

Code No. D- 2477/N/AICTE

## FACULTY OF ENGINEERING

B.E. (CSE) IV - Semester (AICTE) (Main) (New) Examination, September/ October -2022

Subject : Database Management Systems

Time : 3 Hours

Max. Marks: 70

**Note: (i) First question is compulsory and answer any four questions from the remaining six questions. Each Questions carries 14 Marks.**

**(ii) Answer to each question must be written at one place only and in the same order as they occur in the question paper.**

**(iii) Missing data, if any, may be suitably assumed.**

1. (a) What is the purpose of DBMS?  
(b) What are Weak and Strong Entities?  
(c) What are the properties of Timestamp?  
(d) Define Normalization.  
(e) Differentiate between Grant and Revoke.  
(f) Write a short note on relational algebra  
(g) What are Triggers?
2. (a) With neat architecture, explain the block diagram of DBMS.  
(b) Define Data Abstraction and discuss levels of Abstraction?
3. (a) Explain the Twelve Codd rules in detail.  
(b) Define normalization? Explain 1NF, 2NF, 3NF Normal forms?
4. (a) Discuss two phase locking protocol and strict two phase locking protocols?  
(b) Discuss how do you implement Atomicity and Durability?
5. (a) What is relational model? How the data and relationships are represented in tables in relational models.  
(b) Illustrate different set operations in Relational algebra with an example?
6. (a) Discuss about Complex integrity constraints in SQL?  
(b) Define trigger and explain its three parts? Differentiate row level and statement level triggers?
7. (a) Explain multi-level indexing. Is it true that all the levels of multi-level index are primary index? Discuss.  
(b) Solve the following on the given data base [using SQL]:  
    S (Sno, Sname, City, status)  
    P (Pno, Pname, color, weight)  
    SP(Sno, Pno , qty)  
    i) Get supplier number who supplies maximum quantities?  
    ii) Get total quantity supplied by S1?  
    [you can make assumptions if needed]