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Roll No. ....

**MCA-07/PGDCA-07/M.Sc. IT-07**

**Fundamentals of Database  
Management System**

Master of Computer application/Post-  
Graduate diploma in Computer  
Application/Master of Science in Informa-  
tion Technology  
(MCA/PGDCA/M.Sc. IT-11/12/16/17)

**Second Semester  
Examination, 2019**

*Time : 3 Hours*

*[Maximum Marks : 80*

**Note :** This paper is of Eighty (80) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

**Section–A**

**(Long Answer Type Questions)**

**Note :** Section A contains Five (05) long-answer-type questions of Fifteen (15) marks each.

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P.T.O.

**(2)**

Learners are required to answer any three (03) questions only. **(3×15=45)**

1. Define DBMS. What are the advantage of DBMS?
2. Why normalization process is necessary for a good database design? Explain the Boyce-Codd Normal form?
3. What is relational algebra? What are the different operations of relational algebra?
4. What do you understand by Logical operators? Explain any two operators with example.
5. Write short notes on the following -
  - (a) Entity Relationship Diagram (ERD)
  - (b) DDL (Data Definition Language)
  - (c) Advantages and Disadvantages of DBMS.

**Section–B**

**(Short-Answer-Type Questions)**

**Note :** Section 'B' contains Eight (08) short-answer-type questions of Seven (07) marks each. Learners are required to answer any Five (05) questions only. **(5×7=35)**

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(3)

1. Explain ER Model.
2. Write down characteristics of SQL.
3. Explain object based Logical Model?
4. Explain the primary file organization.
5. What is the difference between second Normal form and third Normal form?
6. Explain the candidate key and primary key with example.
7. What is the difference between order by and group by?
8. Write short notes on the following :-
  - (a) Select statement with example
  - (b) AVG function with example