[Total No. of PrintedPages:2] **CODE NO:- Z-44**

FACULTY OF ENGINEERING

T.E(CSE/IT)Year Examination –MAY-2015

Database Management System

(Revised)

[Time: THREE *Hours*] **[Max. Marks: 80]**

"Please check whether you have got the right question paper."

N.B *i) Question .No.1 from section A & Q. No 6 from section B are compulsory*
ii) Solve any two questions from each section, A & B from remaining questions.

SECTION A

Q.1 Attempt any five questions. 10

i) What do you mean by instance and schema. Explain different between them
ii) List down roles and responsibilities of DBA
iii) Is data dictionary & essential part of DBMS. Why?
iv) What do you mean by mapping operation
v) What is relationship? Explain types
vi) What is total & partial participation constraint
vii) List down and explain characteristics of relation
viii) Define attribute. What is a key attribute?

Q.2 a) Describe the main characteristic of database approach in contrast with file oriented approach 08
b) What is database model? Explain types of data model with an example. 07

Q.3 a) Elaborate different types of keys in RDBMS. Explain with the help of suitable diagram 08
b) Construct an E-R diagram, Which models an outline Book store. List the entity sets and their primary keys. Suppose the book store adds music cassettes and compact disks to its collection. The same music item may present in cassette are compact disk the case where a shopping basket may contain any combination of books, music cassettes or compact disk 07

Q.4 a) Discuss entity and referential integrity constraints? Why is each considered important? 08
b) Define foreign key? How does it play role in the join operation 07

Q.5 a) What is difference between specialization and generalization? Why do we not display this difference in schema design 08
b) Explain different types of database system users 07

SECTION B

Q.6 Attempt any five 10

i) Define functional dependency? List different types of functional dependencies
ii) Define closer
iii) List the different DDL commands with example
iv) What is sub query & co-related sub query
v) What do you mean by Lock, shared Lock& Exclusive lock
vi) Define serializability
vii) Define union, intersection and minus operation in relational algebra
viii) List different types of Join

Q.7 a) What is Lock? Explain Two-phase locking protocol with the help of example 08
b) What is fourth normal form? Explain why it is more desirable than BCNF 07

Q.8 a) What is deadlock? What are different ways of handling deadlock 08
b) What is decomposition? Explain lossy and lossless decomposition with example 07

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Q.9 a) What is serilizability? Explain the concept of view serializability 08

b) What is normalization? Explain first normal form with an example 07

Q.10 a) Consider the following relation En roll (S-no, Course-no, Section) Teach (Prot, Course-no, Section)Advise (Port, S-no) Pre-Req (Course-no, Precourse-no) Grades (S-no, Course-no, grade, year) Write down queries expressed in SQL 08

i) List all students taking course with smith or Jones
ii) Find all students taking at least one course that their adviser teaches
iii) List those professor who teach more than one section of the same course
iv) Find all students whose course number is '101'

b) List the operation of relational algebra and purpose of each with an example 07

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