

# Future of Diploma Education: A Comprehensive Solution for Practicing Programming, MCQ, Note Creation, and Institutional Mapping.

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**Abstract:** *Modern educational software often prioritizes automated solutions and high performance hardware, inadvertently encouraging passive learning and creating accessibility barriers for students on budget end devices. This paper presents Lucid Deck, an all in one, browser based academic toolkit specifically engineered for the Maharashtra State Board of Technical Education (MSBTE) ecosystem.*

*The core challenge addressed is the "copy paste" culture in programming; unlike traditional IDEs, Lucid Deck implements a specialized coding environment that disables clipboard operations, forcing manual syntax entry to optimize cognitive retention and muscle memory. Beyond this learning approach, the system integrates a data driven admission explorer that utilizes real world DSE CAP1 and CAP2 round cutoff data to map student percentiles and categories to eligible college branches. To further support exam readiness, the platform provides a localized MCQ module covering core diploma subjects such as BEE, BSC, EES, ETI, and MAN for Computer (CM) and Information Technology(IF) branches.*

*By incorporating a digital whiteboard for visual derivations and circuit sketching, the platform eliminates the need for heavy, storage intensive software like VS Code or Eclipse. This paper demonstrates that a zero installation, lightweight architecture can effectively bridge the digital divide while transitioning students from passive content consumption to active, deliberate practice*

**Keywords:** MSBTE, DSE Cutoff, Active Learning, Browser based Code IDE, Maharashtra Diploma, Learning Approach

