

AMIETE – ET (OLD SCHEME)

Code: AT19
Time: 3 Hours

Subject: DATA WAREHOUSING AND DATA MINING
Max. Marks: 100

JUNE 2011

NOTE: There are 9 Questions in all.

- Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.
- The answer sheet for the Q.1 will be collected by the invigilator after 45 Minutes of the commencement of the examination.
- Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.
- Any required data not explicitly given, may be suitably assumed and stated.

Q.1 Choose the correct or the best alternative in the following: (2×10)

- Which of the following is not related to a data mart?
(A) It is a part of architected data warehouse
(B) It is a data structure optimized for data access
(C) It is a structure to access data from multiple Data warehouse
(D) Multiple data mart may be feed data from single data warehouse
- Which of the following is not a characteristic of Data warehouse?
(A) Integrated
(B) Volatile
(C) Process Oriented
(D) Time Variant
- ETL in data warehouse refers to
(A) Extraction, Transformation and Loading of data
(B) Extension, Translation and Lattice formation of data
(C) Effective Translation of Lateral data
(D) It is data model used at data mart level.
- Data warehouse Manager performs all of the following tasks except
(A) Index and View creation on base data
(B) Backup and Archiving of data
(C) Aggregation of data
(D) Normalization
- Data reduction in data pre-processing refers to a process that
(A) De-Normalization
(B) Conversion of large dataset into nuggets
(C) Conversion of small datasets into warehouse
(D) Aggregation

- f. Metadata in Data Warehouse refers to the collection of
- (A) All related data (B) Only about MDDB
(C) Only about OLTP (D) Only about MDSQL
- g. Which of the following is not related to data staging?
- (A) Extraction (B) Transformation
(C) Backup (D) Loading
- h. Which of the following is not related to Star Schema?
- (A) It is used to aggregate data based on known dimension.
(B) It stores multidimensional data in a RDBMS
(C) It uses hypercube concept
(D) It is similar to Snowflake Schema
- i. The beginning point for the migration plan is
- (A) Corporate Data Model. (B) External Data Model
(C) Meta Data Model (D) Internal Data Model
- j. Drill down operation implies
- (A) An opposite operation of Roll Up
(B) Navigating through information to get finer detail
(C) It is realized through MSQL
(D) All of the above

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

- Q.2** a. What are the common myths related to a Data Warehouse? List and explain. (8)
- b. Describe briefly the following concepts - OLAP, MOLAP, ROLAP and MDDB. (8)
- Q.3** a. Explain Data Cube technology with reference to data mining. (8)
- b. What is Multidimensional data model? How it is different from Distributed database concept? Explain. (8)
- Q.4** a. Draw the schematic diagram of data warehouse architecture. Also briefly describe each component of the architecture. (8)
- b. Justify that data warehousing is an evolutionary and iterative process. (8)

- Q.5** a. What are the advantages and disadvantages of EIS? In what way EIS is different from an MIS? (8)
- b. What is event mapping? Explain. What type of result is measured using event mapping? (8)
- Q.6** a. What is Data mapping? What are the issues that are addressed while mapping data from external data source and legacy system to new warehouse data model? (8)
- b. Define the term Data Mining and Data Archiving. Explain differences between the two. (8)
- Q.7** a. What is the role of data cleaning in data warehouse development and management? What type of dirt can be removed using the cleaning process? (8)
- b. Explain binning and Histogram analysis used in discretization method. (8)
- Q.8** a. Describe a detailed plan you may require for migrating from your existing database system to a data warehouse. (10)
- b. What is data mart? Where does it lie in overall architecture of data warehouse architecture? (6)
- Q.9** a. Write a short note on: (i) star schema and (ii) association rule. (8)
- b. Explain the role of neural network in machine learning. (8)