AMRITA VISHWA VIDYAPEETHAM
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AI & Computational Thinking in Schools

A One-Day Workshop for Educators

National Model School, Coimbatore **Monday, 1 June 2026**

Following the National Education Policy (NEP), a team headed by Dr Soman K P, Dean of the **Amrita School of Artificial Intelligence**, Amrita Vishwa Vidyapeetham, Coimbatore Campus, is conducting an **invited workshop** at this institution, focusing on the core maths of AI (not how to use AI tools)

CBSE Policy: AI & Computational Thinking in Indian Schools

CBSE has mandated **Computational Thinking (CT)** and **Artificial Intelligence (AI)** as core subjects for students in Classes 3–8, while offering AI as an elective skill subject for Classes 9–12. The curriculum is designed to cultivate problem-solving aptitude, digital literacy, and responsible, ethical engagement with technology.

Core Structure of AI in CBSE Schools

- **Classes 3–8:** Jointly developed by the Ministry of Education and CBSE, this foundational curriculum is anchored by the theme *"AI for Public Good."* Students develop logical reasoning, pattern recognition, and algorithmic thinking—frequently without any computing device.
- **Classes 9–10:** AI is provided as a dedicated skill subject (**Subject Code 417**), delivering activity-based learning that spans AI project workflows, data analysis, and introductory computer vision.
- **Classes 11–12:** AI is offered as an elective focused on building practical, real-world applications. Advanced topics include machine learning, natural language processing, and Python-based programming.

How AI is Taught

- **Experiential Learning:** Students engage with authentic community challenges and address them using AI-informed thinking, drawing meaningful connections across mathematics, science, and social studies—prioritising understanding over rote memorisation.
- **Open-Source Tools:** The curriculum prioritises free and open-source software to ensure equitable access for institutions of every kind.

Teacher Training & Support

To support educators through this transition, CBSE regularly convenes **District Level Deliberations** and professional development workshops to strengthen teacher competency in CT and AI instruction. For complete handbooks, syllabus breakdowns, and curriculum manuals, visit the CBSE Academic AI Portal.

Tentative Workshop Schedule

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09:00 AM – 10:30 AM **Session 1 | Computational Thinking**

Computational experiments: Fractals in Excel/Spreadsheet, MIT Scratch, and P5.js. Introduction to algorithmic thinking through visual coding. (Fractals are already part of 8th standard NCERT syllabus.)

Tea Break 10:30 AM – 10:45 AM

10:45 AM – 12:30 PM **Session 2 | Machine Learning via Pseudo-Inverse**

Linear Algebra foundations: the pseudo-inverse $\mathbf{A}^{+} = (\mathbf{A}^{\top}\mathbf{A})^{-1}\mathbf{A}^{\top}$ and its role in least-squares regression and machine learning. Column–Row factorisation: $\mathbf{A} = \mathbf{C}\,\mathbf{R}$.

Lunch Break 12:30 PM – 01:00 PM

01:00 PM – 03:30 PM **Session 3 | Hands-On Fractals & Machine Learning**

Numerical exercises in Machine learning and Interactive fractal generation using Excel/Spreadsheet and Octave. Participants explore self-similarity, iteration, and chaos theory through direct experimentation.

Tea Break 03:30 PM – 03:45 PM

03:45 PM – 05:30 PM **Session 4 | Hands-On Computational Thinking Scratch / Scribble & P5.js**

Participants design and build their own computational art and interactive animations using MIT Scratch and P5.js. Consolidation, Q&A, and next steps.

We are happy to adjust the schedule slightly to accommodate participants' needs.

References & Resources

[1] CBSE Academic AI Portal: https://cbseacademic.nic.in/ai.html
[2] CBSE CT & AI Curriculum (Primary, 2026–27): https://cbseacademic.nic.in/web_material/CurriculumMain27/CTAI_Pri3TH_2026-27.pdf
[3] CBSE Circular 15/2026: https://cbseacademic.nic.in/web_material/Circulars/2026/15_Circular_2026.pdf
[4] Webinar PPT – CT & AI 2026–27: https://cbseacademic.nic.in/web_material/CurriculumMain27/CTAI_WebinarPPT_2026-27.pdf
[5] AI Student Handbook (Class XI): https://cbseacademic.nic.in/web_material/Curriculum26/publication/srsec/AI_Student_HandbookXI.pdf
[6] AI Teacher Handbook (Class XI): https://cbseacademic.nic.in/web_material/Curriculum25/publication/srsec/843_AI_Teacher_HandbookXI.pdf
[7] PIB Press Release – AI in Schools: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2184211
[8] PIB Press Release: https://www.pib.gov.in/PressReleasePage.aspx?PRID=2247963
[9] CBSE CT & AI District Level Deliberation Guidelines: https://www.cbse.gov.in/cbsenew/documents/CT_AI_DLD_Guidelines_2026_27_09042026.pdf
[10] STEMpedia CBSE AI Curriculum: https://thestempedia.com/curriculum/cbse-ai-and-coding-curriculum-with-practical-activity-books-for-class-3-to-12/
[11] Times of India – Puzzles to Ethical AI: https://timesofindia.indiatimes.com/city/delhi/puzzles-to-ethical-ai-schools-to-strengthen-problem-solving-skills/articleshow/130176880.cms