

# ICOA 2026 National Selection — Handbook

Round 1 · Student Notice · Organizer Handbook · Printable Appendices · v0.91  
· 2026-04-23

## Student Exam Notice

*General guidance. Your exam centre's local rules take precedence.*

**Who & what.** K-12 student, under 19 on 1 July 2026. You receive a **10-character token** from your invigilator — your personal key. Laptop is ready; bring nothing technical. Don't share the token, don't photograph the screen.

**Why a command line?** The ICOA syllabus — *From Computational Thinking to AI Agent Thinking* (160 pages) — treats the terminal as the working surface for modern AI engineering: pipelines, logs, scripts, agents. Practise where AI actually gets built.

## Getting started

1. The dark screen is a **terminal** — type, press Enter, it replies. If no menu appears, type `icoa`.
2. Use `↑` `↓` and Enter to navigate. Pick **Demo** first (nothing counts).
3. **Demo draws 10 questions from a pool of 30 — run it at least twice.** Different questions each time; it materially helps on exam day.
4. Pick **Take the selection exam** — or shortcut exam `<your-token>` from the `icoa>` prompt. Read the briefing, press Enter to start.

**Your personal 90 minutes begins the moment you press Enter** — not when the group starts. Late by a minute? You still get the full 90 minutes.

## Key commands

Command	Purpose
<code>A B C D · type flag ICOA{...}</code>	answer MCQ · practical
<code>next · prev · exam q 5 · mark</code>	move · jump · flag
<code>exam review · submit</code>	see progress · finish
<code>help · hint a/b/c · ai4ctf · ctf4ai</code>	assistance (limited budgets)
<code>menu · lang zh · lang si · lang</code>	back to menu · switch / list 22 languages

## DOs and DON'Ts

- ✓ **Practise Demo twice or more** — 10-from-30 pool; each run differs.
- ✓ **Unsure what to type?** Type `menu` — works almost everywhere.
- ✓ **Scroll the terminal window up** (mouse wheel / trackpad) to re-read earlier screens; some deserve a second look.
- ✓ **Freeze / crash / time nearly up?** Raise your hand; or type `submit` (server auto-finalises at the deadline anyway).
- ✗ **Do not exit during the exam** — no `Ctrl+C`, no `exit`, no `quit`. If the terminal does close, run `icoa` again and re-enter the **same token**; timer and answers are preserved server-side.
- ✗ **Do not cheat.** Token is **single-use, single-device**. Sharing, photographing the screen, copying answers → **permanent disqualification from ICOA**. Pass/fail shown on screen; numeric scores go privately to your national exam centre.

# Organizer Handbook

For local coordinators running a Round 1 selection. Written for a single teacher or coordinator — no IT team required.

**Why a command line, briefly.** The ICOA training syllabus — *From Computational Thinking to AI Agent Thinking* (160 pages) — treats the terminal as the working surface of modern AI engineering: pipelines, logs, scripts, agents. The selection exam is run in the same environment on purpose — students practise where AI actually gets built. No browser assumption, no platform lock-in, no hidden tooling.

## What the ICOA CLI is, in one paragraph

A single command-line program each student runs on a laptop. It asks for their token, shows the questions, accepts their answers, and submits to the ICOA server at the end. No web browser. No mouse required. Uses the internet only briefly at the start and at submission — not continuously during the paper.

## Commitments

Who	What
ICOA	Token files, this handbook, remote technical support during your selection weeks, and a post-exam data report (CSV + PDF) within 3–5 business days.
You	Room with internet, laptops, standard invigilation, and the student ↔ token mapping.

## Eligibility criteria

Contestants must be **under 19 years old on 1 July 2026** and currently enrolled as **K-12 students** (primary or secondary / pre-university).

### Why < 19 (rationale for reference)

**1. AI has lowered the age ceiling.** Democratised AI tools let younger contestants reach problems that previously required postgraduate study. Recent results include 12-year-old IOAI gold, 13-year-old IJCO gold, 13-year-old IAIO honourable mention — all won on podia with < 20 limits. When competitive strength has already descended to ages 12–13, a 20-year ceiling dilutes the “youth Olympiad” framing.

### 2. Deliberate differentiation from adjacent Olympiads.

Olympiad	Age limit	Cutoff date	Extra condition
IMO (maths)	< 20	closing day	not yet in higher education
IOI (informatics)	< 20	1 July	secondary student
IOAI (AI modelling)	< 20	exam year	secondary student
IAIO (AI winter)	< 20	—	secondary student
<b>ICOA 2026</b>	<b>&lt; 19</b>	<b>1 July</b>	<b>K-12 enrolled</b>

Mainstream international maths / informatics / AI olympiads converge on < 20. ICOA tightens by one year on purpose — carving out the “pure K-12 youth” niche rather than the half-adult pool (gap-year + delayed entry + first-year undergraduates) that IMO / IOI typically host.

**3. K-12 alignment.** Main education systems graduate high school at 18 (consistent across CN / US / GB / JP / KR / AU / IN).

- < 19 = “graduation year, not yet 19” = strictly K-12 current / final-year students.
  - < 20 = admits gap-year, late-entry, and some first-year university students.
- < 19 + K-12 turns the “K-12 Olympiad” tagline from marketing into a contract-level definition.

## Choose your paper mix

Papers are independent. A contestant can take one, two, or all three.

- **Single paper** — Paper A for standard selection (most common)
- **Staircase** — Paper C first as a wider screening round, Paper A or B for shortlisted top performers
- **Choice** — let contestants choose A or B (same weight, different flavour)

Paper	Questions	Time	Level
A	40 (30 MCQ + 10 practical)	90 min	Standard
B	40 (30 MCQ + 10 practical)	90 min	Alternative, beginner-friendly
C	30 (MCQ only)	90 min	Entry-level screening

Pass mark 50% (75 / 150).

## Two weeks before the exam

### 1. Install the ICOA CLI on each laptop (once)

Open a terminal on each exam laptop and run:

```
sudo npm install -g icoa-cli@latest
```

- **macOS / Linux:** keep sudo.
- **Windows:** open *Command Prompt* or *PowerShell* as **Administrator** — no sudo needed.

Verify by typing `icoa` — you should see a welcome menu. Press Ctrl+C to exit.

### 2. Do a full Demo walkthrough yourself

Have one staff member complete the Demo mode end-to-end. About 10 minutes. If anything fails, you have two weeks to fix it — not two minutes.

### 3. Choose how you link tokens to students

ICOA sends you tokens (one per student per paper) **within 24 hours of the batch being requested**. Each token is a 10-character code. **ICOA knows nothing about your students’ names** — that mapping is yours to keep.

Option	Method	Best for
A	Pre-printed slips with the token <b>and</b> student name filled in by you	Small groups (< 30), when you have time for prep
B	Token-only printed slip; student writes name / ID on it when receiving	Medium groups (30–100), less prep time
C	Digital spreadsheet kept locally (Excel, Google Sheets, or printed)	Any size; most flexible; easiest to audit

A blank mapping sheet template is in **Appendix A** at the end of this document.

#### 4. Decide on proctoring method

Standard in-room invigilation is always sufficient. Exam centres that want a local audit trail may optionally record contestant screens — see **Optional: screen recording** below.

#### The day before

- [?] Check your inbox for the token batch from `australia@icoa2026.au`.
- [?] Prepare token slips, or fill in your spreadsheet column.
- [?] Charge or plug in every laptop.
- [?] Verify the room's internet connection is working.
- [?] If recording, confirm OBS or equivalent is installed and tested on each laptop.

#### The morning of the exam

##### 30 minutes before start

- Boot each laptop. Open a terminal. Type `icoa`. Confirm the menu appears.
- Place token slips at each desk, or keep them in handout order.
- If recording, start OBS and confirm it is capturing the right screen.

##### As students arrive

- Confirm identity (ID / name list).
- Hand them their token slip. Record the match in your mapping sheet (Option A / B / C).
- Hand each student a copy of the **Student Exam Notice** (page 1 of this document) if you haven't already shared it beforehand.

##### Brief the room (about 3 minutes)

Read out:

- “90 minutes, 40 questions” (adjust for Paper C: 30 questions).
- “Type your token when prompted, press Enter.”
- “Use next to advance, prev to go back, submit to finish.”
- “If anything freezes, raise your hand — your work is not lost.”

##### During the exam

- Invigilate as usual: no phones, no talking, no earphones (unless local policy differs).
- **If a laptop crashes:** restart it, type `icoa`, re-enter the **same** token. The student resumes at the question they were on — all progress is saved server-side. Timer keeps running throughout (server-authoritative).
- You may offer **procedural** help (“press Enter”, “use the arrow key”) but **not content** help on the questions themselves.
- **Late arrival is not an issue** — each contestant's personal timer starts when they enter the exam. Someone 1 minute late still gets 90 minutes, and no one else is affected.
- **Accidental Ctrl+C / exit / quit:** recovery is always possible by re-running `icoa` and re-entering the token. See FAQ.

##### Optional: screen recording for proctoring (OBS)

Exam centres may record contestants' screens as a local audit aid. **OBS Studio** is free, open-source, and runs on **Windows, macOS, and Linux**.

**Recommended OBS settings** (balance of reliability and file size):

Setting	Value	Why
Output → Recording Format	<b>MKV</b> (stable)	File stays valid even if the machine crashes mid-recording
Video → FPS	<b>10</b> (small file)	Captures all typing and menu activity; ~10× smaller than 30 FPS
Video → Base / Output Resolution	match the screen	No scaling; terminal text stays sharp

**Advisory only.** Recording – whether, what, and how to store – is entirely at the exam centre’s discretion, under local privacy rules. ICOA does not receive any recording.

### After the exam

- Collect every paper token slip. Shred or store securely – do not leave them in the room.
- Collect or log the laptops.
- If recording, stop OBS on each laptop and archive per your data retention policy.
- Email [australia@icoa2026.au](mailto:australia@icoa2026.au) confirming: number of tokens used, any technical incidents, exam date.

### Data security – what ICOA collects, and what it doesn’t ICOA receives the token, and only the token.

No student names. No email addresses. No national ID. No date of birth. No demographic information. The ICOA server sees only:

“Token ABC123XYZ0 answered question 1 with B, question 2 with D, ...”

The link between a token and a real student stays entirely on your side, under your control, under your national privacy rules.

### Post-exam data report

Within **3–5 business days** of your exam window closing, ICOA emails your coordinator:

- **Per-token** score and rank within your country cohort
- **Per-question** performance statistics (which topics were strong / weak)
- **CSV** (for spreadsheet analysis) + **PDF summary** (for stakeholders)

**Your responsibility:** match each token back to its student using your local mapping sheet, then publish your national ranking and nominate top scorers for the Sydney finals.

### Frequently asked questions

**Q: A student’s laptop crashed mid-exam. What do we do?** Restart the laptop, run `icoa` again, re-enter the **same** token. Answers and clock are preserved on the server.

**Q: A student is late. Are they disqualified?** Up to you, but technically no – their personal 90 minutes starts when they enter. They are not penalised and no one else is affected. Set a cut-off time in your local rules if you want one.

**Q: A student accidentally pressed Ctrl+C / typed exit / typed quit. What happens?** - `Ctrl+C`: pauses the view only; does **not** close the CLI. - `exit`: returns the student to the main menu; server session untouched. - `quit`: during a real exam requires a separate `quit confirm` to close – this is an intentional safety gate. - If the terminal does fully close (`Ctrl+D`, laptop restart, terminal killed): run `icoa` again, re-enter the same token –

timer and answers are preserved. The safest rule for contestants: **do not exit during the exam**, even though recovery works.

**Q: We issued a token but the student didn't show. Can we reuse it?** You can, within the 3-month token validity window. For audit clarity we suggest marking it "unused" and not reassigning.

**Q: Two students swapped tokens by accident. Is that a problem?** Yes — the score will be recorded against the wrong token. Log the swap in your record sheet so you can correct the name mapping after you receive the report.

**Q: The internet went down during the exam. What happens?** The CLI reconnects when internet returns. Short outages are invisible to the student. For longer outages, advise students to wait and then resume — answers saved before the outage are safe on the server.

**Q: Can we proctor remotely?** Technically yes — tokens work from any location. Remote proctoring method (video call, OBS recording, etc.) is your decision and responsibility, not ICOA's.

**Q: Can we add more tokens mid-exam?** Contact your ICOA country liaison. Additional tokens can be issued within minutes.

**Q: A student refuses to submit. What do we do?** Nothing — the server auto-finalises after the deadline. This is standard behaviour.

## Contact

**All correspondence**

australia@icoa2026.au

**Commitment**

During national selection weeks, ICOA provides **remote technical support to every participating country**. Most on-site issues resolve in minutes because the CLI is small (~450 KB) and self-contained.

## Important

These guidelines are general. Specific exam-centre configurations, local regulations, and school policies **take precedence**. Your exam centre retains full discretion over invigilation method, recording, room rules, and any adjustments to the Student Exam Notice. Final interpretation belongs to the ICOA 2026 organising committee.

## Appendix A — Student ↔ Token Mapping Sheet

*Print this page and use it on exam day. Keep it locally — do not send it to ICOA. Destroy or archive after results are published, per your school's data retention policy.*

#	Student Name	Student ID	Paper	Token (10 char)	Seated at	Time In	Time Out	Notes
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

## Appendix B — Minimum Operations Checklist

*Print this page and tick off items as you go.*

### Two weeks before

- ICOA CLI installed on every exam laptop (`sudo npm install -g icoa-cli@latest`)
- One staff member completed Demo walkthrough end-to-end
- Token ↔ student mapping plan chosen (Option A, B, or C)
- Proctoring method decided (in-room only, or in-room + recording)

### Day before

- Token batch received by email from ICOA
- Token slips prepared OR spreadsheet updated with token column
- All laptops charged
- Room internet confirmed working
- (If recording) OBS installed and tested on each laptop

### Morning of the exam

- Laptops booted, icoa command verified on each
- Token slips placed at desks or in handout order
- Student Exam Notice distributed (or shared in advance)
- Student identity confirmed as slips are handed out
- (If recording) OBS started and capturing correct screen
- Room briefed (timing, basic commands, what to do if it freezes)

### After the exam

- All paper token slips collected and secured / shredded
- Laptops collected
- (If recording) OBS stopped; recordings archived per retention policy
- Confirmation email sent to [australia@icoa2026.au](mailto:australia@icoa2026.au) (tokens used, any incidents)
- Data report received 3–5 business days later — mapped back to students and published

---

*ICOA 2026 National Selection · General Guidance Document · Final interpretation by the ICOA 2026 organising committee · [australia@icoa2026.au](mailto:australia@icoa2026.au) · <https://icoa2026.au/selectionguide/>*