

Q.P. Code: 23722**(2 ½ 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.**

Q. 1 Attempt All (Each of 5Marks)**(15M)****(a) Choose the correct alternative**

1. To get the server output result and display it into the screen, you need to write –
 - a. set serveroutput on
 - b. set server output on
 - c. set dbmsoutput on
 - d. set dbms output on

2. Which of the following is a benefit of a database trigger?
 - a. Enforcing referential integrity
 - b. Event logging and storing information on table access
 - c. Allowing invalid transactions
 - d. Generating some derived column values automatically

3. CREATE OR REPLACE FUNCTION totalCustomers
total number(2) := 0;
BEGIN
SELECT count(*) into total
FROM customers;
RETURN total;
END;
 - a. It doesn't have the RETURN clause in function declaration.
 - b. The RETURN statement is wrong.
 - c. Function definition should not use the IS keyword
 - d. Nothing wrong.

4. Which datatype is used to store large blocks of character data in the database, in-line or out-of-line? Both fixed-width and variable-width character sets are supported.
 - a. BLOB
 - b. CLOB
 - c. BFILE
 - d. NCLOB

5. PL/SQL is a transaction processing procedural language that has which of the following advantages?
 - a. Integration with database
 - b. Better Performance
 - c. Portability
 - d. All mentioned above

- (b) **Fill in the blanks (%type, exit when, currval, ||, rowid,)**
1. In Sequence, the current value is seen by -----.
 2. In SQL, ----- values contain information necessary to locate a row.
 3. -----attribute allows to declare a constant, variable, field of the same data type to a previously declared variable, field of the table.
 4. To terminate the loop..end loop statement,-----statement is used.
 5. Compound symbols ----- are used in dbms_output.put_line as a separator.
- (c) **Answer in 1 – 2 sentences.**
1. Write a syntax to generate a trigger.
 2. Write on the terms in hashing in short: Bucket and Hash function.
 3. State the use of %type in PL/SQL.
 4. State the SQL command used to lock the table.
 5. How and where to use commit and rollback?

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

- (a) Compare the procedures and functions under the stored procedures along with syntax and example.
- (b) write a trigger block to execute the primary key generation on order_id for order_details(order_id,ord_date, qty)
- (c) State the various types of file organization methods and explain any 2.
- (d) Write a short note on creation, alteration and dropping a sequence.
- (e) Write down a procedure in PL/SQL to insert the values in the products table(product_id, product_name, price).
- (f) Write a short note on using insert/update clause used in trigger using before/after clause by giving an example.

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

- (a) Write a PL/SQL block to carry out the transaction for D(Debit) or C(Credit)operation. Assuming Account_details(accountno,balance)is the table to be used, where acctno, transaction_amount and transaction_type are to be accepted from the user. If the transaction_type is 'C' then the transaction_amount can be credited and whereas for the transaction_type 'D', the transaction_ amount can be debited from the balance. Display the remaining amount in both the cases for the said accountno.
- (b) Differentiate between if ... else condition and case structure by stating PL/SQL block.
- (c) Explain the role of Null values with an example in PL/SQL block.
- (d) Write a PL/SQL block to reverse the string using for loop.
- (e) Discuss the role of exit when statement in loop ... end loop with an example
- (f) Write a PL/SQL block to calculate the total and average of first 10 numbers using while loop.

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) State the role of locks in serializability.
- (c) How do two transactions conflict? Explain the scenario.
- (d) Comment on - The recovery manager is responsible for ensuring two important properties: Atomicity and durability.
- (e) Define log. What are the contents of log record?
- (f) Elaborate on important recovery related structure.

Q. 5 Attempt the following (Any THREE) (15)

- (a) Write a short note on PL/SQL data types.
- (b) Write a PL/SQL block to update the price of the book by its book_title which is to be accepted from the user. If the price is between 300 and 500, then give the discount of 10%, else if the price < 300 then give the discount of 5%. Display the error message if a specific book_title is not available. Use the table book_details(bookid, book_title, price). Display the updated price.
- (c) Write a short note on growing phase and shrinking phase
- (d) What is the meaning of the error “exact fetch returns more than one row” which occurs when executing PL/SQL block?
- (e) What is ARIES? Explain its phases.