





CS/BCA (SUPPLE)/SEM-6/BCAE-602C/09
ADVANCED DATABASE MANAGEMENT
SEMESTER - 6



Time : 3 Hours]

[Full Marks : 70

GROUP – A**(Very Short Answer Type Questions)**

1. Answer the following questions very briefly : 5 × 2 = 10
- i) What is critical section ?
 - ii) What is the use of data dictionary ?
 - iii) State the necessary conditions of deadlock.
 - iv) What is primary key ?
 - v) Explain the term embedded SQL.

GROUP – B**(Short Answer Type Questions)**Answer any *three* of the following.3 × 5 = 15

- 2. Explain the difference between DDL and DML with suitable examples. 5
- 3. What is data dictionary ? How is this dictionary generated ? 5
- 4. Differentiate between static and dynamic SQL with suitable example. 5
- 5. Explain why, if a relation is decomposed into BCNF, then the decomposition will be lossless and dependency preserving. 5
- 6. What is normalization ? Why is it required ? 2 + 3



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following.

3 × 15 = 45

7. a) Define the following with examples : 3 × 3
- i) Tree
 - ii) B-tree and
 - iii) B[±] tree.
- b) Explain the use of B[±] tree for mass storage of data files. 6
8. a) What is cascading rollback ? 3
- b) What is schedule ? What are conflicting schedules ? State and explain the conditions under which two schedules will be in conflict. 2 + 2 + 3
- c) Discuss the advantages and disadvantages of distributed database. 5
9. a) What is critical section ? Is it a part of database or a part of running code ? 2 + 2
- b) What are semaphores ? Explain with examples the functioning of a ninth level semaphore for blocking a user in entering the critical section that is already preoccupied. 2 + 6
- c) What are triggers ? Explain with example. 3
10. Consider the following *three* relationships :
- Faculty (faculty _ id, name, specialization, subject1, subject2)
- Students (student _ id, name, branch, year)
- Subjects (subject _ id, faculty _ id, student _ id)
- Write an SQL query to
- i) list subject followed by the student name who has opted for the subject
 - ii) show the names of the faculty and the students against each subject
 - iii) that produces list of there subjects opted by less than 15% of the students.

4 + 4 + 7



3 × 5 = 15

11. Write short notes on any *three* of the following :

- a) Temporal database
- b) ACID properties of transaction
- c) Two-phase locking
- d) Views in database
- e) Multivalued dependency.



END