18U330   (Pages: 2)   Name: …………………….

                                                    Reg. No………..…………

THIRD SEMESTER B.C.A. DEGREE EXAMINATION, NOVEMBER 2019
(CUCBCSS-UG)
CC15U BCA3 B03 - DATABASE DESIGN & RDBMS
(Core Course)
(2015 & 2016 Admissions- Supplementary)

Time: Three Hours   Maximum: 80 Marks

PART A
Answer *all* questions. Each question carries 1 mark.

1. Define Lossless join property.

2. What is BCNF.

3. What are the unary operations in Relational Algebra?

4. What is Transaction Manager?

5. Write a query to display current date and time.

6. _____, express the number of entities to which another entity can be associated via a relationship set.

7. _____ symbol is used to denote the selection operation in relational algebra.

8. The variables in the triggers are declared using _____

9. _____ normal forms simplifies and ensures that there is minimal data aggregates and repetitive groups.

10. Consider the following action:

    Transaction…..

    Commit;

    Rollback;

    What does Rollback do?

                                                    (10 x 1 = 10 Marks)

PART B
Answer *all* questions. Each question carries 2 marks.

11. Define SQL and state the differences between SQL and other conventional programming Languages.

12. Define the "integrity rules".

13. What is meant by Data Independence?

14. Define the term normalization. Why is it significant?

15. What is meant by Functional Dependency?

                                                    (2 x 5 = 10 Marks)

PART C
Answer any *five* questions. Each question carries 4 marks.

16. Describe the three levels of data abstraction.

17. Define Join and enlist its types. Illustrate with help of an example.

18. What are stored-procedures? Explain the advantages of using them.

19. What are cursors? What are its different types?

20. Enlist the various relationships types in database. Explain in detail.

21. What are ACID properties of a transaction?

22. What are the type of locks in DBMS?

23. Explain the difference between DELETE, TRUNCATE and DROP commands?

(5 x 4 = 20 Marks)

PART D

Answer any *five* questions. Each question carries 8 marks.

24. What are the restrictions to be applied while creating views?

25. Describe the types of keys in relational model with example.

26. Enlist the various transaction phases. Explain in detail.

27. What are the different type of normalization? Explain each with example.

28. What is the E-R model? Explain the different symbols used to define a ER model?

29. What is a database Trigger? Explain the different types of Triggers used in Database design.

30. List significant differences between a file-processing system and a DBMS.

31. Consider the following tables.

Worker (

      WORKER_ID INT NOT NULL PRIMARY KEY AUTO_INCREMENT,

      FIRST_NAME CHAR(25),

      LAST_NAME CHAR(25),

      SALARY INT(15),

      JOINING_DATE DATETIME,

      DEPARTMENT CHAR(25)

)

Title (

      WORKER_REF_ID INT,

      WORKER_TITLE CHAR(25),

      AFFECTED_FROM DATETIME,

)

Write a SQL query:

(i)   To print details of the workers who are also managers.

(ii)   To fetch the list of employees with the same salary.

(iii)   To fetch the departments that have less than five people in it.

(iv)   To print the name of employees having the highest salary in each department.

(5 x 8 = 40 Marks)

****