

B.E. Sixth Semester (Mechanical Engineering) (CGS)
10862 : Computer Software Applications : 6 ME 02

P. Pages : 2

Time : Three Hours



AU - 2741

Max. Marks : 80

- Notes :
1. All question carry as indicated marks.
 2. Answer **three** question from Section A and **three** question from Section B.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.
 5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. a) Where you find user logical level in database system architecture ? State its importance in the functioning of database systems. 7
b) What is necessity of using a database system ? What are its disadvantages. 6

OR

2. a) Explain concurrent access anomalies associated with traditional computer file keeping system. Give suitable example. 7
b) State importance of mapping in database software. 6
3. a) Consider the following relations R and S : 9

R		S	
Id	Name	Id	Name
10	Sonali	13	Tina
11	Ravi	11	Ravi
12	Meet	14	Bipasha
		12	Meet

Write the relational algebra queries to find :

- i) The names which are either in relation R or in relation S;
 - ii) The names which are in R but not in S ; and
 - iii) The names and ids which are in both R & S.
- Also give the results of each query.

- b) Explain 'Rename' operation with the help of suitable example. 4

OR

4. a) Explain the properties possessed by Relations. 6
b) What are various fundamental operations in relational algebra ? Write in detail about one. 7
5. a) What are possible pitfalls in relational database design ? Explain with suitable example. 7
b) Explain the concept of functional dependencies, keys & uniqueness. 7

OR

6. a) Draw and Explain E-R diagram for Banking Enterprise. 9
b) Explain various aggregate functions. 5

SECTION - B

7. a) Write down statements for creation of relation, entry of data and modification in SQL. Explain the above with a suitable example. 7
b) Explain the retrieval & joining of data of two relations through SQL commands. 6

OR

8. a) Explain the domain types in SQL. 7
b) Explain the following operations in SQL with suitable example : 6
i) Union ii) Intersect and iii) Except
9. a) Discuss the concept of Expert system. 7
b) What are the task domains of Artificial Intelligence ? Explain. 7

OR

10. a) Explain : 9
i) Knowledge based system
ii) Representation of knowledge
iii) Knowledge Engineering
- b) What is role of user-interface in expert system ? 5
11. a) Define : 6
i) System
ii) Boundary
iii) System environment
- b) What is model ? How models are classified ? Explain in brief. 7

OR

12. a) Discuss the steps involved in simulation. 7
b) Explain the difference between 'closed system' and 'open system' with suitable examples. 6
