



# Chhattisgarh Swami Vivekanand Technical University, Bhilai

## Department of Computer Science & Engineering

B. Tech (Hons.) V Semester Session:2025-26

Branch: Artificial Intelligence

Subject: Minor Project on Industrial Training

### Project Synopsis

---

#### Project Title

**AI-Powered Inclusive Assessment Tool for the Skill Ecosystem**

---

#### Team Members [Group 4]

S.No	Name of Student	Roll No.
1.	DURGESH KUMAR DEWANGAN	300012723018
2.	HRIDYESH KUMAR	300012723025
3.	PRERNA SAKRE	300012723044
4.	ROUNAK GUPTA	300012723048
5.	MAYANK KAUSHIK	300012723076
6.	P OM KUMAR	300012724301

---

#### Abstract

This project proposes an **AI-powered inclusive assessment tool** to evaluate candidates across the Indian skill ecosystem. The platform supports multi-format assessments (MCQs, descriptive, practical, viva) and integrates accessibility features for **Persons with Disabilities (PWD)** such as text-to-speech, voice-to-text, and adaptive inputs. Using AI, the system adapts question difficulty, predicts performance, and ensures exam integrity. Real-time analytics provide actionable feedback to learners and educators. With secure, standardized, and scalable architecture, the tool enables fair and accessible assessments in online, offline, and blended environments.

---

#### 1. Introduction

The skill ecosystem in India includes diverse learners from schools, ITIs, vocational programs, and SSCs. Current assessments lack **standardization, inclusivity, and adaptability**, creating barriers for PWD candidates and learners in remote areas. This project aims to build a **holistic, AI-driven platform** to deliver fair, secure, and accessible evaluations.

---

## 2. Problem Statement

Existing systems face:

- Limited inclusivity for PWD candidates.
- Inconsistent evaluation across institutions.
- Lack of adaptive assessments.
- Weak offline/blended support in low-connectivity regions.
- Insufficient feedback and analytics.

A unified AI-powered solution is required to overcome these challenges.

---

## 3. Objectives

- Provide **multi-format assessments** (MCQs, descriptive, practical, viva).
  - Ensure **PWD accessibility** with assistive technologies.
  - Enable **AI-driven adaptivity** for personalized learning.
  - Deliver **real-time analytics and dashboards**.
  - Maintain **security, standardization, and scalability**.
- 

## 4. Methodology

The system will be modular, comprising:

1. **Assessment Engine** – Exam creation, delivery (online/offline/blended), auto/manual grading.
2. **AI Integration** – Adaptive questioning, performance prediction, fraud detection.
3. **Accessibility** – Voice-based inputs, screen readers, customizable UI.
4. **Analytics** – Dashboards, benchmarking, exportable reports.
5. **Security** – Role-based access, AES/TLS encryption, audit logs.

### Tech Stack:

- Frontend: ReactJS/React Native, TailwindCSS, ARIA.
  - Backend: Django/FastAPI, PostgreSQL/MongoDB.
  - AI/ML: TensorFlow, PyTorch, scikit-learn, NLP.
  - Accessibility: Google STT, Amazon Polly, screen readers.
  - Analytics: Pandas, Recharts, ReportLab.
- 

## 5. Expected Results

- **Inclusive Assessments** for PWD and diverse learners.
  - **Standardized Evaluation** across regions and institutions.
  - **Adaptive Exams** personalized to candidate performance.
  - **Scalability** for online, offline, and blended modes.
  - **Data-Driven Insights** improving learning outcomes.
- 

## 6. Conclusion

This project ensures **fair, inclusive, and standardized assessments** across the skill ecosystem. By combining AI-driven personalization, accessibility features, and robust analytics, it supports equitable opportunities for all learners while enhancing the credibility of skill-based education in India.

---