



## **Role of Artificial Intelligence in Enhancing Conceptual Understanding in Physics**

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### **Abstract**

Artificial Intelligence (AI) plays a significant role in enhancing conceptual understanding in Physics by enabling personalized and interactive learning experiences. AI-powered tools such as intelligent tutoring systems, simulations, and data-driven visualisations help students grasp abstract and complex physical concepts more effectively. By analysing learner performance, AI adapts instructional content to individual needs, provides instant feedback, and supports self-paced learning. These applications improve problem-solving skills, conceptual clarity, and student engagement in Physics education. This paper discusses how AI-based approaches contribute to deeper conceptual understanding and align with the objectives of NEP-2020 in transforming Physics education.

