Course code	CSE-103				
Category	Program Core Course				
Course title	AI for Engineering				
Scheme and Credits	L	T	P	Credits	
	3	0	0	3	
Class work	30 Marks				
Exam	70 Marks				
Total	100 Marks				
Duration of Exam	03 Hours				

Objectives of the course

1. Understand the evolution and various approaches of AI K2
2. Understand data storage, processing, visualization, and its usein regression, clustering etc.
3. Understand natural language processing and chatbots K2.
4. Understand the concepts of neural networks K.
5. Understand the concepts of face, object, speech recognition androbots.

Unit -1

An overview to AI

The evolution of AI to the present, various approaches to AI, What should all engineers know about AI? Other emerging technologies, AI and ethical concerns

Data & Algorithms

History Of Data, Data Storage And Importance of Data and its Acquisition, The Stages of data processing Data Visualization, Regression, Prediction & Classification, Clustering & Recommender Systems

Unit -2

Natural Language Processing

Speech recognition, Natural language understanding, Natural language generation, Chatbots, Machine Translation

Unit 3

Artificial Neural Networks

Deep Learning, Recurrent Neural Networks, Convolutional Neural Networks. The Universal Approximation Theorem, Generative Adversarial Networks

Unit 4

Applications

Image and face recognition, Object recognition, Speech Recognition besides Computer Vision, Robots, and Applications

Reference Books:

1. Artificial Intelligence: A Modern Approach by Stuart Russell and Peter Norvig, Prentice Hall
2. Artificial Intelligence by Kevin Knight, Elaine Rich, Shivashankar B. Nair, Publisher : McGraw Hill

3. Data Mining: Concepts and Techniques by Jiawei Han, MichelineKamber, Jian Pei,
Publisher: Elsevier Science.
4. Speech & Language Processing by Dan Jurafsky, Publisher : Pearson Education
5. Neural Networks and Deep Learning A Textbook by Charu C. Aggarwal, Publisher: Springer International Publishing
6. Introduction to Artificial Intelligence By RajendraAkerkar, Publisher : PHI Learning