MCS-221

MASTER OF COMPUTER APPLICATION (MCA) (NEW)

Term-End Examination

June, 2022

MCS-221 : DATA WAREHOUSING AND DATA MINING

Time : 3 Hours   *Maximum Marks : 100*

Weightage : 70%

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Note : (*i*) *Question No. **1** is compulsory.*

(*ii*) *Attempt any **three** questions from the rest.*

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1. (a) What is Association Rule Mining ? With reference to this, explain the concepts given below :   10

   (i) Support Count

(ii) Frequent Item set

(iii) Association Rule

(iv) Rule Evaluation metrics

(b) Define classification. With the help of an example for each, explain the following classification models :   10

(i)   Descriptive modeling

(ii) Predictive modeling

(c) Describe the snowflake schema multidimensional modeling technique. Give an example and illustrate it. List its pros and cons.   10

(d) What is complex data modeling ? Where is this used ? Explain "Anchor" complex data model.   10

2. (a) List and describe all the four types of OLAP operations.   10

(b) Define text mining. Mention any *three* applications of it. What are the various techniques used to analyze the web-usage patterns ?   10

3. (a) Define a data warehouse. List and explain all the 3 types of data warehouses. 10

   (b) What is data transformation ? List and explain all the data transformation steps.

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4. (a) What is data mining ? List out the key differences between data warehousing and data mining. Mention any *four* applications of data mining. 10

   (b) What is ETL ? Why do you need ETL in data warehouses ? Also, explain how ETL works in Data Warehousing ? 10

5. Write short notes on any ***four*** of the following : 4×5=20

   (a) OLTP

   (b) Data Marts

   (c) Web structure mining

   (d) Cloud Data Warehousing

   (e) Data Granularity

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