(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(accoutno,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_amout 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.