

K.J. SOMAIYA INSTITUTE OF MANAGEMENT STUDIES & RESEARCH

MIM I SEM.(2017-20 BATCH)

SUB: DATABASE APPLICATIONS

Max Marks – 50

Duration: 3 hours

21/11/2017

Instructions:

- Attempt any 5 out of 8 questions.
- Marks to the right indicate full marks
- Supporting examples, facts, cases etc are appreciated.

- (a) Describe DBMS Features/ Components with the help of a block diagram. (5)
 - (b) Describe associations with diagrams and example : Aggregation, Composition (5)
- (a) Describe what is n-ary association with the help of a diagram and example. (5)
 - (b) Describe with a diagram and example (5)
 - i) DBMS Query Processor
 - ii) DBMS Report Writer.
- (a) Describe the term “Not in the First Normal Form” and “First Normal Form” with an example and how to transform a table which is “Not in the First Normal Form” to the table in the “First Normal Form”. Describe steps with the same example. (5)
 - (b) Describe the following terms with suitable examples: Database, Table, Attributes, Primary Key, Foreign Key. (5)
- (a) Describe with at least one example each:- (5)
 - i) CREATE VIEW
 - ii) Updateable VIEW
 - (b) Describe with at least 2 examples each: (5)
 - i) Boolean Algebra
 - ii) De Morgan’s Law
- (a) Describe with at least one example each (5)
 - iii) GRANT, REVOKE
 - iv) COMMIT, ROLLBACK
 - (b)
 - i) What is concurrency using DBMS? Why it is an issue? (5)
 - ii) What is a deadlock in DBMS? Give an example.

- 6 DBMS has the following security features. Describe them with examples:- (10)
- i) User Identification
 - ii) Access Rights
 - iii) Concurrency
 - iv) Lock Manager
- 7 Describe the following:- (10)
- i) Operations on Sequential Tables
 - ii) Indexed Sequential Storage
 - iii) Linked Lists and Inserting into a linked list
 - iv) B – Tree Inserts
- 8 Describe the 3 types of Databases with examples and diagrams (10)
