

2/2/11

: BSA 3<sup>rd</sup> Semester

10085/NB

Title of Paper

: Fundamentals of Database Management System -215

Time Allowed

: 3 Hours

Maximum Marks: 75

**Note: Candidates are required to attempt five questions in all selecting at least two questions each from sections A and B. Section C is compulsory.**

**SECTION A**

- Q1. Define database management system. Discuss in detail the main characteristics of the database approach and how it differs from conventional file systems. 15
- Q2. Elaborate the three-level architecture of database system? Why we need mappings between the levels? Briefly discuss the components of a DBMS. 15
- Q3. Discuss in detail the entity relationship model with the help of suitable examples. 15
- Q4. Discuss the following types of keys in detail 15  
Primary key, secondary key, candidate key and foreign key

**SECTION B**

- Q5. What do you mean by relational algebra? Describe various relational algebra operations with suitable examples? 15
- Q6. Define normalization. What is the need of normalizing database? Briefly discuss the various normal forms. 15
- Q7. What are queries? What are the operators for queries? How to create queries involving multiple tables? Explain giving suitable examples. 15
- Q8. Define macros? What are the features which are used in MS-ACCESS for creating the macros? How can we run the macro? 15

**SECTION C**

- Q9. a) Define database? 03  
b) Differentiate between weak entity set and strong entity set. 03  
c) What do you mean by integrity constraint? 03  
d) What do you mean by multi-valued functional dependency? 03  
e) What are the different types of reports available in MS ACCESS? 03