

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2017**Fourth Semester**

Vocational Course—Computer Science

DATABASE MANAGEMENT SYSTEMS

[For B.Sc. Mathematics Model II]

(2013 Admission onwards)

Time : Three Hours

Maximum Marks : 80

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

1. What is a query language ?
2. What is a metadata ?
3. What is a Trigger ?
4. What is Functional Dependency ?
5. What is Referential Integrity ?
6. What are atomic domains ?
7. What are Hash indices ?
8. What is a transaction ?
9. What is Two-phase locking ?
10. What is Cursor Stability ?

(10 × 1 = 10)

Part B*Answer any eight questions.**Each question carries 2 marks.*

11. Describe Procedural DMLs.
12. Explain the Object-Oriented Model.
13. Describe Multiple-Key Access.
14. Describe Pipelining.
15. At what point during query processing does optimization occur ?

Turn over

16. Describe shadow copies with an example.
17. Differentiate between binary search and linear search.
18. What is a recoverable schedule ?
19. List two reasons why null values might be introduced into the database.
20. Explain Database Schema.
21. Explain why it may be impractical to require serializability for long-duration transactions.
22. Explain how a TP monitor manages memory and processor resources more effectively than a typical operating system.

(8 × 2 = 16)

Part C

*Answer any six questions.
Each question carries 4 marks.*

23. Explain the need of storage manager.
24. Explain the B+-Tree File Organization.
25. Explain Storage manager.
26. What are the advantages and disadvantages of hash indices relative to B+- tree indices ?
27. Describe Conflict Serializability.
28. Explain the distinction between the terms serial schedule and serializable schedule.
29. Why is a hash structure not the best choice for a search key on which range queries are likely ?
30. Explain the difference between a system crash and a "disaster."
31. Explain Transactional Workflows.

(6 × 4 = 24)

Part D

*Answer any two questions.
Each question carries 15 marks.*

32. Explain the distinction between closed and open hashing. Discuss the relative merits of each technique in database applications.
33. What are the causes of bucket overflow in a hash file organization ? What can be done to reduce the occurrence of bucket overflows ?
34. List two major problems with processing update operations expressed in terms of views.
35. Explain Main-Memory Databases.

(2 × 15 = 30)