Total Number of Pages : 01   **B.Tech.**
                                                                                  PCCS4205

4th Semester Back Examination 2017-18
DATABASE ENGINEERING
BRANCH : CSE, IT, ITE
Time : 3 Hours
Max Marks : 70
Q.CODE : C1177
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Q1 **Answer the following questions :**   **(2 x 10)**
   a) Write the characteristics that distinguish the database approach with the file based approach.
   b) Define functional dependencies.
   c) Explain "Query optimization".
   d) What are the properties of transaction?
   e) List the four conditions for deadlock.
   f) Differentiate static and dynamic hashing.
   g) What is two phase commit protocol?
   h) What are primary and secondary keys?
   i) Define replication transparency.
   j) Write the ACID properties of transaction.

Q2 **a)** What are the functions of DBMS? Explain three level architecture of database.   **(5)**
   b) Briefly explain about views of data.   **(5)**

Q3 **a)** Explain about SQL fundamentals.   **(5)**
   b) Discuss about join order optimization and heuristic optimization algorithm.   **(5)**

Q4 **a)** What are the different states and desirable properties of transaction? Explain briefly.   **(5)**
   b) What is data model and explain different types of data models.   **(5)**

Q5 **a)** Write short note on Deadlock.   **(5)**
   b) Explain in detail RAID technology.   **(5)**

Q6 **a)** Describe and differentiate spatial and mobile databases.   **(5)**
   b) Describe database security and integrity. Explain its various methods.   **(5)**

Q7 What is relational model? Compare and contrast it with network and hierarchical model.   **(10)**

Q8 **Write short answer on any TWO :**   **(5 x 2)**
   a) Classification and clustering.
   b) DML
   c) Database recovery technique
   d) Distributed System