

**BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)**  
**B.Tech.Sem - IV COMPUTER SCIENCE & ENGINEERING : SUMMER : 2024**  
**SUBJECT: ITC-II: DATABASE SYSTEMS**

Day : Wednesday

Date : 05/06/2024

S-24307-2024

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) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat diagrams **WHEREVER** necessary.

- Q.1 What are applications of DBMS? Explain in detail. (10)  
OR
- Q.1 Draw and explain ER diagram for hospital management system. (10)
- Q.2 Illustrate about integrity and key constraints with suitable examples. (10)  
OR
- Q.2 What are the main operations of relational algebra? Explain with example. (10)
- Q.3 Explain 1NF and 2NF with appropriate examples. (10)  
OR
- Q.3 Explain 3 NF and BCNF with appropriate examples. (10)
- Q.4 Explain group by and having clause with suitable examples. (10)  
OR
- Q.4 Enlist transaction control commands and explain in details. (10)
- Q.5 Explain shadow paging in brief. (10)  
OR
- Q.5 What is recovery system? Explain different type of recovery systems. (10)
- Q.6 What is meant by NoSQL database? What are the types explain in brief. (10)  
OR
- Q.6 Explain Massive dataset and Hadoop in brief. (10)

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