

B.Sc. - III (Information Technology) (CBCS Pattern) Semester-V
004 - Elective-I - Paper-II - Data Warehousing and Data Mining

P. Pages : 2

Time : Three Hours



GUG/W/24/13131

Max. Marks : 40

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- Notes :
1. All questions are compulsory and carry equal marks.
 2. Draw neat and labelled diagram and use supporting data wherever necessary.
 3. Avoid vague answers and write specific answers related to questions.

Either:

1. a) What is a Data Warehouse, and how does it differ from traditional databases? 4
- b) Explain the role of Data Warehousing in supporting Business Intelligence (BI) and decision-making processes. 4

OR

- c) Discuss the key components of a Data Warehouse How do they work together to manage and process large volumes of data? 4
- d) What are the major design considerations when building a Data Warehousing? 4

Either:

2. a) Define OLAP and describe its main characteristics and functions. 4
- b) What are the various OLAP operations (Roll up, Drill Down, Dice, Slice, Pivot). 4

OR

- c) Explain the, features, advantages and disadvantages of OLAP. 4
- d) What are the different types of OLAP servers? How do they differ from each other? 4

Either:

3. a) Describe the different types of Data Marts and their uses. 4
- b) What are the steps involved in implementing a Data Mart? Explain in detail. 4

OR

- c) Discuss the data requirements for Data Marts including external data and reference data. 4
- d) What are the performance issues and security considerations in maintaining a Data Mart? 4

Either:

4. a) Explain the relationship between Data Warehousing and Data Mining. 4
- b) What are the key steps involved in the data mining process? Explain in detail. 4

OR

- c) Describe the main functions of Data mining in detail. 4
- d) Explain the various data mining algorithm. 4
- i) Database segmentation.
5. Solve all the questions.
- a) How does data integration and transformation play a role in the Data warehouse. Discuss in short. 2
- b) Compare and contrast OLTP and OLAP systems. 2
- c) What is metadata? Discuss why it is important in data management. 2
- d) Explain the application of Data Mining. 2
