BCA (H) 2nd Semester Examination 2022

Subject: Computer Application

Paper Name: DBMS

Paper Code: BCA – 205

Time: 4 Hours **Full Marks: 80**

Answer Question No. 1 and any four from rest.

1. Answer any *eight* Questions: 8x2=16

   a) What is self join?
   b) What do you mean by extraneous attribute?
   c) What is data abstraction?
   d) Define DBMS.
   e) What is Functional dependency?
   f) What is generalization?
   g) What do you mean by cardinality of a relation?
   h) What is alternate key?
   i) What is DBMS?
   j) What is DML?
   k) What is ER model in DBMS?
   l) What is trigger?

2. State the database integrity rules. Differentiate between grant and revoke command. What is View? How it is related to data independence? 4+4+4+4

3. Define Primary key, Candidate key, Super key with example. Describe three levels of data abstraction. Discuss the functions of a DBA. 6+6+4

4. a) Consider the following relation schema and write down the following queries using SQL & Relational Algebra technique.

   Employee (e_no,e_name,street,city)
   Works (e_no,comp_name,salary)
   Company(comp_name,city)
   Manages(e_no,managername)

i) Find the names of all employee who works for CTS.
ii)Find the names of all employee who works for CTS and earn more than 50000.
iii) Find the names of all employee who do not work for CTS. (3X4)=12

b) What do you mean by ACID property of a database? 4

5. What is ER diagram? Differentiate between weak entity and strong entity. Draw the ER diagram of Human Resource (HR) Management System. Consider the basic assumption by your own. 2+2+(3X4)

6. What is Normalization? Why it is needed? Discuss 2NF, 3NF and BCNF techniques briefly. 2+2+12

7. What do you mean by lossy and lossless join decomposition? Explain them with suitable example. Discuss the advantages of using DBMS over file management system. 8+8