

(Time: 2 $\frac{1}{2}$ hours)

[Marks: 75]

Please check whether you have got the right question paper.

- N. B.: (1) **All** questions are **compulsory**.
 (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
 (3) Answers to the **same question** must be **written together**.
 (4) Numbers to the **right** indicate **marks**.
 (5) Draw **neat labeled diagrams** wherever **necessary**.
 (6) Use of **Non-programmable** calculator is **allowed**.

1. Attempt any two of the following: 10

- What are the characteristics of a Data Warehouse?
- Differentiate OLTP and OLAP.
- Explain the different types of facts in a fact table with suitable examples.
- Differentiate Star and Snowflake Schema with respect to Data warehouse.

2. Attempt any two of the following: 10

- Why is it necessary to configure a listener before creating the database? Explain the steps to configure a listener.
- What are the different components of OWB? Illustrate the same with a neat diagram.
- Explain the three windows in the OWB Design Center.
- What is the role of a DSN? What are the steps involved in configuring a DSN?

3. Attempt any two of the following: 10

- Why is it necessary to create a target user and a target module while designing a DW in OWB?
- Differentiate relational and multidimensional implementation of a dimensional model in a database.
- Why Time dimension is considered a key part of most data warehouses? Explain the different characteristics of a dimension that has to be defined in an OWB.
- What are the **Cube Details** that can be seen for a cube in the **Data Object Editor**?

4. Attempt any two of the following: 10

- What is the significance of ETL while creating a Data Warehouse in OWB? How is this accomplished in OWB?
- Explain how an Aggregator data flow operator is used in mapping between sources and targets in OWB.
- Discuss in detail the constraints tab in the Data Object Editor in OWB.
- What is the role of a Joiner data flow operator in mapping sources and targets in OWB?

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5. Attempt **any two** of the following: 10
- a. Explain any three transformations operator in OWB.
 - b. Why is a Key Lookup operator necessary in a mapping in OWB?
 - c. Why is it important to validate the objects in a Design Center? What are the possible results after validation process?
 - d. What are the default operating modes the mapping code can run in when executing in the database?
6. Attempt **any two** of the following: 10
- a. What is the significance of Snapshot in OWB?
 - b. Why is it necessary to synchronize objects in OWB?
 - c. Explain the terms Data Sparsity and Data Explosion with respect to a Data warehouse.
 - d. Explain with a neat diagram the basic OLAP System Architecture.
7. Attempt **any three** of the following: 15
- a. Explain Slowly Changing Dimension with a suitable example.
 - b. What are the steps involved in configuring repository and workspaces in OWB?
 - c. What are the **Dimension Details** that can be seen in the **Data Object Editor**?
 - d. List the properties seen in the property window of Aggregator operator.
 - e. Explain the columns in Object Details window under the Control Center Manager window in OWB.
 - f. What is the role of **Recycle Bin** in OWB? Explain.
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