SCERT Kerala · Class 10 · ICT

ICT Part 1

PADIKAM
ICT
PART I - ACTIVITY BOOK
Complete Study Notes | Standard X | English Medium
SCERT Kerala 2025 syllabus coverage
Original explanations, revision tools, exam focus and practice

PADIKAM | CLASS 10 ICT - PART I - ACTIVITY BOOK
Contents
Six practical chapters develop graphic design, publishing, programming, cyber awareness, web styling and robotics.
Chapter 1 | Design Factory
Chapter 2 | Let's Prepare a Newspaper
Chapter 3 | Computer Language
Chapter 4 | Cyber Space
Chapter 5 | Make the Web Look Stylish
Chapter 6 | The World of Robots
How to use this book
• Read the chapter mission first to understand the learning target.
• Study the core notes and pause at every table, formula or process map.
• Use the exam focus list for last-minute revision.
• Answer the practice questions without looking back, then revise weak areas.
Official textbook links
SCERT Kerala Class 10 PART I - ACTIVITY BOOK
SCERT Kerala Standard 10 textbook catalogue

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CHAPTER 1
Design Factory
Chapter mission: create purposeful vector designs using Inkscape and sound visual-design decisions.
Vector design
• Vector graphics store shapes mathematically, so they scale without becoming pixelated. Raster images store pixels and suit photographs.
• Inkscape uses SVG as its native format and can export common display or print formats.
• Adesign begins with purpose, audience, message and output size before decoration.
Essential workflow
• Set page size and orientation; create layers or logical groups.
• Use shape, Bezier, text, fill and stroke tools to build elements.
• Select, align, distribute, group, duplicate and transform objects for consistent structure.
• Save the editable SVG first, then export the required PNG or PDF.
Paths and typography
• Nodes and handles control path shape. Convert objects to paths only when detailed editing is needed.
• Boolean path operations combine, subtract, intersect or divide shapes.
• Use a small type hierarchy, readable contrast and enough spacing. Text should support the message rather than act as filler.
Design check
• Confirm spelling, factual accuracy, alignment, margins, colour contrast and image rights.
• Test readability at the real viewing size and keep an editable source version.

Exam focus
• Know vector versus raster advantages.
• Write software steps in the order a student performs them.
• Explain why an export format is chosen.
Practice
1. Describe how to align several objects evenly in Inkscape.
2. Why should an SVG source file be preserved?
3. Plan a poster with a clear visual hierarchy.

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CHAPTER 2
Let's Prepare a Newspaper
Chapter mission: build a multi-column newspaper page in Scribus using frames, styles and print-ready export.
Desktop publishing
• DTP combines text, images and page geometry for publication. Scribus is a free page-layout application.
• A master page can hold repeated elements such as header, footer and page number.
• Margins, guides, columns and grids create consistent alignment.
Frames
• Text and images live in frames. A frame controls position and display without altering the original source file.
• Linked text frames allow a story to flow across columns or pages.
• Fit image to frame or frame to image carefully while preserving aspect ratio.
Newspaper workflow
• Create the document size, margins and columns.
• Place masthead, date line, headlines, text frames and image frames according to importance.
• Import text, link overflow frames, apply paragraph styles and write captions.
• Preflight for missing fonts, low-resolution images, overflow and out-of-page objects; export PDF.
QR codes and responsibility
• A QR code should point to a verified, stable address and have sufficient size and contrast.
• News layout must distinguish reporting, opinion and advertising. Credit sources and images.
Exam focus
• Differentiate word processing from page layout.
• Explain linked frames and preflight.
• Use styles for consistency instead of manual formatting.
Practice
1. List steps to arrange an article in three columns.
2. Why is preflight important?
3. What information belongs in an image caption and credit?

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CHAPTER 3
Computer Language
Chapter mission: write, trace and improve Python programs using variables, decisions, loops and functions.
From algorithm to program
• An algorithm is a finite, ordered method. A program expresses it in a language the computer can execute.
• Python uses indentation to show blocks. Meaningful names and small functions make programs easier to test.
• A trace table records variable values step by step and helps locate logic errors.
Data and input
• Common types include int, float, str and bool. Input arrives as text unless converted.
• Operators perform arithmetic, comparison and logical tests. Parentheses make intended order clear.
• Validate input when a value must lie in a range or follow a format.
Control flow
• if/elif/else selects one path based on conditions.
• for repeats over a known sequence or range; while repeats while a condition remains true.

• Every loop needs a clear starting state, update and stopping condition.
Functions and testing
• A function packages a reusable task with parameters and may return a value.
• Test normal, boundary and invalid cases. Read error messages from the last line upward to locate the failure.
• Syntax errors break language rules; runtime errors occur during execution; logic errors produce a wrong answer without stopping.
Exam focus
• Keep data type and conversion explicit.
• Trace loop variables carefully.
• Distinguish print output from a returned value.
Practice
1. Write an algorithm to find the largest of three numbers.
2. Trace a loop that sums 1 to n.
3. Create a function that returns whether a number is even.

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CHAPTER 4
Cyber Space
Chapter mission: use networks and online services safely, ethically and critically.
Internet and web
• The internet is a network of networks; the World Wide Web is one service using linked resources and browsers.
• A URL identifies a resource. DNS translates domain names to network addresses; protocols define communication rules.
• Cloud services store or process data on remote systems reached through a network.
Security basics
• Use unique long passwords or passphrases and multi-factor authentication.
• Keep systems updated, install software from trusted sources and back up important data.
• Phishing tries to trigger hurried clicks or disclosure. Check sender, address, link destination and unusual urgency.
Privacy and digital footprint
• Online actions can create persistent records. Share the minimum personal information needed.
• Review app permissions, audience settings and location access. Consent is required before sharing another person's data or image.
• Encryption protects data in transit or storage, but cannot correct unsafe sharing with the wrong recipient.
Responsible citizenship
• Respect copyright and licences; cite sources and use permitted content.
• Cyberbullying, impersonation, unauthorised access and harmful content should be documented and reported through trusted adults or official channels.
• Verify online claims before forwarding them.
Exam focus
• Differentiate internet, web and cloud.
• Give prevention and response steps for a cyber incident.
• Connect rights with digital responsibilities.
Practice
1. How can a student identify phishing?
2. Explain why reused passwords are risky.
3. What should be done after a social-media account is compromised?

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CHAPTER 5
Make the Web Look Stylish
Chapter mission: apply CSS to structure attractive, readable and responsive web pages.
HTML and CSS roles
• HTML gives content semantic structure; CSS controls presentation. Keeping them separate improves reuse

and maintenance.
• A CSS rule contains selector, property and value. External style sheets support consistency across pages.
Selectors and cascade
• Element selectors target tags, class selectors target reusable groups and id selectors target a unique element.
• The cascade resolves competing rules through importance, specificity and source order.
• Inheritance passes some properties, such as text colour, from parent to child.
Box model and layout
• Every element has content, padding, border and margin. Width calculations depend on box-sizing.
• Use flexbox or grid for robust layout instead of repeated spaces or manual positioning.
• Responsive pages adapt with relative units, flexible media and media queries.
Accessible styling
• Maintain strong contrast, visible keyboard focus and readable line length.
• Do not communicate meaning by colour alone. Preserve semantic heading order and alternative text in HTML.
• Test at multiple screen widths and zoom levels.
Exam focus
• Write CSS syntax accurately.
• Explain class versus id.
• Use the box model when diagnosing spacing.
Practice
1. Write a rule that styles all elements of class notice.
2. Explain CSS specificity with an example.
3. Design a responsive two-column layout that becomes one column on a small screen.

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CHAPTER 6
The World of Robots
Chapter mission: understand sensing, control and actuation and design simple safe robotic behaviours.
Robot system
• A robot combines structure, sensors, controller, program, actuators and power supply.
• Sensors convert environmental conditions into data; actuators create movement, light, sound or another physical output.
• A feedback loop compares sensed state with a goal and adjusts action.
Control logic
• A flowchart or state diagram makes behaviour clear before coding.
• Thresholds turn continuous sensor values into decisions, but calibration is needed for real surroundings.
• Repeated sense-decide-act cycles allow a robot to respond to change.
Common components

Component	Role
distance sensor	estimate obstacle distance
light/line sensor	detect brightness or path contrast
motor	produce rotation
servo	move to controlled angle
microcontroller	read inputs and run control program

Design and safety
• Build in small stages: test sensor, test actuator, combine, then tune.
• Limit motor force, avoid short circuits, protect moving parts and include a quick stop.
• Responsible robotics considers reliability, bias, privacy, employment effects and human control.
Exam focus
• Use input-process-output language.
• Explain a feedback loop with an example.
• Include testing and safety in project answers.
Practice
1. Design logic for an obstacle-avoiding robot.
2. Differentiate a sensor and an actuator.

3. Why must a line-following sensor be calibrated?

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Final Revision Checklist

- I can create and export vector designs.
- I can lay out a publication with frames and styles.
- I can trace Python control flow.
- I follow cyber-safety and privacy practices.
- I can style accessible webpages and explain robot control.

Padikam Learning Content

Prepared as an independent learning companion using the SCERT textbook only as the syllabus and notation reference.