B.Tech. (Sem. - 5th)

DATABASE MANAGEMENT SYSTEMS

SUBJECT CODE : CS-305

Paper ID : [A0466]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours   Maximum Marks : 60

Instruction to Candidates:

1) Section - A is **Compulsory.**

2) Attempt any **Four** questions from Section - B.

3) Attempt any **Two** questions from Section - C.

Section - A

Q1)   *(10 × 2 = 20)*

a)   What do you mean by schema?

b)   List various categories of database users?

c)   Define granularity?

d)   What is one to many relationships? Give examples.

e)   What is the use of foreign key?

f)   Define entity and attribute.

g)   Define normalization.

h)   What are single-valued and multivalued attributes?

i)   Describe various symbols used in E.R. diagram.

j)   What is statistical database security?

Section - B

(4 × 5 = 20)

Q2) What are Triggers? Explain all types with SQL examples.

Q3) What are different states and desirable properties of transactions? Explain briefly.

Q4) List and explain different database recovery techniques?

Q5) What are various advantages & disadvantages of database approach?

Q6) Discuss different classification and components of DBMS?

Section - C

(2 × 10 = 20)

Q7) What is Normalization? Explain different normal forms with the help of suitable examples? Explain why 4NF is more desirable than BCNF with the help of an example?

Q8) Define relational algebra. Explain the various traditional set operations and relational operations of it.

Q9) (a) Discuss database Security and Integrity? Explain its various methods?

(b) What is relational model? Compare and contrast it with network and hierarchical model.