

(3 Hours)

[Total Marks: 100]

- N.B: (1) All questions are compulsory.  
 (2) Figures to the right indicate marks.  
 (3) Draw diagrams wherever necessary.  
 (4) Mixing of sub-questions is not allowed.

- Q1. Attempt the following (any FOUR):** (20)
- ARIES Algorithm
  - PL/SQL Data Types
  - For Loop
  - Agile development
  - Black box testing
  - Function points
- Q2. Attempt the following (any FOUR):** (20)
- Explain the working of locking scheduler.
  - Distinguish between serial and serializable schedule with example.
  - List and explain ACID properties with example.
  - How concurrency control is achieved with the help of timestamps?
  - Explain in brief: Conflict and View Serializability.
  - What is functional dependency? Discuss its types.
- Q3. Attempt the following (any FOUR):** (20)
- Explain CASE statement. Give its types. Justify your answer with suitable example.
  - State and explain Set operators.
  - What is the use of explicit cursors? How it is implemented?
  - Define COMMIT, ROLLBACK and SAVEPOINT. How it is used in transaction management?
  - Create table Employees (Emp\_ID, Emp\_Name, Emp\_City, Emp\_Salary). Write a PL/SQL block to insert 5 records into the table. Commit your changes and display the table values using user defined variables.
  - Explain the concept of GOTO statement with example.
- Q4. Attempt the following (any FOUR):** (20)
- Explain the duties of project manager.
  - Write a note on software metrics.
  - What is COCOMO?
  - Explain the significance of project scheduling and staffing.
  - List and explain different stages of CMM.
  - Explain the concept of effort estimation. Justify your answer with appropriate formula.
- Q5. Attempt the following (any FOUR):** (20)
- How quality assurance is achieved using six sigma?
  - Write a note on equivalence partitioning and boundary-value analysis.
  - What is the significance of white box testing? Also give its disadvantages.
  - Explain branch/decision coverage with suitable example.
  - What is integration testing?
  - Explain the significance of cyclomatic complexity.