

ANURAG Engineering College

(An Autonomous Institution)

II B.Tech II Semester Supplementary Examinations, December – 2024

DATABASE MANAGEMENT SYSTEMS**(COMPUTER SCIENCE AND ENGINEERING, INFORMATION TECHNOLOGY
& ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)****Time: 3 Hours****Max. Marks: 60****Section – A (Short Answer type questions)****(10 Marks)****Answer All Questions**

	Course Outcome	B.T Level	Marks
1. How do file systems differ from a DBMS?	CO1	L1	1M
2. Define attribute?	CO1	L1	1M
3. What is view?	CO2	L1	1M
4. What does projection operation do in Relational Algebra?	CO2	L1	1M
5. List different types of constraints?	CO3	L1	1M
6. List out aggregate functions?	CO3	L1	1M
7. Abbreviate ACID.	CO4	L1	1M
8. List any two Lock-based protocols?	CO4	L1	1M
9. What are tree based indexing techniques?	CO5	L1	1M
10. What is Indexing?	CO5	L1	1M

Section B (Essay Questions)**Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

11. A) Discuss the components of DBMS system with neat sketch?	CO1	L2	10M
OR			
B) What is E-R model? Draw an E-R Diagram for any Banking system.	CO1	L3	10M
12. A) What are integrity constraints in relational databases explain them. How do they ensure data integrity?	CO2	L3	10M
OR			
B) Discuss all the fundamental operations on relational algebra?	CO2	L2	10M
13. A) Explain the i) UNION ii) INTERSECTION iii) EXCEPT operators with example queries by considering tables Sailors (<u>sid</u> , sname, rating, age) Boats (<u>bid</u> , bname, color) Reserves (<u>sid</u> , <u>bid</u> , <u>day</u>)	CO3	L3	10M
OR			
B) What is normalization? Briefly explain all Normal forms with example.	CO3	L3	10M
14. A) i) Define a transaction. Discuss the properties of transactions. ii) What are different states of transaction explain in detail?	CO4	L2	5M 5M
OR			
B) i) What is locking Protocol? List all the locking protocols. ii) Describe the Strict Two Phase locking Protocol.	CO4	L2	5M 5M
15. A) State and explain various file organization methods. Give suitable examples to each of them.	CO5	L3	10M
OR			
B) i) Explain the concept of cluster indexes in database systems and discuss their advantages and limitations. ii) Differentiate primary and secondary indexes with examples.	CO5	L3	6M 4M