

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - IV COMPUTER SCIENCE & BUSINESS SYSTEMS : SUMMER : 2024
SUBJECT: DATABASE MANAGEMENT SYSTEMS

Day : Monday
Date : 27/05/2024

S-24155-2024

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagram **WHEREVER** necessary.
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Q.1 Explain data independence and view of data explain in details. (10)

OR

Q.1 Explain data model and list the types of data model used. (10)

Q.2 What is query language? Explain relational algebra write a short note on relational calculus. (10)

OR

Q.2 Explain relational algebra operators. Discuss about the operators, SELECT, PROJECT, UNION, JOINS. (10)

Q.3 What is Normalization and explain 1NF, 2NF, 3NF, & BCNF? Normal form with a suitable example. (10)

OR

Q.3 Illustrate data dependency and functional dependency with example. (10)

Q.4 Explain query processing in distributed database. (10)

OR

Q.4 Explain B – tree locking used for concurrency control with suitable example. (10)

Q.5 What is transaction? State and explain the ACID properties of transaction. (10)

OR

Q.5 What are the disadvantages of using lock – based protocols? Write a short note on time – stamp based protocol. (10)

Q.6 What is DAC and MAC and RBAC models in database security? (10)

OR

Q.6 What is intrusion detection methods? and also Explain types of intrusion detection systems. (10)

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