Q.P. Code: 24209

(3 Hours)   **[Total Marks 80]**

i.   **Q. 1. is Compulsory.**
ii.   **Attempt any three from the remaining.**
iii.   **Assume suitable data.**

1(a)	Define "Business Intelligence" and "decision support system" with e.g.?	**05**
1(b)	Define OUTLIERS? What are the different types that occur in a database?	**05**
1(c)	Clearly explain data preprocessing phase in data mining?	**05**
1(d)	Define data mining? Write five e.g. for the same?	**05**
Q2 (a)	Explain multidimensional and multilevel association rule with e.g.?	**10**
Q2 (b)	Explain DBSCAN algorithm using appropriate diagrams?	**10**

Q3 (a)   Explain APRIORI algorithm to identify the frequent set than extract strong   **10**
association rule from these sets?
MIN support = 30% min. confidence = 75%

TID	ITEMS
01	A,B,D,E,F
02	B,C,E
03	A,B,D,E
04	A,B,C,E
05	A,B,C,D,E,F
06	B,C,D
07	A,B,D,E

Q3(b)   Briefly explain bagging and boosting of classifiers?   **10**

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Q4(a)	Use Hierarchical clustering algorithm to cluster the following 8 points into 3 clusters A1=(2,10), A2= (2,5), A3=(8,4), A4=(5,8), A5= (7, 5), A6= (6, 4), A7= (1, 2), A8= (4, 9).	**10**
Q4(b)	Explain the designer of BI system for credit card fraud detection?	**10**
Q5(a)	Explain birch algorithm?	**10**
Q5(b)	Define Decision support system and how it is related with data mining? Explain in detail with suitable e.g.?	**10**
Q6(a)	Explain business intelligence issues?	**10**
Q6(b)	Short note on Data mining steps in KDD? Explain its architecture	**10**