

Data Mining _ Important Questions for CIE – 1 (NGIT)

S. NO.	QUESTIONS																																												
1. a)	Differentiate OLAP and OLTP																																												
b)	Differentiate ROLAP and MOLTP Data Mining Servers																																												
c)	List the Attributes types																																												
d)	List the Strengths of Association Rule Mining.																																												
e)	Define Confusion Matrix																																												
f)	List the Decision Tree Induction algorithms steps																																												
2. a)	Describe <i>KDD</i> with neat diagram.																																												
b)	Explain the Technologies are used in data mining with neat diagram.																																												
3. a)	Explain the Constraint based frequent pattern mining.																																												
b)	Calculate the Frequent Item set using Apriori Algorithm with Minimum <i>Support</i> ≥2. <table><tr><td>Transaction Id.</td><td>Item Set</td></tr><tr><td>T 1</td><td>A, C, D</td></tr><tr><td>T 2</td><td>B, C, E</td></tr><tr><td>T 3</td><td>A, B, C, E</td></tr><tr><td>T 4</td><td>B, E</td></tr></table>	Transaction Id.	Item Set	T 1	A, C, D	T 2	B, C, E	T 3	A, B, C, E	T 4	B, E																																		
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4.	Define Classification, and Evaluate the Gain for the below given data set. <table><tr><td>Age</td><td>Competition</td><td>Type</td><td>Profit</td></tr><tr><td>Old</td><td>Yes</td><td>S/W</td><td>Down</td></tr><tr><td>Old</td><td>No</td><td>H/W</td><td>Down</td></tr><tr><td>Old</td><td>No</td><td>H/W</td><td>Down</td></tr><tr><td>Mid</td><td>Yes</td><td>S/W</td><td>Down</td></tr><tr><td>Mid</td><td>Yes</td><td>H/W</td><td>Down</td></tr><tr><td>Mid</td><td>No</td><td>H/W</td><td>Up</td></tr><tr><td>Mid</td><td>No</td><td>S/W</td><td>Up</td></tr><tr><td>Young</td><td>Yes</td><td>S/W</td><td>Up</td></tr><tr><td>Young</td><td>No</td><td>H/W</td><td>Up</td></tr><tr><td>Young</td><td>No</td><td>S/W</td><td>Up</td></tr></table>	Age	Competition	Type	Profit	Old	Yes	S/W	Down	Old	No	H/W	Down	Old	No	H/W	Down	Mid	Yes	S/W	Down	Mid	Yes	H/W	Down	Mid	No	H/W	Up	Mid	No	S/W	Up	Young	Yes	S/W	Up	Young	No	H/W	Up	Young	No	S/W	Up
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1.a)	List different types of Attributes. Give an example for each.										
b)	Compute the Distance between the two data objects given as X (22,1,24,10,46) and Y(12,2,24,23,46) using Manhattan and Euclidean distance.										
c)	<p>Compute Support and Confidence for an association rule $A \rightarrow C$.</p> <table> <tr> <th>T.ID</th><th>Items</th></tr> <tr> <td>T1</td><td>A,B,C</td></tr> <tr> <td>T2</td><td>A,C</td></tr> <tr> <td>T3</td><td>A,D</td></tr> <tr> <td>T4</td><td>B,E</td></tr> </table>	T.ID	Items	T1	A,B,C	T2	A,C	T3	A,D	T4	B,E
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d)	Define ECLAT algorithm.										
e)	Compare Predictive and Descriptive data mining techniques										
f)	What is item set and frequent item set										
2.a)	Explain Data Mining as a step in the process of Knowledge discovery.										
. b)	What is a Decision Tree? Explain about decision tree algorithm.										

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3.	<p>Identify frequent item sets and strong association rules by using FP-Growth algorithm for the following example where min_sup=40% and min_cof =50%.</p> <table><thead><tr><th>T.ID</th><th>Items</th></tr></thead><tbody><tr><td>T10</td><td>I1,I3,I4</td></tr><tr><td>T20</td><td>I2,I3,I5</td></tr><tr><td>T30</td><td>I1,I2,I3,I5</td></tr><tr><td>T40</td><td>I2,I5</td></tr></tbody></table>	T.ID	Items	T10	I1,I3,I4	T20	I2,I3,I5	T30	I1,I2,I3,I5	T40	I2,I5
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4.a)	A) Explain with example market basket analysis										
b)	B.) Explain the various graphical methods used for statistical description of data?										