Code: IT4T2

II B.Tech - II Semester – Regular Examinations – May 2016

DATABASE SYSTEMS
(INFORMATION TECHNOLOGY)

Duration: 3 hours   Max. Marks: 70

PART – A

Answer *all* the questions.   All questions carry equal marks

$$11x\ 2 = 22\ M$$

1)
   a) What is a relational model?
   b) What is the use of Integrity Constraints?
   c) Define Transaction.
   d) What is meant by correlated queries?
   e) Define Functional Dependency.
   f) List the requirements needed to design a trigger.
   g) Mention the advantages of Check points.
   h) Define serializabilty.
   i) What is the use of rename operator?
   j) What is entity set?
   k) Define super key.

PART – B

Answer any *THREE* questions.   All questions carry equal marks.

$$3 \text{ x } 16 = 48 \text{ M}$$

2)

   a) Explain different languages that are supported to manage
the data in a DBMS.   8 M

   b) Describe in detail about database users and user interfaces.
Also explain about DBA and their functions.   8 M

3)

   a) Using the following schema represent the following queries
in SQL PROJECT (Projectnum, Project Name, Project
Type, Project Manager)
EMPLOYEE (Empnum, Empname)
ASSIGNED_TO (Projectnum, Empnum)

     i. Find Employee details working on a project name starts
with 'L'

     ii. List all the employee details who are working under
project manager "Clevee"

     iii. List the employees who are still not assigned with any
project.

     iv. List the employees who are working in more than one
project.   8 M

   b) What is grouping? Is there a counterpart in relational
algebra? Explain this feature, and discuss the interaction of
the HAVING and WHERE clauses.   8 M

4)

a) What is a view? How do views support logical data independence?   8 M

b) Explain the purpose of the ER Diagrams and describe how the Entities, Attributes and relations are represented with an example.   8 M

5)

a) Explain Lossless Join Decomposition and Dependency Preserving Decomposition.   8 M

b) Define BCNF? How does BCNF differ from 3NF? Explain with an example.   8 M

6)

a) Explain different locking Techniques for concurrency control.   8 M

b) Explain in brief Serializability and Recoverability.   8 M