**Module-1:**

1. Introduction to the need of data mining -----5M
2. Different kinds of data and patterns that can be mined ----5M
3. Introduction to machine learning and its types (Supervised, Unsupervised, Reinforcement) -----4M
4. Applications of Machine Learning ----3M
5. Computing basic statistical descriptions of different kinds of data (mean, median, mode, variance, and standard deviation) -----5M
6. Handling missing values and noise in data -----3M
7. Data normalization and standardization -----4M
8. Dimensionality reduction techniques (PCA) -----5M
9. distance and similarity metrics ------5M
10. correlation analysis -----4M
11. Introduction to clustering ----3M
12. different clustering methods ----3M
13. K- means clustering algorithm -----7M
14. Hierarchical clustering -----7M
15. density based clustering -----7M
16. Cluster evaluation methods -----4M
17. Introduction to Association analysis ----3M
18. different types of association rules -----3M
19. finding frequent item sets using Apriori -----7M
20. finding frequent item sets using FP-growth algorithms -----7M

**Module-2:**

1. Introduction to classification ----3M
2. Decision Tree algorithm -----7M
3. k-Nearest Neighbors algorithm -----5M
4. Support Vector Machines -----5M
5. Naïve Bayes algorithm -----7M
6. Model evaluation techniques for classification -----4M
7. Introduction to regression analysis -----3M
8. Simple linear regression model -----4M
9. Multiple linear regression model -------5M
10. polynomial regression model -----5M
11. Metrics for regression analysis ----4M
12. what is MLOps? ----3M
13. Key Benefits of MLOps ----3M
14. understanding MLOps culture ----3M