

AptitudeHub: A Centralized Platform for Free Aptitude Skills Development

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Abstract: *In the contemporary academic and corporate ecosystem, aptitude assessments are critical tools used for evaluating cognitive and analytical skills. From university entrance exams to job recruitment processes, aptitude tests determine a candidate's readiness for challenges that demand logical reasoning and problem-solving abilities. However, most traditional aptitude test platforms suffer from limitations like static content, limited feedback loops, poor scalability, and lack of administrative control. This paper presents the design and development of an intelligent web-based **Aptitude Quiz Portal**, developed using the MERN stack (MongoDB, Express, React, Node.js). The portal enables users to take topic-wise aptitude quizzes, receive real-time feedback, and view instant scores. It incorporates features such as randomized question generation, secure JWT-based authentication, an admin panel for question management, and a feedback mechanism. Extensive testing, modular design, and cloud deployment ensure that the system is scalable and responsive across devices. The proposed solution is well-suited for educational institutions, online training platforms, and corporate hiring modules.*

Keywords: Aptitude Test, MERN Stack, Web-based Assessment, Online Quiz, Dynamic Evaluation, JWT Authentication, MongoDB, EdTech

