Q.P. Code: 23721

(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.**

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

   i   Triggers _____ enabled or disabled
        a] Can be   b] Cannot be
        c] Ought to be   d] Always

   ii   .... combines the data manipulating power of SQL with the data
        processing power of Procedural languages.
        a] PL/SQL   b] SQL
        c] Advanced SQL   d] PQL

   iii Which of the following is not a property of transactions?
        a] Atomicity   b] Concurrency
        c] Isolation   d] Durability

   iv   A transaction completes its execution is said to be
        a] Saved   b] Loaded
        c] Rolled   d] Committed

   v   Assume transaction A holds a shared lock R. If transaction B also requests
        for a shared lock on R.
        a] It will result in a deadlock situation
        b] It will immediately be rejected
        c] It will immediately be granted
        d] It will be granted as soon as it is released by A

(b)   **Fill in the blanks by selecting the correct option from the pool given:**
        (DROP SEQUENCE sequence_name, Data Control Language, Cursors,
        Pointers, Replace, Recovery measures, committed, Completed)
        i To drop a specific sequence we have to enter following syntax ....
        ii The .... statement changes the control within a PL/SQL Block
        iii .... are used to recreate if trigger already exists.
        iv   Checkpoints are a part of ....
        v   A transaction that completes its execution successfully is said to be ....

(c)   **Explain the following in one or two line**
    i   How to view stored procedure?
    ii   How to alter a sequence?
    iii   Give syntax of anonymous PL/SQL block.
    iv   What is a SAVEPONT ?
    v   What REVOKE command does?

Q. 2   Attempt the following (Any THREE)   **(15M)**
(a)   Explain insert, update trigger with an example.
(b)   Define Index. What do you mean by primary and secondary index?
(c)   Explain sequential file organization.
(d)   Write a short note on sequence along with an example.
(e)   How to create and execute stored procedure?
(f)   Explain with an example how will you drop an index in the database.

Q. 3   Attempt the following (Any THREE)   **(15M)**
(a)   State how to write, call and execute the function from a PL/SQL block along
      with an example.
(b)   Write PL/SQL block. to print sum of odd numbers between 1 to 30.
(c)   Write a short note on loop and exit statement.
(d)   Explain IF-THEN statement with an example.
(e)   Write an block in PL/SQL to explain GOTO statement
(f)   Find out the similarities and differences between loop ..... end loop and while
      statement.

Q. 4   Attempt the following (Any THREE)   **(15)**
(a)
      What is Serializability? Write a note on view serializability?
(b)   Describe ACID properties for transaction.
(c)   Define COMMIT and SAVEPOINT commands along with an example.
(d)   Write a note on two phase locking protocol.
(e)   Explain two phase Commit protocol.
(f)   Explain undo and redo phase in Aries algorithm.

Q. 5   Attempt the following (Any THREE)   **(15)**
(a)   Explain how to create a trigger with an example.
(b)   List advantages of PL/SQL
(c)   How to make permanent changes to database. Explain
(d)   Explain Timestamp based protocol.
(e)   What is write-ahead log protocol? Explain with example