C 1175 (Pages : 3) Name.....

Reg. No.....

SIXTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE EXAMINATION, APRIL 2016

IT / CS / PTCS 09 604—DATABASE MANAGEMENT SYSTEMS

Time : Three Hours Maximum : 70 Marks

Part A

Answer **all** *questions.*

1. Mention the role of a DBA.
2. Mention the different hashing techniques.
3. Give an example for one to one and one to many relationship.
4. What is a trivial functional dependency ?
5. What are ordered indices ?

(5 × 2 = 10 marks)

PART B

Answer any **four** *questions.*

6. List four significant differences between file processing system and a DBMS.
7. Consider the following relation :—

   EMP (**ENO**, NAME, DATE_OF_BIRTH, SEX, DATE OF JOINING, BASIC PAY, DEPT).
   Develop an SQL query that will find and display the average BASIC_PAY in each DEPT.
8. Consider the following relation : R(**A**, B, C, D)

   The primary key of the relation is A. The following functional dependencies hold :

   A —> B, C

   B —> D

   Is the above relation in third normal form ?
9. Bring out the difference between static and dynamic hashing.
10. Diagrammatically illustrate and discuss the steps involved in query processing.
11. What benefit does strict two-phase locking provide? What disadvantages result ?

(4 × 5 = 20 marks)

Turn over

15. (a) (i) **Define a transaction. Then discuss the following with relevant examples :**

(1) **A read only transaction.**

(2) **A read write transaction.**

(3) **An aborted transaction.**

(6 marks)

(ii) **With a neat sketch discuss the states a transaction can be in.** (4 marks)

Or

(b) (i) **Discuss the ACID properties of a transaction. Give relevant example.** (5 marks)

(ii) **Discuss two phase locking protocol. Give relevant example.** (5 marks)

[4 ×10 = 40 marks]