

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)

- a. 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
- b. Which of the following is not a characteristic of Data warehouse?
- (A) Integrated (B) Volatile
(C) Process Oriented (D) Time Variant
- c. 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.
- d. 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
- e. 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)