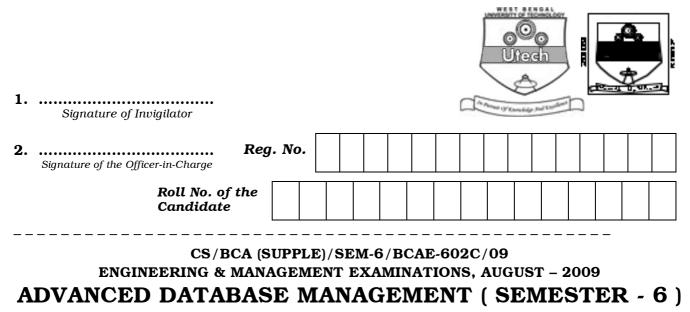
CS/BCA (SUPPLE)/SEM-6/BCAE-602C/09 ADVANCED DATABASE MANAGEMENT (SEMESTER - 6)



Time : 3 Hours]

[Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

- 1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
- 2. a) In **Group A**, Questions are of Very short answer type. You have to answer the questions in the space provided **marked Answer Sheet**.
 - b) For Groups B & C you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of Group B are Short answer type. Questions of Group C are Long answer type. Write on both sides of the paper.
- 3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
- 4. Read the instructions given inside carefully before answering.
- 5. You should not forget to write the corresponding question numbers while answering.
- 6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
- 7. Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.
- 8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
- 9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

FOR OFFICE USE / EVALUATION ONLY Marks Obtained

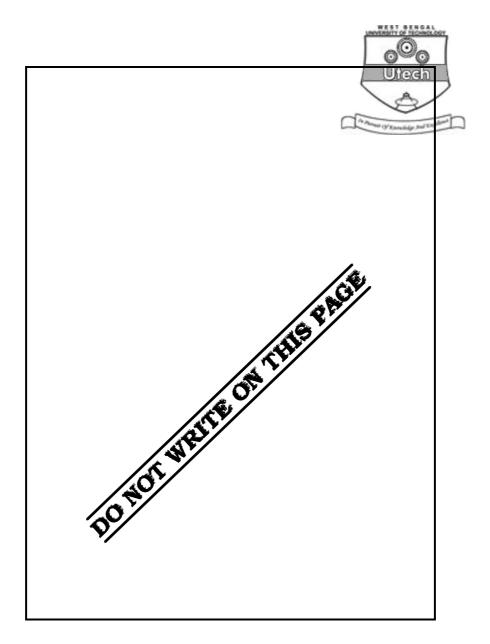
Group – A					Group) – B	Group	- C	
Question Number								Total Marks	Examiner's Signature
Marks Obtained									

Head-Examiner/Co-Ordinator/Scrutineer

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

Time : 3 Hours]

[Full Marks: 70

 $5 \times 2 = 10$

 $3 \times 5 = 15$

GROUP – A

(Very Short Answer Type Questions)

- 1. Answer the following questions very briefly :
 - 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.

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 w lossless and dependency preserving.	rill be 5
6.	What is normalization? Why is it required?	2 + 3

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GROUP – C

(Long Answer Type Questions)

Answer any three of the following.

- 7. a) Define the following with examples :
 - i) Tree
 - ii) B-tree and
 - iii) B^{\pm} tree.
 - b) Explain the use of B^{\pm} tree for mass storage of data files. 6
- 8. a) What is cascading rollback ?
 - 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.
- 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

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3 × 3

 $3 \times 15 = 45$

3

3

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5

- 11. Write short notes on an any *three* of the following :
 - a) Temporal database
 - b) ACID properties of transaction
 - c) Two-phase locking
 - d) Views in database
 - e) Multivalued dependency.







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