bitmap into editable curves. It works best on simple logos with clean edges. Photos do not trace well, and every traced result must be checked and cleaned up by hand.

Which one to use?

- Logo, text, a shape-based design or anything that will be printed at many sizes: **vector**.
- A photograph of a person, a product or a place: **raster**, at the right resolution.
- Most real designs, such as a poster with a photo and a headline, combine both: the photo is raster and the text and shapes are vector.

When a client sends a blurred logo, ask for the original vector file (CDR, AI, SVG, EPS or a vector PDF) before you try to trace or redraw it.

KEY POINTS

- Raster images are made of pixels and lose quality when enlarged.
- Vector graphics are made of paths and stay sharp at any size.
- Use vector for logos and text, raster for photographs.
- PNG supports transparency; JPG uses lossy compression and has none.
- PowerTRACE converts a bitmap into editable curves.

TRY THESE EXERCISES

1. Draw a simple logo with shapes and text in CorelDRAW, make a copy of it and turn the copy into a low-resolution bitmap with Convert to Bitmap, then zoom in on both to compare the edges of the raster and vector versions.
2. Export the same logo as a JPG and as a PNG with a transparent background, bring both back in with File > Import (Ctrl+I), place them on a coloured rectangle, and note which one shows a white box around it.
3. Import a simple bitmap logo with File > Import (Ctrl+I), trace it with PowerTRACE from Trace Bitmap on the property bar, clean up any rough nodes with the Shape tool, and compare the result with the original.

CHAPTER 5

The CorelDRAW Workspace and Basic Tools

CorelDRAW is the vector drawing and layout program in CorelDRAW Graphics Suite. It saves its own files with the extension **.cdr**. These lessons describe recent versions on Windows; menu names can differ slightly between versions.

Starting a document

Choose **File > New** (Ctrl+N). In the new-document dialog, set the name, page size or width and height, units, orientation and number of pages, and choose the **primary colour mode**: CMYK for print or RGB for screens.

The workspace

Part	Purpose
Toolbox	Drawing and editing tools, usually down the left side
Property bar	Settings for the active tool or the selected object
Drawing page	The printable area; by default, objects off the page do not print
Colour palette	Click a colour to apply it, usually down the right side
Dockers	Panels such as Properties and Objects
Status bar	Details of the selected object, including its fill and outline

Essential tools

Tool	Shortcut	What it does
Pick	Space bar (switches from most tools)	Select, move, resize, rotate and skew objects
Shape	F10	Edit the nodes and curves of an object
Freehand	F5	Draw lines and curves freely
Rectangle	F6	Draw rectangles and squares
Ellipse	F7	Draw ellipses and circles
Text	F8	Add artistic or paragraph text
Interactive Fill	G	Apply and adjust fills, including gradients
Zoom	Z	Zoom in and out

Pick tool

Click an object to select it; handles appear around it. Drag a corner handle to resize it in proportion, or drag from the middle of the object to move it. Click the selected object a second time to show **rotate and skew** handles. Hold **Shift** and click to select several objects, or drag a box around them.

Rectangle and Ellipse tools

Drag to draw. Hold **Ctrl** to draw a perfect square or circle, and hold **Shift** to draw outwards from the centre. With a rectangle selected, the property bar sets the **corner radius** for rounded corners. With an ellipse selected, it switches the shape between an ellipse, a **pie** and an **arc**.

Shape tool

Rectangles and ellipses are special shapes. To edit their outline freely, press **Ctrl+Q** to **Convert to Curves**, then use the Shape tool to drag nodes, double-click the path to add a node, or select a node and press **Delete** to remove it.

Text tool

- **Artistic text:** click once and type. Best for headings, names and short lines.

- **Paragraph text:** drag a frame, then type. Best for longer text that should wrap inside the frame.

Fill and outline

With an object selected, **left-click** a palette colour to set its **fill** and **right-click** a colour to set its **outline**. The swatch marked with an X removes the fill when left-clicked and the outline when right-clicked. Set the outline width on the property bar.

Press Ctrl+Z to undo and save often with Ctrl+S. Keep the .cdr file safe even after you export a PDF, because the PDF is hard to edit later.

KEY POINTS

- CorelDRAW saves files with the .cdr extension.
- Pick selects and transforms objects; Shape (F10) edits nodes.
- Rectangle is F6, Ellipse F7 and Text F8; hold Ctrl for a square or circle.
- Left-click a palette colour for the fill and right-click for the outline.
- Ctrl+Q converts a shape or text to curves.

TRY THESE EXERCISES

1. Create a new A4 CMYK document with File > New, draw a perfect square and a perfect circle by holding Ctrl with the Rectangle (F6) and Ellipse (F7) tools, and give each a different fill and outline from the palette.
2. Draw a rectangle with rounded corners and an ellipse changed into a pie, then convert a copy of each to curves with Ctrl+Q and reshape it by adding and deleting nodes with the Shape tool.
3. Add an artistic text heading and a paragraph text frame holding three lines of text, set the outline width of a shape on the property bar, and save the file as a .cdr with Ctrl+S.

CHAPTER 6

Working with Objects in CorelDRAW

A design is built from many objects: shapes, text, images and lines. CorelDRAW gives you precise control over how they are copied, combined, stacked and lined up.

Duplicate and transform

- **Ctrl+D** duplicates the selected object; **Ctrl+C** and **Ctrl+V** copy and paste.
- The property bar shows the object's position (X and Y), its width and height and its rotation angle. Type exact values, such as a width of 89 mm.
- The mirror buttons on the property bar flip an object horizontally or vertically.

Group, combine and lock

Command	Shortcut	Result
Group	Ctrl+G	Objects move and resize together but keep their own fills and outlines
Ungroup	Ctrl+U	Splits a group back into its objects
Combine	Ctrl+L	Joins objects into one curve object with a single fill and outline
Break Apart	Ctrl+K	Splits a combined object into separate parts

Lock an object from its right-click menu so it cannot be moved by mistake, which is useful for a background.

Stacking order

Objects lie in a stack, and a newer object sits on top of older ones. Change the order with:

- **Ctrl+Page Up** and **Ctrl+Page Down**: forward one step and back one step.
- **Shift+Page Up** and **Shift+Page Down**: to the front and to the back of the layer.

The **Objects** docker (called the Object Manager in older versions) lists every layer and object, so you can select an object hidden behind others, rename it, or hide and lock a whole layer.

Align and distribute

Select two or more objects and open **Align and Distribute** from the Object menu. **Align** lines up their edges or centres; **distribute** spaces them evenly. With objects selected, single keys also work: **L** aligns left, **R** right, **T** top and **B** bottom, and **P** centres them on the page.

Shaping

When two or more overlapping objects are selected, the property bar shows shaping commands:

- **Weld** joins the objects into one shape with a single outline.
- **Trim** cuts away the part of one object that another object overlaps.
- **Intersect** creates a new object from the area where they overlap.

Simple logos are often built by welding and trimming circles and rectangles.

PowerClip

PowerClip places one object inside another, which acts as a frame: for example, a photo inside a circle. Select the photo, choose **Object > PowerClip > Place Inside Frame**, and click the frame. The photo is shown only within the frame's shape, but it is not cut, so you can edit its position later.

Effects

CorelDRAW's effects tools include **Drop Shadow**, **Contour** (evenly spaced copies around an object), **Blend** (steps between two objects) and **Transparency**. Use them lightly: a soft shadow behind a heading can help, but too many effects make a design look crowded and can cause printing problems.

Lock the background and name the main objects in the Objects docker before you start detailed work on top of them.

KEY POINTS

- Ctrl+D duplicates, Ctrl+G groups and Ctrl+U ungroups.
- Combine (Ctrl+L) makes one curve object with a single fill and outline.
- Shift+Page Up and Shift+Page Down send an object to the front or back of its layer.
- Weld, Trim and Intersect build new shapes from overlapping objects.
- PowerClip places an object inside a frame without cutting it.

TRY THESE EXERCISES

1. Draw three circles and a rectangle at different places on the page, line up their tops with T and space them evenly from left to right with Align and Distribute, then group them with Ctrl+G and centre the group on the page with P.
2. Build a simple logo by welding two overlapping circles, trimming one shape with another and making a new shape with Intersect, then group the finished logo with Ctrl+G.
3. Place a photo inside a circle with Object > PowerClip > Place Inside Frame, lock a background rectangle, and rename the photo, circle and background in the Objects docker.

CHAPTER 7

Visiting Card and Poster Workflow, and PDF Export for Print

This lesson brings everything together in two common jobs, a visiting card and a poster, and ends with the file a printer actually needs: a print-ready PDF.

Designing a visiting card

1. **Collect the content:** name, designation, business name, phone, email, address and logo. Ask the client to confirm spellings in writing.
2. **Set up the page:** create a document at **3.5 × 2 inches** (about 89 × 51 mm), or whatever size the printer asks for, in **CMYK**. Set a **bleed** of about 3 mm in the page settings and display it from the View menu.
3. **Mark the safe area:** add guidelines a few millimetres inside the trim line, and keep all text inside them.
4. **Place the logo,** preferably as a vector, and build the hierarchy: the name largest, then the designation, then the contact details in a smaller size.
5. **Extend into the bleed** any background or colour that touches the edge of the card.
6. **Proof:** print a copy at 100% size on plain paper to check that the text is readable, and send the client a PDF proof for approval.

Designing a poster

1. Fix the size, such as A3 or the printer's sheet size, and the orientation.
2. Plan the hierarchy: a headline readable from a distance, one strong image, the key details (date, time, place and phone), and a clear call to action.
3. Use photos at about 300 DPI at their final size, and place them with **PowerClip** if they need a frame shape.
4. Keep generous margins, use no more than two typefaces, and check the contrast between text and background.

Checks before export

- The document colour mode is CMYK, and small black text is 100% black only.
- Fonts will be embedded in the PDF, or text has been converted to curves with **Ctrl+Q** in a copy of the file. Keep an editable version with live text.
- No low-resolution images, and nothing accidentally left outside the page.
- Spellings, phone numbers and email addresses have been checked again.

Exporting a print-ready PDF

1. Save the .cdr file first.
2. Choose **File > Publish to PDF**, or **File > Export** (Ctrl+E) and select PDF as the file type.
3. Choose a print-oriented preset, such as **Prepress** or a **PDF/X** standard, or the one your printer asks for.
4. In the settings, check that fonts are embedded, colour is CMYK, images are not reduced below about 300 DPI, and **bleed** and **crop marks** are included if the printer wants them.
5. Read any warnings the dialog reports, fix the problems, and save.
6. Open the PDF in a PDF reader and check every page at 100% before sending it.

Sending the job

Send the printer the PDF, not the .cdr file, unless they ask for it. A PDF looks the same on every computer, while a .cdr file can change if the printer lacks your fonts or uses a different CorelDRAW version.

Write the finished size, quantity, paper and any folding or lamination in your message to the printer, so there is no confusion about the job.

KEY POINTS

- Set up the page size, CMYK colour mode and bleed before designing.
- Keep text inside the safe area and proof at 100% size.
- Embed fonts or convert text to curves before sending a job.
- Export with a print preset such as Prepress or PDF/X.
- Send the printer a checked PDF, not the .cdr file, unless asked.

TRY THESE EXERCISES

1. Design a visiting card for an imaginary shop at 3.5 by 2 inches in CMYK with a 3 mm bleed and safe-area guidelines, then print it at 100% size on plain paper and check every detail.
2. Design an A3 poster for an imaginary event with a headline, one photo placed with PowerClip, the date, time, place and phone number, and a clear call to action, using no more than two typefaces.
3. Export your visiting card with File > Publish to PDF using a Prepress or PDF/X preset with bleed and crop marks, then open the PDF at 100% and check the fonts, colours and trim.

CHECK YOURSELF

Practice questions

Choose the best answer for each question. The answers, with a short explanation, are in the next chapter.

1. What does DTP stand for?

- | | |
|------------------------------|-----------------------------|
| a) Desktop publishing | b) Digital text printing |
| c) Document transfer process | d) Direct transfer printing |

2. What is the size of an A4 sheet?

- | | |
|-----------------|-----------------|
| a) 297 × 420 mm | b) 210 × 297 mm |
| c) 148 × 210 mm | d) 216 × 279 mm |

3. Why is a bleed added to a design that has colour running to the edge?

- a) To make the exported file size smaller
- b) So no white edge shows if the cut is slightly off
- c) To leave space for the printer's own logo
- d) To convert the colours from CMYK to RGB

4. Where should important text, such as a phone number, be kept on a printed card?

- a) A few millimetres inside the trim line
- b) Right on the trim line, so it fills the card
- c) In the bleed area beyond the trim line
- d) Outside the page border, on the desktop

5. What is the gap between two columns of text called?

- a) Gutter
- b) Bleed
- c) Leading
- d) Kerning

6. What are the small strokes at the ends of the letters in a font like Times New Roman called?

- a) Ligatures
- b) Serifs
- c) Gutters
- d) Nodes

7. Which of these fonts is a sans serif font?

- a) Times New Roman
- b) Arial
- c) Georgia
- d) Cambria

8. Adjusting the space between two particular letters, such as A and V, is called:

- a) Kerning
- b) Tracking
- c) Leading
- d) Justifying

9. In DTP software, how many points make one inch?

- a) 12
- b) 96
- c) 72
- d) 100

10. Why should Hindi text be typed in a Unicode font such as Nirmala UI rather than a legacy font such as Kruti Dev?

- a) Unicode fonts are the only fonts that a printer can print
- b) Legacy fonts cannot be opened or used in CorelDRAW at all
- c) Unicode fonts are the only ones that can be made bold or italic
- d) Unicode text displays correctly on other computers and can be searched as Hindi

11. Which colour mode should you choose for a full-colour brochure that will be printed?

- a) CMYK
- b) RGB
- c) Grayscale
- d) Black and white (1-bit)

12. In CMYK, what does the K stand for?

- a) Kelvin, meaning colour temperature
- b) Key, meaning black
- c) Khaki
- d) Contrast

13. Why is RGB called an additive colour model?

- a) It adds black ink to make every colour darker
- b) It is used only for printing on paper with four inks
- c) It mixes inks on paper, and all three together make black
- d) It mixes coloured light, and all three at full strength make white

14. What resolution is generally recommended for photos at their final printed size?

- a) About 72 DPI
- b) About 96 DPI
- c) About 300 DPI
- d) About 30 DPI

15. How many pixels does a 3.5 × 2 inch visiting card need at 300 DPI?

- a) 350 × 200
- b) 700 × 400
- c) 1500 × 900
- d) 1050 × 600

16. How should small black text be set in a CMYK print document?

- a) C100 M100 Y100 K100
- b) C50 M50 Y50 K0
- c) C0 M0 Y0 K100
- d) C0 M100 Y100 K0

17. What happens when a small raster image is enlarged a lot?

- a) It stays perfectly sharp
- b) It turns into a vector image
- c) Its colours change to CMYK
- d) It looks blurred or pixelated

18. Which of these is a vector file format?

- a) JPG
- b) PNG
- c) BMP
- d) SVG

19. A logo must print sharply on both a visiting card and a large hoarding. Which kind of graphic should it be?

- a) Raster at 72 DPI
- b) A JPG photo
- c) A screenshot
- d) Vector

20. Why is PNG often preferred to JPG for a logo placed on a coloured background?

- a) PNG supports transparency and JPG does not
- b) PNG is a vector format
- c) PNG files are always in CMYK
- d) JPG files cannot be opened in CorelDRAW

21. Which CorelDRAW feature converts a bitmap logo into editable curves?

- a) PowerClip
- b) Convert to Bitmap
- c) PowerTRACE
- d) Break Apart

22. What is the file extension of a CorelDRAW drawing?

- a) .ai
- b) .psd
- c) .cdr
- d) .indd

23. Which key selects the Shape tool, used to edit nodes?

- a) F6
- b) F10
- c) F8
- d) F5

24. While drawing with the Ellipse tool, which key do you hold to draw a perfect circle?

- a) Shift
- b) Alt
- c) Ctrl
- d) Tab

25. With an object selected, what does right-clicking a colour in the palette do?

- a) Sets the object's fill colour
- b) Sets the object's outline colour
- c) Deletes the object
- d) Converts the object to curves

26. Which type of text is best for a long passage that should wrap inside a frame?

- a) Artistic text
- b) Paragraph text
- c) Text converted to curves
- d) Text inside a bitmap

27. What does Ctrl+G do in CorelDRAW?

- a) Converts the selection to curves
- b) Duplicates the selection
- c) Groups the selected objects
- d) Opens the Go To dialog

28. Which shortcut sends the selected object to the back of its layer?

- a) Shift+Page Up
- b) Ctrl+Page Up
- c) Ctrl+D
- d) Shift+Page Down

29. Which shaping command joins overlapping objects into one shape with a single outline?

- a) Weld
- b) Trim
- c) Intersect
- d) Group

30. What is PowerClip used for?

- a) Placing one object inside another that acts as a frame
- b) Tracing a bitmap logo into editable curves
- c) Exporting the whole design as a PDF file
- d) Checking the spelling of paragraph text

31. How is Combine (Ctrl+L) different from Group (Ctrl+G)?

- a) Combine makes one curve object with one fill; Group keeps each object's own fill
- b) Combine works only on text; Group works only on rectangles and ellipses
- c) Combine sends the objects to the printer; Group hides them from view
- d) Combine and Group give the same result with different shortcuts

32. Before sending a design to a printer, how can you make sure your fonts appear correctly?

- a) Increase every font size by 2 points before export
- b) Change the document colour mode from CMYK to RGB
- c) Embed the fonts in the PDF or convert the text to curves
- d) Lower the resolution of every image in the file

33. Which file is usually best to send to a printer for a finished design?

- a) The .cdr file only
- b) A checked, print-ready PDF
- c) A screenshot saved as JPG
- d) A Word document

34. Which PDF setting suits a job going to a commercial printer?

- a) A low-quality preset made for websites
- b) An RGB preset made for email
- c) A grayscale preset made for fax
- d) A print preset such as Prepress or PDF/X

35. Why should you print a proof of a visiting card at 100% size?

- a) To make the printed colours look brighter
- b) To reduce the size of the final PDF file
- c) To check that the text is readable at its real size
- d) To convert the whole design into vector curves

ANSWER KEY

Answers

1. **(a) Desktop publishing.** DTP means desktop publishing: designing pages for print or screen on a computer.
2. **(b) 210 × 297 mm.** A4 is 210 × 297 mm; 297 × 420 mm is A3 and 148 × 210 mm is A5.
3. **(b) So no white edge shows if the cut is slightly off.** Extending edge colour past the trim line, commonly by about 3 mm, hides small cutting errors.
4. **(a) A few millimetres inside the trim line.** Text inside the safe area cannot be cut off even if trimming is slightly off.
5. **(a) Gutter.** The gutter is the space between columns; leading and kerning are text-spacing terms and bleed is extra edge colour.
6. **(b) Serifs.** Serifs are the small finishing strokes; fonts without them, like Arial, are called sans serif.
7. **(b) Arial.** Arial has no serifs; Times New Roman, Georgia and Cambria are serif fonts.
8. **(a) Kerning.** Kerning adjusts one pair of letters; tracking adjusts spacing evenly across a whole word or line.
9. **(c) 72.** DTP programs use the point of 1/72 inch, so 72 points make one inch.
10. **(d) Unicode text displays correctly on other computers and can be searched as Hindi.** Legacy fonts map Hindi shapes onto English character codes, so the text breaks without the font and is not real Hindi text.
11. **(a) CMYK.** Printing uses cyan, magenta, yellow and black inks, so a colour print document should be set up in CMYK.
12. **(b) Key, meaning black.** K stands for key, the black ink plate.

13. (d) **It mixes coloured light, and all three at full strength make white.** Screens add red, green and blue light together; full strength of all three gives white.
14. (c) **About 300 DPI.** Around 300 DPI at final size gives sharp results for most printed photos.
15. (d) **1050 × 600.** Multiply inches by DPI: $3.5 \times 300 = 1050$ and $2 \times 300 = 600$.
16. (c) **CO MO YO K100.** Black from the K plate alone stays sharp; four-colour black blurs if the plates are slightly misaligned.
17. (d) **It looks blurred or pixelated.** Enlarging spreads the same pixels over a bigger area, so no new detail appears and edges become blocky.
18. (d) **SVG.** SVG stores paths and shapes; JPG, PNG and BMP store pixels.
19. (d) **Vector.** Vector graphics are resolution-independent and stay sharp at any size.
20. (a) **PNG supports transparency and JPG does not.** A PNG can have transparent areas, so the logo has no white box around it; JPG cannot store transparency.
21. (c) **PowerTRACE.** PowerTRACE, opened from Trace Bitmap, traces a bitmap into vector curves; Convert to Bitmap does the opposite.
22. (c) **.cdr.** CorelDRAW saves its own files as .cdr; .ai is Illustrator, .psd is Photoshop and .indd is InDesign.
23. (b) **F10.** F10 is the Shape tool; F5 is Freehand, F6 is Rectangle and F8 is Text.
24. (c) **Ctrl.** Ctrl constrains the ellipse to a circle (and a rectangle to a square); Shift draws from the centre.
25. (b) **Sets the object's outline colour.** Left-click sets the fill and right-click sets the outline.
26. (b) **Paragraph text.** Paragraph text flows inside a frame; artistic text suits short headings and names.
27. (c) **Groups the selected objects.** Ctrl+G groups objects so they move together; Ctrl+U ungroups them.
28. (d) **Shift+Page Down.** Shift+Page Down sends to the back of the layer; Shift+Page Up brings to the front.
29. (a) **Weld.** Weld merges the shapes into one outline; Trim cuts away and Intersect keeps only the overlap.
30. (a) **Placing one object inside another that acts as a frame.** PowerClip shows an object, such as a photo, only within a frame shape without cutting it.
31. (a) **Combine makes one curve object with one fill; Group keeps each object's own fill.** Grouped objects keep their own fills and outlines, while combined objects become one curve object with one fill and outline.
32. (c) **Embed the fonts in the PDF or convert the text to curves.** Embedded fonts or text converted to curves look the same even on a computer without your fonts.
33. (b) **A checked, print-ready PDF.** A PDF looks the same on every computer and holds the fonts, images and bleed the printer needs.

34. (d) A print preset such as Prepress or PDF/X. Print presets keep CMYK colour, embedded fonts and high-resolution images, and can include bleed and crop marks.

35. (c) To check that the text is readable at its real size. Small text that looks fine zoomed in on screen can be too small on the real card, and a 100% print shows this.

WORD LIST

Glossary

Bleed

Background colour or artwork extended past the trim line, commonly by about 3 mm, so that no white strip shows if the cut is slightly off.

CMYK

The subtractive colour model used for printing, which mixes cyan, magenta, yellow and key (black) inks given as percentages.

Convert to Curves

A CorelDRAW command, Ctrl+Q, that turns a shape or text into a curve object whose nodes can be edited freely.

Crop marks

Short lines printed just outside the page area that show the cutter exactly where to trim the paper.

Desktop publishing (DTP)

Designing printed and digital material on a computer by arranging text, images and shapes on a page.

DPI

Dots per inch: strictly, how many ink dots a printer places in one inch, but commonly used in print shops to mean pixels per inch (PPI), how many pixels of an image fit into one inch.

Gamut

The full range of colours that a device, such as a monitor or a printing press, can reproduce.

Kerning

Adjusting the space between two particular letters, such as A and V, so that the gap looks even.

Leading

The distance from one line of text to the next, also called line spacing.

Node

A point on a vector path that controls where its lines and curves run and that can be moved with the Shape tool.

Pixel

One of the tiny single-coloured squares in the grid that makes up a raster image.

Point (pt)

The unit used to measure type size, with 72 points making one inch in DTP software.

PowerClip

A CorelDRAW feature that places one object, such as a photo, inside another object that acts as a frame, without cutting it.

PowerTRACE

The CorelDRAW feature that traces a bitmap image and converts it into editable vector curves.

Raster graphic

An image made of a grid of pixels, such as a photo, that becomes blurred or blocky when it is enlarged.

Resolution

The number of pixels that fit into one inch of an image, written as PPI or DPI, which decides how sharp it looks when printed.

RGB

The additive colour model used by screens, which mixes red, green and blue light, each usually given a value from 0 to 255.

Safe area

The zone a few millimetres inside the trim line where important text is kept so that it is never cut off.

Serif

A small stroke at the end of a letter's main strokes, found in fonts such as Times New Roman but not in sans serif fonts such as Arial.

Spot colour

A premixed ink, such as a Pantone colour, that printers use when a colour such as a brand colour must match exactly.

Tracking

Adjusting the spacing evenly across a whole word, line or paragraph of text.

Trim line

The line along which a printed sheet is cut to its finished size.

Typeface

A design of letters, such as Arial or Times New Roman, also called a font family, in which each style and weight is a separate font.

Vector graphic

An image built from paths of lines and curves defined by nodes, which stays sharp at any size, such as a logo saved as CDR, AI or SVG.

Weld

A CorelDRAW shaping command that joins overlapping objects into one shape with a single outline.



Gurukul Technicals Institute

Computer education institute in Delhi, with authorised member centres, robotics classes and science projects, working models and DIY kits.

COURSES

Computer & Office Skills · Accounting & Business Software · Programming & Web Development · Design & Digital Skills · Hardware & Networking · Robotics & Coding · Other Programmes

PROJECTS AND KITS

Ready-made school projects · DIY and STEM kits · Robotics and coding · Components and spares · Engineering projects

CONTACT

Head office: A-10, Chief Commissioner Colony, opposite Rana Pratap Bagh, Delhi 110007

Phone: 011 2721 1512 · **Mobile and WhatsApp:** +91 97116 99511

Email: engineergurukul@yahoo.co.in

Website: engineergurukul.com · **Instagram:** [@science_projects_club](https://www.instagram.com/science_projects_club)

More free ebooks for computer courses, robotics and science projects: engineergurukul.com/resources/ebooks/

Free to read, print and share. Not for sale.