

Con. 3244-10.

AN-3283

(3 Hours)

[Total Marks : 100]

N.B. : (1) Question No. 1 is **compulsory**.(2) Total **five** questions.(3) Attempt any **four** questions out of remaining **six** questions.(4) **All** questions carry **equal** marks.

- Data Warehousing and Mining*
1. (a) Explain association rule mining. Explain apriori algorithm with its advantages, dis-advantages and an example. 10
 - (b) Give any ten characteristics to differentiate between Online Transaction Processing (OLTP) and Online Analytical Processing (OLAP). 10
 2. (a) Explain major steps in ETL process with a suitable diagram and an example. 10
 - (b) Explain any six major transformation types in data-warehousing. 10
 3. (a) Explain any five general trends in data-warehousing. 10
 - (b) Enlist different types of OLAP servers. Explain following operations of OLAP with suitable example. 10
 - (i) Slice
 - (ii) Dice
 - (iii) Roll-up
 - (iv) Drill-down
 - (v) Rotation.
 4. (a) What is clustering ? Explain k-means clustering algorithm. 10
Suppose data for clustering is
{ 2, 4, 10, 12, 3, 20, 11, 5, 25, 23 }
Consider k = 2, cluster the given data using k-means clustering algorithm.
 - (b) Define data-warehouse with five features. Explain architecture of data-warehouse with suitable block diagram. 10
 5. (a) What is metadata ? Explain different types of metadata with an example. 10
 - (b) Write a short note on web-enabled data-warehouse and its major concerns for security. 10
 6. (a) Give information package for recording information requirement for "Sales Analyse". 10
Consider dimension like
 - (i) Time
 - (ii) Locations
 - (iii) Products
 - (iv) Age group etc.
 Design star schema from information package. Draw snowflake schema if possible.
 - (b) Explain data mining as a step in KDD. Give the architecture of typical data mining system. 10
 7. Write short note on (any two) :- 20
 - (a) Star schema keys
 - (b) Explain any five DMQL statements with an example
 - (c) Factless fact table with an example
 - (d) Top-down and bottom-up approach in data-warehousing (Give any 10 points).