



**Progressive Education Society's
Modern College of Arts, Science & Commerce(Autonomous)Ganeshkhind,
Pune – 16**

End Semester Examination: Nov/Dec-2023

Faculty: Science and Technology

Program: B.C.A

Semester: III

SET: A

Program (Specific): BCA(Science)

Course Type: CC

Class: S.Y.B.C.A(Science)

Max. Marks: 70

Name of the Course: Database Management Systems-II

Time: 3Hrs

Course Code: 23-BCA-232

Paper: II

Instructions to the candidate:

- 1) *There are 4 sections in the question paper. Write each section on separate page.*
- 2) *All Sections are compulsory.*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw a well labelled diagram wherever necessary.*

SECTION: A

Q1) Multiple Choice Questions

[5x1=5]

- i) The _____ is an unconditional loop that will execute until an exist statement is met.
a) While loop b) For loop c) Basic loop d) If statement
- ii) A schedule in which transactions are executed one after another is called_____
a) Linear schedule b) Serial schedule c) Uncoverable Schedule d) None of these
- iii) The _____ lock can be held by more than one transaction on an object at the same time.
a) Shared b) Binary c) Exclusive d) All of these
- iv) The _____ lists are constructed when the recovery procedure starts.
a) Redo b) Undo c) Both (i) and (ii) d) None of these
- v) Database security involves _____
a) Data encryption b) a view c) finger print d) all

B) Define or Explain

[5x1=5]

- 1) Cursor.
- 2) A transaction.
- 3) Deadlock.
- 4) Checkpoints.
- 5) A client

SECTION: B

Q2) Short answer questions (Attempt any 5)

[5x3=15]

- 1) Explain different data types in PL/pgSQL.**
- 2) What is a view? Explain with example how views can be used.**
- 3) State the properties of a transaction.**
- 4) State and explain Thomas write rule.**
- 5) Write a short note on buffer management.**
- 6) Explain client server architecture of database with diagram.**

SECTION: C

Q3) Short answer questions (Attempt any 5)

[5x4=20]

- 1) Explain the use of RAISE statement with an example.**
- 2) What is a cursor? How to declare it? Explain with example.**
- 3) Explain conflict serializability with suitable example.**
- 4) What are the different deadlock prevention algorithms? Explain any one in detail**
- 5) Explain different types in failures in detail.**
- 6) Write a short note on shadow paging.**

SECTION: D

Q4) Long answer type questions (Attempt any 5)

[5x5=20]

- 1) How to create a view? Explain with an example.**
- 2) What is cursor? How to declare it? Explain with example.**
- 3) With the help of a state transition diagram, explain the state in which a transition can be during its execution.**
- 4) Explain the two-phase locking protocol and list its variants.**
- 5) Explain the recovery with concurrent transaction.**
- 6) Explain the mandatory access control mechanism in detail.**
- 7) Explain client-server architecture interaction with diagram.**