

(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) Triggers ----- enabled or disabled.
A) can be B) cannot be
C) ought to be D) always
- 2) Dbms_output is a -----
A) Procedure B) Package
C) Function D) None of the above
- 3) CREATE OR REPLACE FUNCTION total customers
total number(2) := 0;
BEGIN
 SELECT max(age) into m_age FROM customers;
RETURN total;
END;
A) It does not have the Return clause in function declaration
B) The Return type statement is wrong
C) Function definition should not use IS keyword
D) Nothing Wrong
- 4) 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
- 5) 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

- (b) Fill in the blanks (exit, drop view, nextval , %type, completed, exit when)
- 1) In Sequence, the next value is seen by -----
 - 2) A transaction that completes its execution successfully, it is said to be -----
 - 3) To drop a view we use ----- statement
 - 4) To map the columns of the table with the memory variables declared in PL/SQL block ----- is used.
 - 5) To terminate the loop end loop statement ----- statement is used
- (c) Answer in 1 – 2 sentences
1. Write a syntax to declare procedure.
 2. Give an example where : old is used.
 3. State the SQL statements used to lock the table in an exclusive manner.
 4. How to declare and assign the variables in PL/SQL?
 5. Write any 2 advantages of PL/SQL over SQL.

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

- (a) Generate the trigger to generate the primary key values for order_id in the orders (ord_id, ord_date) table and display the values in the table.
- (b) Explain the hashed file organization.
- (c) What is sequence? How to create, alter and drop a sequence?
- (d) 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”.
- (e) Define index. Write the commands for creating, altering and dropping an index.
- (f) Write a short note on using DML statements used in trigger using before/after clause by giving an example.

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

- (a) Explain the role of Null values in PL/SQL block.
- (b) Write a pl/sql block to store the details of flat in flat_details(flat type, no_of_rooms). Accept the no_of_rooms from the table. If the no_of_rooms > 5 then store flat_type as BIG, if no_of_rooms > 3 and less than 5 then store flat_type as SPACIOUS. If no_of_rooms >1 and less than or equal to 2 then flat type is STUDIO. Store the flat type by Case structure
- (c) Write on the role of exit when statement in loop ... end loop with an example

- (d) State how to write, call and execute the function from a PL/SQL block along with an example.
- (e) Write a PL/SQL block to calculate the simple interest when the values of Principal amount, rate and duration is accepted from the user.
- (f) Write down how Case structure in PL/SQL is different from if...else statement.

Q. 4 Attempt the following (Any THREE)

(15)

- (a) What is ACID? What does each property say with respect to the execution of transaction?
- (b) What is lock? Explain locking commands in context with SQL along with its types.
- (c) Define log. What are the contents of log record?
- (d) Explain two phase commit protocol.
- (e) Describe Aries Algorithm
- (f) Write a short note on Write Ahead Log Protocol.

Q. 5 Attempt the following (Any THREE)

(15)

- (a) Write a short note on PL/SQL Data Types.
- (b) Write a PL/SQL to satisfy following conditions, refer employee_tbl (emp_id, emp_name, emp_salary, job).
 - 1) If job is clerk then increase the salary by Rs. 2000.
 - 2) If job is manager then increase the salary by Rs. 10000.

Otherwise, if job is other than above two categories, then block should show an error message 'No change in salary'.

- (c) Write the commands for the following –
Refer a table products (prodid, pname, quantity, price, type).
 1. Insert 2 records into the same table.
 2. Save the contents.
 3. Delete the record which is recently inserted.
 4. Rollback the transaction.
 5. Save the changes done till this point by the name as T1.
- (d) Explain Time Stamp Based Protocol.
- (e) What is the meaning of the error “exact fetch returns more than one row” which occurs when executing PL/SQL block?
