B.Sc DEGREE (CBCS)) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

Fourth Semester

B.Sc Cyber Forensic Model III

Core Course - CF4CRT10 - DATABASE MANAGEMENT SYSETMS AND SECURITY

2017 Admission Onwards

B0EA3A72

Time: 3 Hours　　　　　　　　　　　　　　　　　　　　　Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. Define network model.

2. Compare procedural DML and non procedural DML.

3. What is relational model?

4. Write short note on relational algebra. Write two types of relational algebra.

5. What is Domain relational calculus?

6. What are the problems in database security?

7. What do you mean by data encryption techniques?

8. What do you mean by data access?

9. What is rollback?

10. What is authentication?

11. Define secure DBMS design.

12. How object oriented system can protect?

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. Differentiate integrity problems and atomicity problems.

14. Differentiate Fixed length records and variable length records.

15. Differentiate First Normal Form and Second Normal Form. Explain with suitable example.

16. Briefly explain the difference between access control and flow control in database security.

17. Briefly explain discretionary access control.

18. Briefly explain Immediate mode in log based recovery.

19. Write about the nondiscretionary policies of Biba's model.

20. Write short note on memory protection.

21. Write short note on security by isolation.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Explain mapping of ER model to Relational model.

23. Explain in detail about Functional dependencies and its properties.

24. Write about : a).Mandatory Access Control b).Role based access control c). Discretionary access control

25. Describe Shadow Paging Recovery techniques in detail.

(2×15=30)