



IAS YOUTH COMPUTER CENTRE

LEVEL UP YOUR TECH SKILLS

Digital Literacy • Productivity • Coding • AI • Cybersecurity

IAS YOUTH COMPUTER CENTRE
88/1, Queen Apartment, 2nd Floor, Dumdum Road, Near Life Line Medical Store, Kolkata – 700030, West Bengal

Learn • Practise • Create • Grow

About This Book

This practical book is designed to help learners build a broad technology foundation and progressively move toward modern digital skills. The scope combines computer fundamentals, productivity, internet and cloud skills, communication, cybersecurity, coding, web basics, design, data, AI, automation, troubleshooting and employability. This broad progression is consistent with current digital-skills and AI-literacy frameworks that combine computing, productivity, coding, data, cybersecurity and responsible technology use.

□cite□turn0search12□turn0search0□turn0search1□

Learning Outcomes

- Build confidence with computers and digital tools.
- Manage files, documents, spreadsheets and presentations.
- Search the web and collaborate using online tools.
- Understand basic cybersecurity and privacy.
- Develop computational thinking and coding foundations.
- Create basic web and digital content.
- Understand data analysis and visualization.
- Use AI tools responsibly and verify outputs.
- Design simple automation workflows.
- Build a technology portfolio and present projects.

Learning Approach

Every chapter combines concepts with a practical task and quick revision. Learners should practise on real files, create small projects, document their work and ask for help when a task involves security, privacy or account permissions.

Contents

Chapter	Topic
1	Digital Literacy & Technology Mindset
2	Computer & Device Fundamentals
3	Internet, Browsing & Smart Searching
4	Digital Productivity: Documents
5	Spreadsheets & Data Skills
6	Presentations & Visual Communication
7	Cloud Computing & Online Collaboration
8	Communication, Email & Professional Etiquette
9	Cybersecurity Fundamentals
10	Privacy, Digital Safety & Responsible Technology
11	Coding & Computational Thinking
12	Web & HTML Basics
13	Graphic Design & Digital Content
14	Data Analytics & Visualization
15	Artificial Intelligence & Generative AI
16	Automation & No-Code Workflows
17	Troubleshooting & Technical Problem Solving
18	Project Management & Collaboration
19	Employability & Digital Career Skills
20	Capstone: Build Your Personal Tech Portfolio
21	Technology Skills Glossary
22	Final Practical Assessment & Capstone

Chapter 1: Digital Literacy & Technology Mindset

Technology skills begin with confident, responsible use of digital devices, applications and online services. Modern skills frameworks commonly combine computing fundamentals, productivity, communication, coding, data, AI, cybersecurity and ethical/social understanding. [cite[turn0search12[turn0search2[

What You Will Learn

- Understand digital literacy.
- Identify common technology skill areas.
- Build a learning mindset.
- Use technology responsibly.
- Recognize why practical projects matter.

Practical Activity

Create a personal technology-skills map. Mark your current confidence in computer basics, office tools, internet, design, coding, data, AI and cybersecurity.

Quick Revision

1. What is digital literacy?
2. Why is hands-on practice important?
3. Name five technology skill areas.
4. Why should technology be used responsibly?

Chapter 2: Computer & Device Fundamentals

Computer fundamentals include hardware, software, storage, operating systems and basic troubleshooting. Digital-literacy programs commonly begin with computer operations and essential applications.

What You Will Learn

- Identify CPU, RAM, storage and peripherals.
- Understand operating systems.
- Manage files and folders.
- Connect common devices.
- Perform basic troubleshooting.

Practical Activity

Practical: create a folder structure for Study, Projects, Images, Documents and Backups. Copy, rename, move and safely delete sample files.

Quick Revision

1. What is RAM?
2. What is storage?
3. What is an operating system?
4. Why organize files?

Chapter 3: Internet, Browsing & Smart Searching

The internet supports communication, research, cloud services and collaboration. Effective digital users search with precise keywords, compare sources and avoid suspicious links. [cite\turn0search8\turn0search11]

What You Will Learn

- Understand browsers and search engines.
- Use focused search queries.
- Check source credibility.
- Download files safely.
- Recognize suspicious websites.

Practical Activity

Search for the same topic using three different queries. Compare the first results, identify the source type and record which evidence is directly supported.

Quick Revision

1. What is a browser?
2. Why use specific keywords?
3. How can you check a source?
4. Why should unknown downloads be treated carefully?

Chapter 4: Digital Productivity: Documents

Word-processing and document skills are core digital productivity capabilities. Structured documents require headings, formatting, tables, page layout and clear communication. Government and skills curricula include productivity tools as foundational employability skills. [cite]turn0search3[turn0search2]

What You Will Learn

- Create professional documents.
- Use headings and lists.
- Insert tables and images.
- Apply page formatting.
- Export and share documents appropriately.

Practical Activity

Create a one-page student profile with heading hierarchy, a table of skills, a short paragraph and a footer. Export a PDF copy.

Quick Revision

1. Why use heading styles?
2. When are tables useful?
3. Why review formatting before sharing?
4. What is PDF export?

Chapter 5: Spreadsheets & Data Skills

Spreadsheets support data collection, calculations, analysis and visualization. Skills curricula frequently include spreadsheet-based data management and analysis. [cite\turn0search3\turn0search2]

What You Will Learn

- Enter and format data.
- Use formulas.
- Sort and filter records.
- Create charts.
- Understand basic data cleanliness.

Practical Activity

Create a monthly expense sheet with categories, totals and a chart. Add filters and check for duplicate or missing entries.

Quick Revision

1. What is a cell?
2. What is a formula?
3. Why filter data?
4. Why check missing values?

Chapter 6: Presentations & Visual Communication

Presentation skills combine content organization, visual hierarchy and clear communication. Technology-skills programs increasingly connect productivity with project-based and employability learning.

[cite\turn0search3\turn0search12]

What You Will Learn

- Build a logical slide structure.
- Use concise text.
- Add images and charts.
- Maintain visual consistency.
- Present information clearly.

Practical Activity

Create a five-slide presentation titled “My Future Tech Career”: title, skills, tools, project idea and action plan.

Quick Revision

1. Why keep slides concise?
2. What is visual hierarchy?
3. Why use charts?
4. Why maintain consistency?

Chapter 7: Cloud Computing & Online Collaboration

Cloud computing enables access to services and resources over networks. Digital-skills frameworks commonly introduce cloud computing and collaboration tools as future-ready skills. [cite]turn0search0[turn0search7]

What You Will Learn

- Understand cloud concepts.
- Use cloud storage responsibly.
- Share files with appropriate permissions.
- Collaborate on documents.
- Understand sync and backup differences.

Practical Activity

Create a shared project folder in an approved cloud service. Practise viewer/editor permissions and document who should have access.

Quick Revision

1. What is cloud computing?
2. What is file sharing?
3. Why do permissions matter?
4. Is cloud sync the same as backup?

Chapter 8: Communication, Email & Professional Etiquette

Digital communication is a core workplace skill. Good email and chat practices include clear subjects, concise writing, appropriate tone, correct attachments and careful handling of sensitive information.

What You Will Learn

- Write professional emails.
- Use clear subject lines.
- Attach and share files correctly.
- Use professional chat etiquette.
- Avoid unnecessary forwarding and oversharing.

Practical Activity

Draft a professional project-update email with subject, status, completed work, next steps and a clear call to action.

Quick Revision

1. Why use a clear subject?
2. What should a project update contain?
3. Why verify attachments?
4. What is professional digital etiquette?

Chapter 9: Cybersecurity Fundamentals

Cybersecurity skills include understanding common attacks, passwords, malware, phishing and safe digital behavior. Government technical-skills material includes cybersecurity fundamentals and common attack types as future-skills topics. [cite]turn0search13[

What You Will Learn

- Understand phishing and malware.
- Create strong, unique passwords.
- Use multi-factor authentication where available.
- Update software.
- Recognize suspicious messages.

Practical Activity

Review five sample messages and classify them as normal, suspicious or likely phishing. Explain the evidence without clicking unknown links.

Quick Revision

1. What is phishing?
2. What is malware?
3. Why use MFA?
4. Why install security updates?

Chapter 10: Privacy, Digital Safety & Responsible Technology

Responsible technology use includes protecting personal information, respecting others, avoiding plagiarism and understanding social and ethical consequences. Indian ICT curriculum guidance emphasizes safe, secure, ethical and legal ICT use. [cite]turn0search8[

What You Will Learn

- Protect personal information.
- Understand permissions and privacy settings.
- Respect copyright and attribution.
- Recognize harmful or unsafe behavior.
- Think about the social impact of technology.

Practical Activity

Create a personal digital-safety checklist covering passwords, privacy, downloads, backups, sharing, copyright and reporting suspicious activity.

Quick Revision

1. What is personal information?
2. Why cite sources?
3. What is digital responsibility?
4. Why review privacy settings?

Chapter 11: Coding & Computational Thinking

Coding skills build problem-solving through algorithms, variables, conditions, loops and functions. Current school and digital-skills frameworks include coding, computational thinking and programming as important pathways.

[cite]turn0search11[turn0search12]

What You Will Learn

- Break problems into steps.
- Write simple algorithms.
- Understand variables and conditions.
- Use loops and functions conceptually.
- Debug simple programs.

Practical Activity

Write pseudocode for a calculator: input two numbers, choose an operation, calculate the result and display it. Identify at least two possible errors.

Quick Revision

1. What is an algorithm?
2. What is debugging?
3. What is a loop?
4. Why break a problem into smaller steps?

Chapter 12: Web & HTML Basics

The web combines browsers, servers, documents and links. HTML provides structure for web pages. Basic web skills can lead into CSS, JavaScript and web publishing.

What You Will Learn

- Understand websites and web pages.
- Create basic HTML structure.
- Use headings, paragraphs and links.
- Add images and lists.
- Understand the role of CSS and JavaScript.

Practical Activity

My Tech Skills Welcome to my page.

Quick Revision

1. What is HTML?
2. What is a browser?
3. What does a heading do?
4. What roles do CSS and JavaScript play?

Chapter 13: Graphic Design & Digital Content

Digital creativity combines design principles with technology tools. Good content uses hierarchy, spacing, readable typography, appropriate imagery and a clear purpose.

What You Will Learn

- Understand basic visual hierarchy.
- Use templates responsibly.
- Create social-media graphics.
- Resize content for platforms.
- Export suitable file formats.

Practical Activity

Create a simple 1080 × 1350 awareness poster with a headline, short message, visual and call to action. Check readability on a phone-sized preview.

Quick Revision

1. What is visual hierarchy?
2. Why is spacing important?
3. Why resize content?
4. What makes a call to action clear?

Chapter 14: Data Analytics & Visualization

Data skills include collecting, cleaning, summarizing and visualizing information. Digital-skill curricula increasingly include data analysis and visualization tools. [cite\turn0search3\turn0search7]

What You Will Learn

- Understand rows, columns and metrics.
- Clean basic datasets.
- Calculate totals and averages.
- Choose suitable charts.
- Explain what a chart shows.

Practical Activity

Take a small dataset such as monthly sales. Calculate total, average and top category, then create a bar chart and write three factual observations.

Quick Revision

1. What is a metric?
2. Why clean data?
3. When is a bar chart useful?
4. Why distinguish observation from opinion?

Chapter 15: Artificial Intelligence & Generative AI

AI literacy is increasingly included in technology-skills programs. Introductory AI learning should cover applications, limitations, responsible use and checking outputs. Government and education programs include AI fundamentals and responsible AI concepts. [cite\turn0search0\turn0search13]

What You Will Learn

- Explain AI at a basic level.
- Understand common AI applications.
- Write clearer prompts.
- Check AI-generated information.
- Recognize privacy and bias concerns.

Practical Activity

Give an AI assistant a task with context, constraints and desired format. Review its response and mark three items that require verification.

Quick Revision

1. What is AI?
2. Why verify AI output?
3. What makes a prompt specific?
4. What are responsible-AI concerns?

Chapter 16: Automation & No-Code Workflows

Automation connects repeated tasks into workflows. Beginners can start with simple triggers, actions, forms, spreadsheets and notifications before moving into programming-based automation.

What You Will Learn

- Identify repetitive tasks.
- Map trigger → action workflows.
- Use forms and spreadsheets.
- Understand simple automation logic.
- Review permissions before connecting services.

Practical Activity

Design a workflow: new form response → add row to spreadsheet → notify responsible person. Document each step and the data passed between steps.

Quick Revision

1. What is a trigger?
2. What is an action?
3. Why automate repetitive work?
4. Why review permissions?

Chapter 17: Troubleshooting & Technical Problem Solving

Technical confidence includes diagnosing problems systematically instead of guessing. A useful method is to reproduce the issue, identify likely causes, test one change at a time and document the solution.

What You Will Learn

- Describe a technical problem clearly.
- Reproduce an issue.
- Separate symptoms from causes.
- Test changes methodically.
- Document solutions.

Practical Activity

Troubleshoot a sample issue such as “website not loading”: check connection, browser, URL, DNS/network status and whether other sites work. Record the steps.

Quick Revision

1. What is troubleshooting?
2. Why change one variable at a time?
3. What is a symptom?
4. Why document a solution?

Chapter 18: Project Management & Collaboration

Technology projects need planning, communication, task ownership and review. Skill-development curricula increasingly include communication, collaboration, project management and employability skills.

[cite]turn0search0[turn0search3]

What You Will Learn

- Break projects into tasks.
- Set deadlines.
- Assign responsibilities.
- Track progress.
- Communicate blockers.
- Review outcomes.

Practical Activity

Create a mini project board with Backlog, To Do, In Progress, Review and Done. Add at least ten tasks for a technology project.

Quick Revision

1. Why break work into tasks?
2. What is a blocker?
3. Why track status?
4. What is a project review?

Chapter 19: Employability & Digital Career Skills

Technology skills become more useful when combined with communication, critical thinking, problem solving and workplace readiness. Current Indian skill-education curricula include employability skills alongside technical skills. [cite\turn0search1\turn0search3]

What You Will Learn

- Build a digital portfolio.
- Write a technology-focused CV.
- Prepare for interviews.
- Explain projects clearly.
- Develop communication and problem-solving skills.

Practical Activity

Create a one-page tech CV containing a profile, skills, tools, two projects, education/training and contact information. Keep claims accurate.

Quick Revision

1. What should a project description include?
2. Why show evidence of skills?
3. What is a portfolio?
4. Why should CV claims be accurate?

Chapter 20: Capstone: Build Your Personal Tech Portfolio

A capstone brings together digital productivity, design, data, coding, AI awareness, cybersecurity and communication. The project should demonstrate practical skill rather than simply list technologies.

What You Will Learn

- Choose a technology theme.
- Plan the deliverables.
- Create a portfolio page or presentation.
- Include at least two practical projects.
- Document tools and learning.
- Present the final work.

Practical Activity

Build a personal technology portfolio containing an About section, skills, tools, two project case studies, one certificate/learning section and a contact section. Add a short reflection on what you want to learn next.

Quick Revision

1. What should a portfolio demonstrate?
2. Why document projects?
3. What makes a project credible?
4. What is your next learning goal?

Technology Skills Glossary

Term	Meaning
Digital Literacy	Ability to use digital devices, services and information effectively and responsibly.
Operating System	Software that manages a computer's hardware and provides a platform for applications.
Browser	Application used to access websites and web applications.
Cloud Computing	Use of computing resources or services delivered over a network.
Cybersecurity	Practices and technologies used to protect systems, accounts and data.
Phishing	Deceptive communication designed to trick users into revealing information or taking unsafe actions.
Malware	Malicious software designed to disrupt, damage or gain unauthorized access.
MFA	Multi-factor authentication requiring more than one verification factor.
Algorithm	Step-by-step procedure for solving a problem.
Debugging	Process of finding and fixing problems in a program or technical system.
HTML	Markup language used to structure web pages.
CSS	Language used to style and lay out web content.
Data	Recorded information that can be stored, analyzed or communicated.
Dataset	Collection of related data used for analysis or processing.
Visualization	Graphical representation of information.
AI	Technology and methods for systems performing tasks associated with intelligent behavior.
Generative AI	AI systems that can generate content such as text, images, audio or code.
Prompt	Instruction or input given to an AI system.
Automation	Using technology to perform a task or workflow with reduced manual effort.
Portfolio	Collection of work demonstrating a person's skills and projects.
Backup	Additional copy of data kept so it can be restored after loss or damage.
Digital Footprint	Information and activity traces associated with a person's online presence.

Final Practical Assessment & Capstone

Complete the following practical tasks. The assessment should focus on demonstrated skills, project evidence, safe digital practices and clear communication.

Skill	Done	Practise
Computer and file management	☐	☐
Internet and smart searching	☐	☐
Professional document	☐	☐
Spreadsheet with formulas	☐	☐
Presentation	☐	☐
Cloud sharing and permissions	☐	☐
Professional email	☐	☐
Cybersecurity checklist	☐	☐
Privacy and digital safety	☐	☐
Algorithm/pseudocode	☐	☐
Basic HTML page	☐	☐
Digital poster	☐	☐
Data chart and observations	☐	☐
AI prompt and verification	☐	☐
Automation workflow map	☐	☐
Troubleshooting log	☐	☐
Project task board	☐	☐
Tech CV	☐	☐
Portfolio project	☐	☐
Project presentation	☐	☐
Capstone reflection	☐	☐
Responsible technology practices	☐	☐

Capstone Project

Build a Personal Tech Portfolio demonstrating your technology journey. Include: professional profile, digital skills, tools, two practical projects, one data/visualization task, one coding or web task, an AI-use example with verification notes, cybersecurity practices, certificates/training and a 90-day learning plan. Present the portfolio to the instructor and explain what you built, what you learned and what you would improve.



IAS YOUTH COMPUTER CENTRE

LEVEL UP YOUR TECH SKILLS

Learn • Practise • Create • Grow

IAS YOUTH COMPUTER CENTRE

88/1, Queen Apartment, 2nd Floor, Dumdum Road, Near Life Line Medical Store, Kolkata – 700030, West Bengal

Digital Skills • Coding • AI • Cybersecurity • Technology Projects