Module 1

1. Write the features of HDFS design.

2. Explain all the components of HDFS with diagram.

3. Explain HDFS block replication.

4. Explain HDFS safe mode and rack awareness.

5. Explain name node high availability design.

6. Explain HDFS snapshots and HDFS NFS gateway.

7. Write any five HDFS user commands.

8. Write all the steps to execute terasort basic hadoop benchmark.

9. Explain mapreduce parallel data flow with near diagram.

10. Write a program using streaming interface to count the words of file.

11. Write a java mapreduce program to count the words of file.

Module 2

1. Explain Apache pig with latin script commands.

2. Explain Apache hive with minimum 5 of hive query language commands.

3. Explain Apache sqoop import and export methods with neat diagram.

4. Explain how to import data from local file system to HDFS using sqoop commands.

5. Explain Apache flume to acquire real data streams with diagrams.

6. Explain managing hadoop workflows with Apache oozie.

7. Explain Apache Hbase with example commands.

8. Explain distributed shell with commands.

9. Explain structure of YARN applications.

10. Explain YARN application framework.

11. Explain Apache spark and Apache REEF.

12. Write a short note on Apache Ambari.

13. Explain the setting of container memory and container cores.

Module 3

1. Explain BIDM cycle with diagram.

2. Explain BI types and tools.

3. Explain the applications of BI in CRM and healthcare and wellness.

4. Define data warehouse and write the design considerations for DW.

5. Explain DW architecture with DW development approaches.

6. Define data mining and explain gathering and selecting data.

7. Explain data cleansing and preparation.

8. Explain evaluating data mining results.

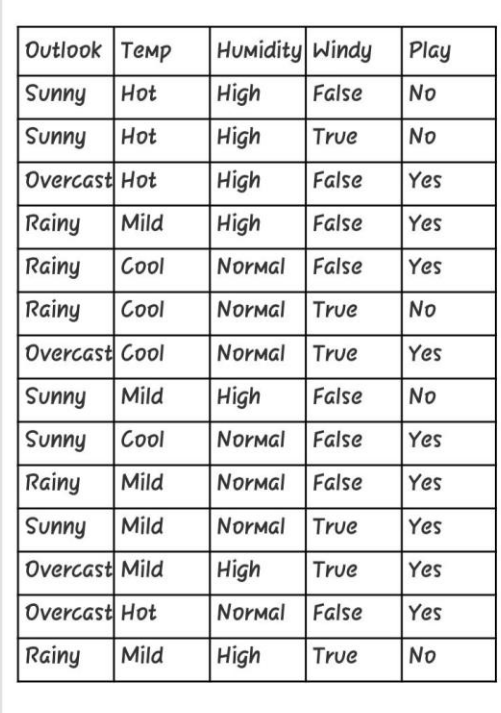
9. Explain 5 important data mining techniques.

10. Define data visualization and explain the types of charts.

Module 4

1. Define decision tree and write the algorithm to construct it.

2. Create the decision trees with data set given below.



Outlook	Temp	Humidity	Windy	Play
Sunny	Hot	High	False	No
Sunny	Hot	High	True	No
Overcast	Hot	High	False	Yes
Rainy	Mild	High	False	Yes
Rainy	Cool	Normal	False	Yes
Rainy	Cool	Normal	True	No
Overcast	Cool	Normal	True	Yes
Sunny	Mild	High	False	No
Sunny	Cool	Normal	False	Yes
Rainy	Mild	Normal	False	Yes
Sunny	Mild	Normal	True	Yes
Overcast	Mild	High	True	Yes
Overcast	Hot	Normal	False	Yes
Rainy	Mild	High	True	No

3. Explain simple and non linear regression with graphs.

4. Explain logistic regression.

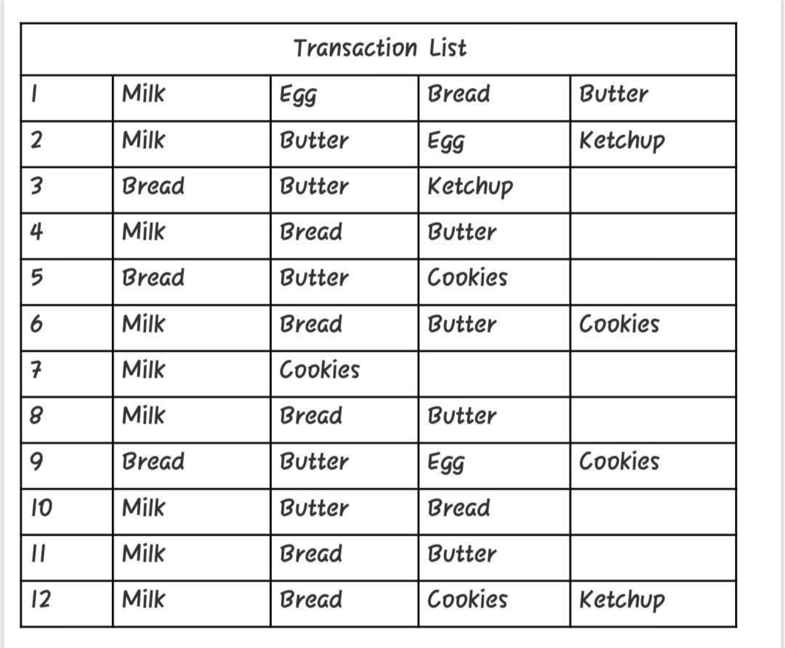
5. Define ANN and explain the design principles of an artificial neural networks.

6. Define cluster analysis and explain K-means for clustering with algorithm.

7. Explain association rule mining with business applications.

8. Explain representing association rules.

9. Using Apriori algorithm create the association rules with following data set.



Transaction List				
1	Milk	Egg	Bread	Butter
2	Milk	Butter	Egg	Ketchup
3	Bread	Butter	Ketchup	
4	Milk	Bread	Butter	
5	Bread	Butter	Cookies	
6	Milk	Bread	Butter	Cookies
7	Milk	Cookies		
8	Milk	Bread	Butter	
9	Bread	Butter	Egg	Cookies
10	Milk	Butter	Bread	
11	Milk	Bread	Butter	
12	Milk	Bread	Cookies	Ketchup

Module 5

1. Define text mining. Explain text mining process.

2. Explain term document matrix.

3. Explain Naïve-Bayes model with simple example.

4. Explain SVM model and Kernel method.

5. Explain web structure mining and web usage mining with architecture.

6. Define social network analysis with applications.