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## MCADD-305

### M.C.A. (Integrated), III Semester

Examination, June 2020

### Database Management System

Time : Three Hours

Maximum Marks : 70

**Note:** i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What are the advantages and disadvantages of DBMS?  
b) Explain Data models. Explain network model in detail.
2. a) Explain DBA. Also write down roles and responsibilities of DBA.  
b) Define the terms:
  - i) Data Dictionary
  - ii) Data Independence
3. a) Explain ER Modeling with the help of example.  
b) What is generalization and specialization? Explain with example.
4. a) Explain Normalization. Discuss 1NF and 2NF.  
b) Compute the closure of the following set F of functional dependencies for relation schema R (ABCDE).  
F = {A->BC, CD->E, B->D, E->A}  
List the candidate keys for R.

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5. a) Discuss the basic concepts of transaction and write ACID properties.  
b) Explain the following:
  - i) Primary key
  - ii) Foreign key
  - iii) Aggregate functions
  - iv) Set operations
  
6. a) Explain Integrity Constraints. Also explain their types.  
b) What is functional dependency and also write example?
  
7. a) Explain various types of joins with examples.  
b) What do you mean by database language and also write syntax of create and insert table?
  
8. Write short notes on any three:
  - i) B-Tree
  - ii) Distributed database
  - iii) Multimedia data formats
  - iv) RAID
  - v) Data warehouse

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