

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - IV COMPUTER SCIENCE & ENGINEERING : WINTER : 2024
SUBJECT: ITC-II: DATABASE SYSTEMS

Day : Wednesday
Date : 27/11/2024

W-25585-2024

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat diagrams **WHEREVER** necessary.

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- Q.1** Explain the concept of Generalization and Aggregations in detail. (10)
OR
- Q.1** Draw and Explain Database System Architecture in detail. (10)
- Q.2** Explain Relational Algebra and Calculus with any one example. (10)
OR
- Q.2** Execute DDL Statements which demonstrate the use of views. Try to update the base table using its corresponding view. Perform view creation from multiple tables. (10)
- Q.3** Explain in detail 1NF, 2NF and 3NF with suitable example, and illustrate the problem with these normalization. (10)
OR
- Q.3** Define Normalization? What are the steps in Normalization? What are the Advantages of Normalization relation over un Normalization relation? (10)
- Q.4** What is a trigger? How to create it? Discuss various types of triggers. (10)
OR
- Q.4** Write SQL queries to implement aggregate functions by using student database? (10)
- Q.5** What is concurrency control? Why is it required? Explain in detail about time stamp based concurrency control technique. (10)
OR
- Q.5** Explain lock based protocol and validation based protocol with example. (10)
- Q.6** What is unstructured data base? Explain in detail with example. (10)
OR
- Q.6** What are the use of emerging technologies in SQL? Explain in detail with example. (10)
