Highlighted are the additions in the  Machine Learning & Deep Learning module of AI course

**Old syllabus**

Linear Regression, Supervised Learning, Unsupervised Learning, KNN, K-Means, Support Vector Machines (SVM), Decision Trees, Basics of Neural Network, Boosting and Optimization

Deep Learning Concepts, Deep Neural Networks, Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Tensorflow, Keras, Introduction to Generative Adversarial Networks(GAN)

**Updated Syllabus**

Supervised and Unsupervised Learning, **Classification and Regression**, Linear Regression**,** KNN, K Means, **Logistic Regression**, Support Vector Machines (SVM), Decision Tree, **Naïve Bayes, Ensemble Methods, Random Forest**, Boosting and Optimization.

Deep Learning Concepts, Basics of **Artificial** Neural Network,Deep Neural Networks, Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Tensorflow, Keras, Introduction to Generative Adversarial Networks(GAN)

**Full Syllabus**

**Introduction to AI and Programming Tools (3 Weeks)**

Introduction to AI and its applications

Python:- Basics Data Types, Conditional Statements, Looping, Control Statements, String, List And Dictionary Manipulations, Python Functions, Modules And Packages, Object Oriented Programming in Python, Regular Expressions, Exception Handling.

Introduction to Database Management System & SQL, Database Interaction in Python.

Data Analysis & visualization – using numpy, matplotlib, scipy

R Programming:- Basics - Vectors, Factors, Lists, Matrices, Arrays, Data Frames, Reading data.

Data visualization - barplot, pie, scatterplot, histogram, scatter matrix

Statistical Analysis -Summary Statistics, Probability distributions in R- Normal distribution, Poisson distribution, Binomial distribution. Correlation and Regression

**Machine Learning & Deep Learning (4 Weeks)**

Supervised and Unsupervised Learning, Classification and Regression, Linear Regression, KNN, K Means, Logistic Regression, Support Vector Machines (SVM), Decision Tree, Naïve Bayes, Ensemble Methods, Random Forest, Boosting and Optimization.

Deep Learning Concepts, Basics of Artificial Neural Network,Deep Neural Networks, Convolutional Neural Network (CNN), Recurrent Neural Network (RNN), Tensorflow, Keras, Introduction to Generative Adversarial Networks(GAN)

**Natural Language Processing (1 Week)**

Basics of text processing, Lexical processing, Syntax and Semantics, Other problems in text analytics

**AI Platforms & Reinforcement Learning (1 Weeks)**

Introduction to AI platforms and Understand the basics of Reinforcement Learning and its applications in AI

**Mini Project (3 Weeks)**