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Paper Code & Roll No. to be filled in your Answer Book

Roll No. ☐☐☐☐☐☐☐☐☐☐☐

B.Tech. (IV - Sem.)

Even Semester Examination - 2016

DATABASE MANAGEMENT SYSTEM

[Time : 3 Hours]   [Maximum Marks :100]

Note: Attempt **all** questions. Each question carries **equal** marks.

Q1.   Attempt **any four** parts:-   (5×4=20)

     (a)   What are the main differences between a file processing system and a DBMS?

     (b)   What is the difference between logical data independence and physical data independence?

     (c)   What are the roles of Database Administrator?

     (d)   Explain attribute and primary key.

     (e)   Explain DBMS architecture.

Q2. Attempt **any four** parts:- (5×4=20)

(a) What is the difference between specialization and generalization with respect to database?

(b) Draw the ER-diagram of the registration process of the student in a particular course.

(c) Explain the concept of mapping constraints.

(d) Explain ER model with example.

(e) What is generalization and relationship?

Q3. Attempt **any two** parts:- (10×2=20)

(a) What do you understand by serializability of schedules? Explain with suitable example.

(b) What are locks? Differentiate shared mode and exclusive mode locks.

(c) Explain loss less join decomposition, loss join decomposition and functional dependency.

Q4. Attempt **any two** parts:- (10×2=20)

(a) What are Normal forms and also explain the motivation behind normal forms.

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(b)   Explain the concept of functional dependency
with suitable example.

(c)   Explain the concept of deadlock handling.

Q5.   Attempt **any two** parts:-   (10×2=20)

(a)   What do you mean by transaction? What are its
ACID properties?

(b)   Explain validation based protocol.

(c)   List various locking techniques for concurrency
control.

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