PVP 14

Code: CS5T1

III B.Tech - I Semester – Regular/Supplementary Examinations
October 2018

DATABASE MANAGEMENT SYSTEMS
(COMPUTER SCIENCE & ENGINEERING)

Duration: 3 hours Max. Marks: 70

PART – A

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

11x 2 = 22 M

1.

a) Define data model & Explain briefly about any one data model.
b) Mention the problems due to data redundancy.
c) Discuss various integrity constraints.
d) Illustrate group by - having clause with example.
e) Define ER Model.
f) State Aggregate Relationship.
g) What is total participation constraint?
h) Differentiate 3NF & 4NF.
i) Define Functional Dependency.
j) What is No-steal approach?
k) Write the importance of serializability.

PART – B

Answer any ***THREE*** questions. All questions carry equal marks.
3 x 16 = 48 M

2. a) Explain Centralized and Client Server Architecture for DBMS. 8 M

   b) Explain DBMS approach advantages. 8 M

3. a) Define a Trigger and explain trigger operations with a program. 4 M

   b) What is a view? Why it is needed to restrict view updates? 4 M

   c) For the following schema write queries in relational algebra, tuple relational and domain relational calculus.
   Suppliers (sid: integer, sname: string, address: string)
   Parts (pid: integer, pname: string, color: stirng)
   Catalog (sid: integer, pid: integer, cost: real)
   i) Find the Sid's of suppliers who supply every part
   ii) Find the pairs of Sid's such that the supplier with first Sid charges more for some part than the supplier with second Sid. 8 M

4. a) Design ER Diagram which describes the functionalities of online banking system. 8 M

b) Explain Various ER Model Relationships with examples. 8 M

5. a) Explain 2NF, 3NF, 4NF with examples. 8 M

b) What is functional dependency? Write the inference rules of functional dependencies. 8 M

6. a) Explain anomalies due to interleaved transactions. Write lock based concurrency control. 8 M

b) Write Recovery Techniques Based on Immediate Update operations. 8 M