

Total No. of Questions : 6

Total No. of Printed Pages : 3

**EC-147**

**B.E. III Sem. (CGPA) Computer Science  
and Engineering Exam.-2012-13  
DATABASE MANAGEMENT SYSTEM**

Paper : CS-304

Time Allowed : Three Hours

Maximum Marks : 60

Note : Question No.1 is compulsory. Attempt all questions.

★ Q.1. Write answering only one or two lines each of the following questions:

- i) Concept of data independence.
- ★ ii) Write about value of the attributes.
- ★ iii) Functions of data base administrator.
- iv) Explain high level data model.
- v) What is relational calculus?
- ★ vi) File processing and DBMS.
- ★ vii) What is normalization?
- ★ viii) Relational data model.
- ★ ix) What is Meta data?

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P.T.O.

(2)

x) Selection of attributes.

★ Q.2. a) Explain the data model in detail. (5)

★ b) Draw schema diagram for the University data base.

Or

a) List two reasons why null value might be introduced into the data base.

★ b) What are the advantages of the traditional file processing and data base approach?

Q.3. a) What is relational model and describe its integrity constraints?

b) Explain the differences between a weak entity set and strong-entity set.

Or

★ a) What is foreign key. Explain with an example.

b) Explain the difference between total and partial constraints.

Q.4. a) Define Relational algebra and write operations of relational algebra?

b) Use armstrong's axioms to prove the soundness of the decomposition rule.

Or

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Contd.....

(3)

a) What are tuple variables and range variables?

★ b) What is the use of update and view statement in SQL?

Q.5. a) What is Dependency preservation and Lossless join?

★ b) Explain the functional dependency with example.

Or

★ a) How 3NF differ from BCNF in Normalization?

b) Why does need of Normalization arise?

Q.6. ★ a) What is distributed database? Explain its security mechanism.

b) What is online transaction processing? Explain in detail.

Or

a) Explain the concept of conflict serializability.

b) When is it useful to have replication or fragmentation of data?

