**Shree Bhairavnath Shikshan Prasarak Mandal’s**

**ADHALRAO PATIL INSTITUTE OF MANAGEMENT AND RESEARCH**

**Home Assignment 2023**

**206 SC – BA - 02 Data Mining**

***Q1)*** Solve

a) What is Data Mining?

b) What is Data Preprocessing?

c) What is Association Analysis? Give an Example.

d) What is Clustering? List the methods of clustering.

e) What is Classification? Name any two Algorithms used for it.

f) What is big data Analysis?

g) What is ratio data? Write any two characteristics of ratio data.

h) What is the role of Business intelligence in decision making?

***Q2)*** Solve

a) Why data cleaning is needed before data analysis?

b) Explain Hierarchical clustering giving a suitable example.

c) Explain Decision - tree Approach of data classification.

***Q3)*** Apply Apriori Algorithm to the given dataset to find frequent itemsets.(Given support value = 40%)

|  |  |
| --- | --- |
| **Tid** | **Items Purchased** |
| 100101 102 103 104  | Bread, Milk, CakeBread, Diaper, BeerMilk, Diaper, Beer, EggsBread, Milk, Diaper, BeerBread, Milk, Diaper, Cake |

Consider the dataset given below and cluster the dataset by using Hierarchical clustering and plot the dendogram for it.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item** | **A** | **B** | **C** | **D** | **E** |
| **A** | **0** |  |  |  |  |
| **B** | **7** | **0** |  |  |  |
| **C** | **2** | **5** | **0** |  |  |
| **D** | **6** | **4** | **8** | **0** |  |
| **E** | **10** | **8** | **3** | **7** | **0** |

***Q4)*** Explain the use of Association Analysis in purchasing behaviour of the customers.

Explain the Density - based Clustering method giving a suitable example.

**Q 5) A)**Elaborate the use of data mining in target Marketing.

 B)Elaborate the use of data mining for custome profiling.