

(2½ hours)

[Total Marks: 75]

- 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** calculators is **allowed**.

1. Attempt any two of the following:**10**

- Differentiate between operational DBMS and a data warehouse.
- Explain about fact table and dimension tables in a star schema.
- Define granularity of facts. Discuss about high and low granularity of facts in a fact table.
- Explain multi valued dimensions with example.

2. Attempt any two of the following:**10**

- What is a source module? How is it created?
- What are Oracle Warehouse Builder's client side and server side components? Briefly explain the role of design center.
- Which oracle database versions support warehouse builder? Discuss hardware and operating system requirements for installing OWB.
- What is source system metadata? Explain various steps to import metadata from flat files using import metadata wizard in OWB.

3. Attempt any two of the following:**10**

- Briefly explain about cube and dimension in dimensional model.
- Explain various characteristics of a dimension.
- Explain surrogate keys and business keys with examples.
- Write short notes on:
 - Time dimension
 - Slowly changing dimension

4. Attempt any two of the following:**10**

- What is deduplicator operator? How is it used in a mapping?
- What is staging in ETL process? What are its benefits?
- What is ETL? Explain about filter operator used in ETL mapping.
- What are the attribute groups of joiner operator? Explain steps to connect source tables to target table using joiner.

5. Attempt any two of the following:**10**

- What is expression operator? Explain the mapping of expression operator.
- What is transformation operator? How is UPPER() transformation function used?
- What is object deployment? What are the various deploy actions in object details window.
- What are the various steps to create constants through Constant operator?

6. Attempt any two of the following:**10**

- What is multidimensional OLAP? What are its advantages and drawbacks?
- Write short notes on the following features of OWB.
 - Metadata change management
 - Cut, copy, and paste
- Explain data explosion in multidimensional models.
- What is a Snapshot? How do you compare one Snapshot with another in OWB?

7. Attempt any three of the following:**15**

- What is a source system? Explain various layers in data warehouse architecture.
- Write short notes on TO_NUMBER and TRIM transformation functions.
- Why is it necessary to synchronize table operators in a mapping with corresponding repository objects? Explain Match by Object Identifier and Match By Object Name synchronization strategies.
- Explain about explorer, palette and property inspector windows in mapping editor.
- Explain about key lookup and external table operators in brief.
- What is the significance of listener process in oracle database server? How is it configured?