

(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
 - a. Differentiate between operational system & informational system.
 - b. What is the role of metadata management layer and data integration layer in data warehouse architecture?
 - c. Explain star schema with suitable diagram.
 - d. What are additive, semi-additive and non-additive measures?
2. **Attempt any two of the following:** 10
 - a. With the help of a neat diagram, explain Oracle Warehouse Builder (OWB) architecture.
 - b. Write the steps to create database using 'Database Configuration Assistant'.
 - c. Explain the various recovery options available in recovery configuration dialog box of database creation wizard
 - d. Write the steps to import metadata from oracle database tables.
3. **Attempt any two of the following:** 10
 - a. Why dimensional model is more suitable than normalized model of database for data warehouse design?
 - b. What is module? Explain source module and target module.
 - c. List and explain the steps for creating dimension with a dimension wizard.
 - d. Explain various properties of dimension.
4. **Attempt any two of the following:** 10
 - a. What are the considerations we can take into account when deciding whether to use staging area or not for our source data?
 - b. Enlist and explain various windows available in mapping editor.
 - c. Explain the following OWB operators
 - (i) Table operator
 - (ii) Constant operator
 - d. Write the steps to connect source to target using joiner operator with suitable example.
5. **Attempt any two of the following:** 10
 - a. What is validation? Difference between validation from the data object editor and validation from the mapping editor
 - b. Write the steps to add Key Lookup operator.
 - c. Explain the use of external table operator with suitable example.
 - d. Write a short note on object details window.

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

- Write a short note on metadata change management.
- What is snapshot? Write the steps to take a snapshot of a table.
- Explain data sparsity and data explosion.
- Explain multidimensional database architecture with suitable diagram.

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

- What is listener? Write the procedure to create a new listener.
- What are the factors needed to be considered while designing data warehouse?
- List and explain the steps for creating a cube with using wizard.
- Write the steps for building staging area table using data object editor.
- Explain SUBSTR function of transformation operator.
- Write short notes on
 - Parallelization
 - DSS Index.