

(2½ Hours)

[Total Marks: 75]

- N.B.:** 1) All questions are **compulsory**.  
2) **Figures** to the right **indicate marks**.  
3) **Illustrations**, in-depth **answers** and **diagrams** will be **appreciated**.  
4) Mixing of **sub-questions** is not **allowed**.

**1. Attempt All (Each of 5 Marks) :**

(15)

(a) Multiple Choice Questions

- 1) The difference between rollback and commit is -----.
  - A. commit saves transaction, rollback undoes it
  - B. commit undoes the transaction, and rollback saves it
  - C. commit loads transaction and rollback saves it
  - D. none of the above
  
- 2) PL/SQL is a procedural language that has following advantages -----.
  - A. Integration with database
  - B. Better performance
  - C. Support for Transaction Processing
  - D. All of the mentioned above
  
- 3) SQL statements that must end transaction are of type -----.
  - A. 2 types
  - B. 3 types
  - C. 4 types
  - D. 5 types
  
- 4) Term that is known to commit current transaction, is -----.
  - A. Rollback work
  - B. Commit work
  - C. Trace work
  - D. Transit work
  
- 5) A term that consists of a sequence of query and/or update statements, is known as -----.
  - A. Transactions
  - B. Data commit
  - C. Data rollback
  - D. Data automation

- (b) Fill in the blanks (currval, drop index, Binary large object, rowid, ||)
1. In sequence, the recent value is seen by -----
  2. Data type BLOB stands for .....
  3. To drop an index we use ----- statement.
  4. Compound symbols..... are use in dbms\_output.put\_line as a separator.
  5. In Sequence the current value is seen by .....
- (c) Answer in 1 – 2 sentences
1. How to declare a function?
  2. Give an example where : old and :new are used.
  3. What is the use of EXIT statement?
  4. Define views.
  5. Define Primary index.

**2. Attempt the following (Any THREE) (15)**

- (a) Generate the trigger to generate the primary key values for product\_id in the products (prod\_id, pname, p\_price) table and display the values in the table.
- (b) How to create an index? Explain with an example.
- (c) Employees of the testing department in the Perpetual Systems does testing of the software and result is taken as test-id, test-name, date\_of\_testing, test\_result. Execute the procedure to insert the values in the table “test\_specifications”.
- (d) Explain heap file organization.
- (e) How to create and execute stored procedure?
- (f) Write a short note on using DDL statements in trigger by giving an example

**3. Attempt the following (Any THREE) (15)**

- (a) Write a PL/SQL block that will accept an account number from the user, check if the users balance is less than minimum balance, then deduct Rs. 1000/- from the balance. Refer the table accts(acctno, current\_balance, updt\_balance)
- (b) Explain declaration and assignment in PL/SQL along with explanation of Begin block.
- (c) Explain PL/SQL data types.
- (d) Explain case statement with an example.
- (e) Write a PL/SQL block that calculate the area of circle for a value of radius varying from 3 to 7. Store the radius and the corresponding values of calculated area in an empty table name areas (radius, area).
- (f) Explain GOTO and NULL statement with an example.

**4. Attempt the following (Any THREE)**

**(15)**

- (a) Define and explain ACID.
- (b) Explain two phase commit protocol.
- (c) What is lock? Explain it along with its types.
- (d) Differentiate between serial schedule and serializable schedule with example.
- (e) Explain shadow paging and log based recovery scheme.
- (f) Describe Aries Algorithm.

**5. Attempt the following (Any THREE)**

**(15)**

- (a) Create table simple interest (p\_amt, no\_of\_yr, rate\_int, simp\_int) calculate simple interest and update table using for loop for 3 values.
- (b) Explain the concept of transaction.
- (c) Describe Features of PL/SQL.
- (d) Explain cluster file organization.
- (e) Define indexes? Explain with an example creating and dropping of indexes.

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