

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST/THIRD SEMESTER MCA DEGREE EXAMINATION, JULY 2018

Course Code:RLMCA205

Course Name: DATABASE MANAGEMENT SYSTEMS

Max. Marks: 60

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks

Marks

- | | | |
|---|--|-----|
| 1 | State the levels of abstraction in a DBMS. | (3) |
| 2 | What is DBA? List out the tasks of DBA? | (3) |
| 3 | Explain selection and projection operations with examples. | (3) |
| 4 | Define triggers. What are different types of triggers? | (3) |
| 5 | Define functional dependency with an example. | (3) |
| 6 | Explain serializable schedule with an example. | (3) |
| 7 | Define data mining versus data warehousing. | (3) |
| 8 | What are ACID properties of transactions? | (3) |

PART B

Answer six questions, one full question from each module and carries 6 marks

Module I

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|---|--|-----|
| 9 | Define data models and explain different types of data models? | (6) |
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OR

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| 10 | Draw an ER diagram for an airport database. Specify the key and participation constraints for each entity and relationship set. | (6) |
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Module II

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| 11 | Explain fundamental relational algebra operations with Examples. | (6) |
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OR

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| 12 | Explain Natural join operations and outer join operations. | (6) |
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Module III

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| 13 | Explain set operations and Aggregate functions in SQL. | (6) |
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OR

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| 14 | Consider the following Company Schema | (6) |
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Employee (Eid, Ename, address, Deptno, Pno)

Department (Deptno, Dname, Mngrid)

Project (pno, pname, plocation)

Works-on (Eid, Pno, Hours)

Dependent (Eid, Deptno, Dname, Relationship)

i) Retrieve the name and address of the employee who works for the administrator department.

ii) Retrieve the names of employees who have no dependents.

iii) Find the name of employees who work on all the projects controlled by department 4.

Module IV

- 15 Define Normalization? Explain 3 NF with an example. (6)

OR

- 16 Explain the axioms of functional Dependencies. (6)

Module V

- 17 What is the two - phase locking protocol? How does it guarantee serializability? (6)

OR

- 18 Define transaction. Draw a state transition diagram and explain states of the transactions. (6)

Module VI

- 19 Explain association rules in data mining. (6)

OR

- 20 Explain data-warehouse architecture. (6)
