

**Code: 17E00319**

MBA III Semester Supplementary Examinations October 2020

**DATA WAREHOUSING & MINING**

(For students admitted in 2017 & 2018 only)

Time: 3 hours

Max. Marks: 60

All questions carry equal marks

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**SECTION – A**

(Answer the following: 05 X 10 = 50 Marks)

- 1 (a) Explain the organizational data management.  
(b) Define data, data management, data warehousing, database and DBMS.

**OR**

- 2 (a) Describe the organizational data warehousing.  
(b) Write the differences between database and data warehouse.

- 3 (a) Explain the different types of databases.  
(b) Explain sharing data between different levels of users.

**OR**

- 4 (a) Explain the structure of database system.  
(b) Explain sharing data between different locations.

- 5 (a) Define metadata. Explain computer based metadata for people to use.  
(b) Describe the organizing relational data warehouse?

**OR**

- 6 (a) Explain the context of data warehouse.  
(b) Explain computer based metadata for computer to use.

- 7 (a) Explain the concept of active analysis.  
(b) Explain the concept of developing a project plan.

**OR**

- 8 (a) Explain data warehousing design approaches.  
(b) Explain constructing a data warehouse system.

- 9 (a) Explain the transformation of the data.  
(b) Explain the loading and summarization of the data.

**OR**

- 10 (a) Explain creating a decision tree.  
(b) Explain putting results to use.

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**SECTION – B**

(Compulsory question, 01 X 10 = 10 Marks)

11 **Case Study:**

Design a Hospital Management system data warehouse (TARGET) consisting of Dimensions Patient, Medicine, Supplier, Time. Where measures are NO UNITS, UNIT PRICE. Assume the Relational database (SOURCE) table schemas as follows

TIME (day, month, year),

PATIENT (patient name, Age, Address, etc.)

MEDICINE ( Medicine\_Brand\_name, Drug\_name, Supplier, no\_units, Unit\_Price, etc.)

SUPPLIER :( Supplier\_name, Medicine\_Brand\_name, Address, etc.) If each Dimension has 6 levels, decide the levels and hierarchies, Assume the level names suitably.

**Questions:**

- (a) Design the dimension tables for all dimensions, suggest an aggregation that could apply to one of the dimension data elements.
- (b) Design the Hospital Management system data warehouse using all schemas. Give the example 4-D cube with assumption names.

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MBA III Semester Regular & Supplementary Examinations November/December 2019

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**SECTION – A**

(Answer the following: 05 X 10 = 50 Marks)

- 1 (a) Describe the components of organizational memory.  
(b) Explain individual data management.

**OR**

- 2 (a) Explain the organizational data warehousing.  
(b) Explain the evolution of database technology.

- 3 (a) Explain sharing data between different locations.  
(b) Explain sharing data between different levels of users.

**OR**

- 4 (a) Explain sharing data between functional units.  
(b) Explain data sharing and types of data bases.

- 5 (a) Define metadata? Explain human metadata.  
(b) Explain database structures.

**OR**

- 6 (a) Explain the context of data warehouse database.  
(b) Explain about multidimensional structures.

- 7 Explain in detail the stages of project.

**OR**

- 8 (a) Write about active analysis.  
(b) Explain about constructing a data warehouse system.

- 9 (a) Explain about neural networks.  
(b) Explain about correlation and other statistical analysis.

**OR**

- 10 (a) Write about nearest neighbor approach.  
(b) Briefly explain extraction and cleaning.

**SECTION – B**

(Compulsory question, 01 X 10 = 10 Marks)

11 **Case Study:**

Your college or university is designing a data warehouse to enable deans, department chairs, and the registrar's office to optimize course offerings, in terms of which courses are offered in how many sections, and at what times. The data warehouse planners hope they will be able to do this better after examining historical demand for courses and extrapolating any trends that emerge.

**Questions:**

- (a) Give three dimension data elements and two fact data elements that could be in the database for this data warehouse. Draw a data cube for this database.  
(b) Suggest an aggregation that could apply to one of the dimension data elements.

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All questions carry equal marks

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**SECTION – A**

(Answer the following: (05 X 10 = 50 Marks)

- 1 (a) A data warehouse is a key technology in a decision support system. Justify this statement.  
(b) Discuss briefly the various applications of data warehouse.
- OR**
- 2 (a) The organizational memory is an important prerequisite for organizational learning. Explain with suitable example.  
(b) Give reasons why data management is important to any organization.
- 3 Explain the roles and responsibilities of various users (including administrators) of a database system.
- OR**
- 4 Explain how data is shared between different levels within and across organizations.
- 5 Give an outline of the various multi-dimensional data structures.
- OR**
- 6 (a) Explain briefly the different types of meta data.  
(b) Give an overview of importance of meta data.
- 7 Explain the steps involved in building a data warehouse.
- OR**
- 8 Explain the data warehouse designing methodologies.
- 9 Consider the dataset given below and construct decision tree using information gain.

Index	A	B	C	D	E
1	4.8	3.3	1.8	0.3	Positive
2	5	3	1.5	1.3	Positive
3	5	3.3	1.5	0.3	Positive
4	5.2	3.5	1.4	0.3	Positive
5	5.2	3.3	1.3	0.3	Positive
6	4.7	3.2	1.5	0.3	Positive
7	4.8	3.1	1.5	0.3	Negative
8	5.4	3.4	1.4	0.5	Negative
9	6.4	3.2	4.6	1.5	Negative
10	6.9	3.2	4.6	1.6	Negative
11	5.3	2.8	4.8	1.3	Negative
12	4.6	2.3	4.1	1.6	Negative

**OR**

- 10 Give a short overview of Feedforward neural network, multilayer perceptron and backpropagation method.

**SECTION – B**

(Compulsory question, 01 X 10 = 10 Marks)

11 **Case Study:**

Design a data warehouse for retail store and explain its components and suggested data marts.

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**SECTION – A**

Answer the following: (05 X 10 = 50 Marks)

- 1 (a) A data warehouse is a business intelligence tool-Justify.  
(b) Write short note on the types of data warehouses and the components of data warehouse.

**OR**

- 2 (a) Explain the components of organizational memory.  
(b) Give the guidelines to evaluate database technology.

- 3 (a) List out the benefits of data sharing.  
(b) Write short note on the various types of data sharing.

**OR**

- 4 Discuss the role played by information sharing in the growth of an industry.

- 5 (a) Write short note on various categories of metadata.  
(b) List out the role of metadata.  
(c) Write short note on Repository metadata.

**OR**

- 6 Explain in detail the applications of data warehouse in banking sector.

- 7 Explain briefly various multi-dimensional data models.

**OR**

- 8 Explain the stages in a project management life cycle.

- 9 With help of a diagram, explain various steps in data mining process.

**OR**

- 10 Explain Nearest neighbor approaches.

**PART – B**

(Compulsory question, 01 X 10 = 10 Marks)

- 11 **Case study:**

Assume that a bank has posted a loss in the current financial year. Hence, it has decided to induct a restructuring program to retain the valuable customers, attract new customers and address risk in loan approval. If it approaches you for guidance what are the data mining techniques you would suggest to put the bank back on the rails.

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