

Reg. No: 

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**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**  
(AUTONOMOUS)

**MCA I Year II Semester Regular Examinations November 2021**

**DATABASE MANAGEMENT SYSTEM**

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

**UNIT-I**

- |   |   |    |    |
|---|---|----|----|
| 1 | a What do you mean by Database Management System? | L1 | 6M |
|   | b Explain various advantages of using a DBMS.     | L3 | 6M |

**OR**

- |   |  |    |     |
|---|--|----|-----|
| 2 | Define attribute. Explain different types of attributes in details with example. | L5 | 12M |
|---|--|----|-----|

**UNIT-II**

- |   |                        |    |     |
|---|------------------------|----|-----|
| 3 | Consider the relations | L3 | 12M |
|---|------------------------|----|-----|

COLLEGE (CNAME, STATE, ENROLLMENT)

STUDENT (SID, SNAME, GPA, AGE)

APPLY (SID, CNAME, MAJOR, DECISION)

Construct Relational Algebra Expressions for the following queries

- i. Find the students whose GPA is greater than 7 and age is 25.
- ii. Find the students who join in sietk college with MCA as major.
- iii. Display names and GPA'S of students with age 25 who applied to MBA and where rejected.
- iv. List out the college names located in AP.
- v. Pick the students id and names whose GPA is less than 5 or age > 28.

**OR**

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|---|---|----|----|
| 4 | a Explain Selection and Projection Operation with example.  | L2 | 6M |
|   | b Explain Union and Set Difference Operations with example. | L2 | 6M |

**UNIT-III**

- |   |  |    |    |
|---|--|----|----|
| 5 | a List out various Data Definition Language commands with Syntax & examples.   | L4 | 6M |
|   | b List out various Data Manipulation Language commands with Syntax & examples. | L4 | 6M |

**OR**

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|---|--|----|-----|
| 6 | Write queries using Relational Set operators and SQL Join operators. | L1 | 12M |
|---|--|----|-----|

**UNIT-IV**

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|---|---|----|-----|
| 7 | Explain Armstrong's axioms in functional dependencies with example. | L5 | 12M |
|---|---|----|-----|

**OR**

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|---|---|----|-----|
| 8 | Explain the following terms                                       | L2 | 12M |
|   | i) Fully functional Dependencies      ii) Transitive Dependencies |    |     |

**UNIT-V**

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|---|---|----|----|
| 9 | a What is meant by File Organization?                   | L1 | 4M |
|   | b Briefly discuss different types of file organization. | L6 | 8M |

**OR**

- |    |  |    |     |
|----|--|----|-----|
| 10 | Explain the following concepts                                       | L2 | 12M |
|    | i) Transaction States                      ii) Concurrent Executions |    |     |

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