Course Name: Introduction to Artificial Intelligence

1. Course Module Structure
This course is divided into 10 structured modules designed to build a strong foundation in Artificial Intelligence (AI). Each module progresses from basic concepts to advanced applications, helping learners understand how intelligent systems work, analyze data, and apply AI techniques in real-world scenarios. The course focuses on both theoretical understanding and practical exposure to AI tools and technologies.

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2. Module, 3. Topic & 4. Module for 10

Module 1: Introduction to Artificial Intelligence
Topics:
- What is Artificial Intelligence?
- History and evolution of AI
- Types of AI (Narrow, General, Super AI)
- Applications of AI in daily life

Module 2: Fundamentals of Machine Learning
Topics:
- What is Machine Learning?
- Types of Machine Learning (Supervised, Unsupervised, Reinforcement)
- Basic concepts and terminology
- Real-world examples

Module 3: Data and AI
Topics:
- Importance of data in AI
- Types of data (structured & unstructured)
- Data collection and preprocessing
- Introduction to datasets

Module 4: Neural Networks and Deep Learning
Topics:
- Basics of neural networks
- Structure of artificial neurons
- Introduction to deep learning
- Applications of deep learning

Module 5: Natural Language Processing (NLP)
Topics:
- What is NLP?
- Text processing basics
- Chatbots and virtual assistants
- Language translation systems

Module 6: Computer Vision
Topics:
- Introduction to computer vision
- Image recognition basics
- Object detection
- Real-world applications (face recognition, medical imaging)

Module 7: AI Tools and Programming Basics
Topics:
- Introduction to Python for AI
- Popular AI libraries (NumPy, Pandas, TensorFlow)
- Basic coding concepts
- Simple AI model implementation

Module 8: Ethics and Impact of AI
Topics:
- Ethical considerations in AI
- Bias and fairness
- Privacy and security issues
- Social and economic impact

Module 9: Applications of AI
Topics:
- AI in healthcare
- AI in finance and business
- AI in education and transportation
- Case studies of AI solutions

Module 10: Practice and Assessment
Topics:
- Hands-on exercises
- Mini projects
- Scenario-based problem solving
- Final assessment and feedback