



QP CODE: 19102227



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Reg No :

Name :

B.Sc. DEGREE (CBCS) EXAMINATION, OCTOBER 2019

Third Semester

B.Sc Computer Science Model III

CORE COURSE - CC3CRT01 - DATABASE MANAGEMENT SYSTEMS

2017 Admission Onwards

B8EFCDBB

Maximum Marks: 80

Time: 3 Hours

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What is metadata?
2. Write any two advantages of using the DBMS approach?
3. What is an entity in ER model?
4. What is referential integrity constraint?
5. What is SQL?
6. What is the use of INTERSECT operator?
7. What is an outer query?
8. What is insertion anomaly?
9. Define 3NF.
10. Define multiprogramming.
11. Discuss about database integrity and database confidentiality.
12. Write short note on four kinds of control measures on database.

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Explain database languages.





14. Write notes on the following component modules. a) DDL Compiler b) Query Compiler c) Query optimizer d) DML Compiler e) Concurrency Control /Backup/ Recovery Subsystem
15. List the various cases where uses of null values would be appropriate .
16. When we think of relationships as attributes,what are the value sets of these attributes? What class of data model is based on this concept?
17. Describe the four clauses in the syntax of a simple SQL retrieval query.
18. List SQL group by and having clauses with examples.
19. What is functional dependency?
20. What are the difference between primary,secondary and clustering indexes? How does insertion of a record in a block affect a primary or clustering index, considering the cases of with and with overflow?
21. Briefly describe transaction states.

(6×5=30)

Part C

Answer any two questions.

Each question carries 15 marks.

22. Explain in detail about three schema architecture and data independence.
23. Construct an E-R schema diagram for the company database . Details of COMPANY database is as follows. (1) The company is organised into departments. Each department has a unique name,unique number and a particular employee who manages the department. Keep track of the start date when that employee began managing the department.A department may have several locations. (2) A department controls a number of projects,each of which has a unique name,a unique number and a single location. (3) Employee has name,SSN,address,salary,gender and birth date.An employee is assigned to one department but may work on several projects,which are not necessarily be controlled by the same department. Keep track of the current number of hours per week that an employee works on each project. Also keep track of the direct supervisor of each employee. (4) Keep track of the dependants of each employee for insurance purposes. Dependant has name,gender dob and relationship to employee.
24. Explain various types of Normal Forms with examples.
25. Explain the four kinds of control measures to protect databases.

(2×15=30)

