Industrial Training Syllabus

For **B-Tech**, **BCA**, and **MCA** students, a **90-day** training program


```
# Practical Code Example 3: Types of Data Analytics
import pandas as pd

# Load data
data = pd.read_csv('customer_data.csv')

# Descriptive Analytics
summary_statistics = data.describe()

# Diagnostic Analytics
sales_drop_reason = data[data['sales'] < data['sales

# Predictive Analytics (using scikit-learn)
from sklearn.linear_model import LinearRegression

X = data[['advertising_budget']]
y = data['sales']

model = LinearRegression()
model.fit(X, y)
future_sales = model.predict([[5000]])

# Prescriptive Analytics
optimized_pricing_strategy = data['price']
```

HINDTECH
LEARNING POINT

Skill India
कौशल भारत-कुशल भारत

N·S·D·C
National Skill Development Corporation
Transforming the skill landscape

This syllabus is designed for Industrial Training, which is a mandatory part of the academic curriculum for many undergraduate and postgraduate programs.

Before going through the syllabus, it is important to understand what Industrial Training is and why it is essential.

What is Industrial Training?
Industrial Training is a 3-month structured training program generally undertaken by final-year students during their last or second-last semester.
The objective of this training is to expose students to the real working environment of the industry, beyond classroom learning.

During this period, students are required to:
- Work with an industry-based or university-affiliated company
- Understand professional workflows
- Learn industry tools, technologies, and best practices
- Develop and deliver at least one real-life project

This training bridges the gap between academic knowledge and industry expectations.

Who Can Apply for This Training?
This 3-month Industrial Training program is suitable for students pursuing:
- B-Tech
- BCA
- MCA

Students from these programs are trained to become industry-ready professionals by focusing on practical skills rather than only theoretical concepts.

Training Approach & Methodology
At our organization, the training is designed with a hands-on, practical-first approach.

We believe that real learning happens when students build, test, and implement solutions, not just read about them.
Our training includes:

- Python Development
- Java Development
- MERN STACK Development
- Modern Frameworks & Tools
- AI & ML Integration to understand real-world intelligent systems
- Exposure to industry-standard coding practices
- Project-based learning with real use cases

MERN STACK ARCHITECTURE ⚛

FULL STACK JAVASCRIPT DEVELOPMENT FROM FRONTEND BASICS TO AI-INTEGRATED MICROSERVICES.

DAYS 1-5

Web & Full Stack Fundamentals
- HTTP/HTTPS & Client-Server
- Frontend vs Backend
- VS Code, Node.js, Git Setup

DAYS 13-20

CSS3 & Responsive UI
- Flexbox & Grid
- Responsive Media Queries
- Animations & Transitions

DAYS 31-45

React.js Frontend
- Hooks (useState, useEffect)
- React Router & SPA
- Project: Todo App & Portfolio

DAYS 56-60

MongoDB Database
- NoSQL Concepts
- CRUD Operations
- Mongoose ODM & Schemas

DAYS 71-82

AI-Based Projects
- Gemini API Integration
- AI Chatbot Web App
- AI Image Generator App

DAYS 6-12

HTML5 Mastery
- Semantic Tags & SEO
- Forms & Input Types
- Project: Portfolio Structure

DAYS 21-30

JavaScript Core to Intermediate
- ES6+, DOM Manipulation
- Arrays, Objects & Loops
- Form Validation

DAYS 46-55

Node.js & Express Backend
- REST API Architecture
- Middleware & Routing
- MVC Pattern

DAYS 61-70

Auth & Firebase Integration
- JWT Authentication
- Protected Routes
- Firebase Auth & Storage

DAYS 83-90

Deployment & Career Prep
- GitHub Hosting
- Resume & Portfolio Building
- Mock Interviews & Viva

MERN STACK PROJECTS

TODO Web App

Task management with full Create, Read, Update, Delete operations.

CRUD   BASIC

All-in-One Portfolio

A showcase website with advanced animations and layout.

ADVANCED UI   RESPONSIVE

AI Chat Bot

Intelligent chat application powered by Google Gemini.

GEMINI API   AI

AI Image Generator

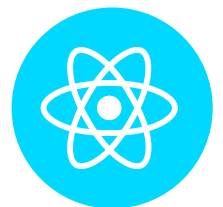Generate images from text prompts using AI libraries.

IMAGE LIB   AI

Social Media App

Full-featured social platform with auth and real-time database.

FIREBASE   REAL-TIME

JAVA ENTERPRISE & AI ☕

ROBUST ENTERPRISE DEVELOPMENT WITH SPRING BOOT, SECURITY, AND MODERN AI INTEGRATION.

DAYS 1-5

Programming & Web Fundamentals
- Monolithic vs Microservices
- Spring Ecosystem Intro
- Maven & Git Setup

DAYS 13-20

OOP & Advanced Java
- Inheritance & Polymorphism
- Exception Handling
- Collections (List, Set, Map)

DAYS 31-45

Database & SQL
- Relational DB Concepts
- SQL Queries (CRUD)
- Joins & Constraints

DAYS 56-65

Security & REST APIs
- Spring Security & JWT
- Role-Based Access
- API Testing (Postman/Swagger)

DAYS 76-85

Major Full-Stack Projects
- E-Commerce System
- Student Management System
- Full MVC Flow Implementation

DAYS 6-12

Core Java Basics
- JVM, JRE, JDK
- Loops, Arrays, Strings
- Logic Building Programs

DAYS 21-30

Frontend Basics
- HTML5 & CSS3
- JavaScript & DOM
- Dynamic UI Concepts

DAYS 41-55

Spring Boot Core
- Dependency Injection
- REST API Development
- Spring Data JPA & Hibernate

DAYS 66-75

AI Integration (Spring AI)
- Spring AI Overview
- Smart Email Writer
- Audio to Text Generator

DAYS 86-90

Deployment & Career
- App Packaging
- Mock Interviews
- Certification & Resume

Java

{.js}
JavaScript

JAVA PROJECTS ☕

Smart Shopping

Complete e-commerce solution with cart and order management.

E-COMMERCE **CRUD**

AI Image Generator

Java-based image generation tool with a modern interface.

ADVANCED UI **SPRING BOOT**

Smart Email Writer

Automated email drafting using Spring AI integration.

SPRING AI **GEMINI**

Audio to Text

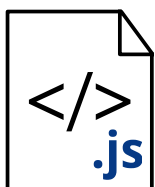Convert speech to text efficiently using Java AI libraries.

AI **SPEECH RECOG**

Java

Student Mgmt System

Comprehensive system for tracking student records and grades.

ADVANCED UI **ADMIN PANEL**

MySQL

.js

{ JavaScript }

PYTHON DJANGO FULL STACK 🐍

RAPID WEB DEVELOPMENT USING PYTHON'S POWERFUL DJANGO FRAMEWORK AND ECOSYSTEM.

DAYS 1-5

Web Basics & Setup
- Internet & WWW
- Client-Server Architecture
- Development Tools Setup

DAYS 13-20

CSS3 Styling
- Box Model & Flexbox
- Grid Layouts
- UI Tasks & Animations

DAYS 31-45

Python Core
- Variables & Loops
- OOP Concepts
- File Handling & Functions

DAYS 56-60

Django Core
- MVT Architecture
- Models, Views, Templates
- Authentication & Admin Panel

DAYS 71-82

Major Project
- Grocery/Exam System
- End-to-End Development
- Testing

DAYS 6-12

HTML5 Structure
- Tags, Forms, Tables
- Semantic HTML
- Mini Website Project

DAYS 21-30

JavaScript Basics
- DOM Manipulation
- Event Handling
- Form Validation

DAYS 46-55

Database & SQL
- SQL Concepts
- Table Relations
- Django ORM Introduction

DAYS 61-70

Django Advanced
- File Uploads
- Search & Pagination
- User Roles & Dashboards

DAYS 83-90

Deployment & Viva
- GitHub Version Control
- Resume Preparation
- Final Certification

python™

AI   ML

PYTHON PROJECTS

Medical Imaging

Analyze medical scans and images using computer vision.

OPENCV **HEALTHTECH**

Code Review & Feedback

Automated code analysis and feedback tool.

NLP **AUTOMATION**

AI Traffic Mgmt

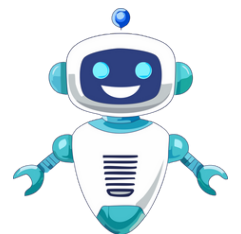Driver alert system and traffic flow analysis.

OPENCV **REAL-TIME**

Audio to Text

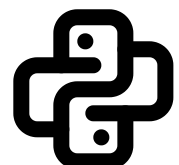Convert speech to text efficiently using Java AI libraries.

AI **SPEECH RECOG**

E-commerce Website

Scalable online store built with Python and Django.

DJANGO **FULL STACK**

INDUSTRIAL TRAINING SYLLABUS
PROGRESS TRACKER

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HINDTECH
IT SOLUTIONS

Training	Duration	Amount
Industrial Training Program	**3 Months**	**₹7,999**

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Branch 1

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Branch 2

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