



# TONTADARYA COLLEGE OF ENGINEERING

(Department of Computer Science and Engineering )

## Internal Assessment – III (18CS53)

Subject : Database Management System  
Semester : V SEM

Date : 28-01-2022  
Time : 09.30 to 11.00pm

Answer following questions choosing one question from each part

Total Marks: 50

### PART-A

CO

- Q1. a) With examples discuss 1NF and 2NF. 13M (CO3)  
b) Define BCNF. How does it differ from 3NF? Why it is considered it as stronger from 3NF? 12M (CO3)

OR

- Q2. a) Define Closure of F? Write the algorithm to find the Attribute Closure  $X^+$  13M (CO3)  
Find the closure of B if  $f = (B \rightarrow CD, D \rightarrow E, B \rightarrow E, B \rightarrow A, E \rightarrow C, AD \rightarrow B)$   
b) Write an algorithm to find the minimal cover for a set of functional dependencies. 12M (CO3)

### PART-B

CO

- Q3. a) Discuss the ACID properties. 13M (CO4)  
b) Explain properties of a transaction with state transition diagram. 12M (CO4)

OR

- Q4. a) Why concurrency control is needed demonstrate with example. 13M (CO4)  
b) Discuss 2PL and strict 2PL algorithms. Advantages and disadvantages. 12M (CO4)

Course Outcome	Complete Title
CO3	Design and build simple database systems
CO4	Develop application to interact with databases.

QF-TCE-IE-10

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