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Future Vision

By K B Hemanth Raj

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DATABASE MANAGEMENT SYSTEM

[As per Choice Based Credit System (CBCS) scheme]

(Effective from the academic year 2017 -2018)

SEMESTER – V

Subject Code **17CS53**

IA Marks **40**

Number of Lecture Hours/Week **04**

Exam Marks **60**

These Questions are being framed for helping the students in the “FINAL Exams” Only (Remember for Internals the Question Paper is set by your respective teachers). Questions may be repeated, just to show students how VTU can frame Questions.

- ADMIN

Module 5

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1. Why Concurrency control is needed demonstrate with example? (12-Marks) (9a) (Dec.2017/Jan.2018)
 2. Discuss the desirable properties of transactions. (4-Marks) (9b) (Dec.2017/Jan.2018)
 3. When deadlock and starvation problem occurs? Explain how these problems can be resolved. (9-Marks) (10a) (Dec.2017/Jan.2018)
 4. Explain how shadow paging helps to recover from transaction failure. (7-Marks) (10b) (Dec.2017/Jan.2018)
 5. Discuss ACID properties of a database transaction. (4-Marks) (9a) (June/July 2018)

6. Explain transaction support in SQL. (6-Marks) (9b) (June/July 2018)
7. Discuss the UNDO and REDO operation and the recovery techniques that use each. (6-Marks) (9c) (June/July 2018)
8. What is two – phase locking protocol? How does it guarantee serializability? (4-Marks) (10a) (June/July 2018)
9. What is Serializability? How can Serializability be ensured? Do you need to restrict concurrent execution of transaction to ensure serializability? Justify your answer. (6-Marks) (10b) (June/July 2018)
10. Discuss the time – stamp ordering protocol for concurrency control. (6-Marks) (10c) (June/July 2018)
11. Discuss the ACID properties of a transaction. (4-Marks) (9a) (Dec.2018/Jan.2019)
12. What are the anomalies occurring due to interleaving execution? Explain them with example. (6-Marks) (9b) (Dec.2018/Jan.2019)
13. Consider the three transaction T1, T2 and T3 and schedules S1 and S2 given below. Determine whether each schedule is serializable or not? If a schedule is serializable write down the equivalent serial schedule (S). (9c) (Dec.2018/Jan.2019)

T₁: R₁(x); R₁(z); W₁(x);

T₂: R₂(x); R₂(y); W₂(z); W₂(y);

T₃: R₃(x); R₃(y); W₃(y);

S1: R₁(x); R₂(z); R₁(z); R₃(x); R₃(y); W₁(x); W₃(Y); R₂(y);
W₂(z); W₂(y);

- S2: $R_1(x); R_2(z); R_3(x); R_1(z); R_2(y); R_3(y); W_1(x); W_2(z); W_3(y); W_2(y);$
14. Describe the problem that occur when concurrent execution uncontrolled. Give example. (6-Marks) (10a) (Dec.2018/Jan.2019)
 15. What is two phase locking? Describe with the help of an example. (4-Marks) (10b) (Dec.2018/Jan.2019)
 16. What is Deadlock? Consider the following sequences of actions listed in the order they are submitted to the DBMS.

Sequence S1: $R_1(A); W_2(B); R_1(B); R_3(C); W_2(C); W_4(B); W_3(A).$ Draw waits for graph in case of Deadlock situation. (6-Marks) (10c) (Dec.2018/Jan.2019)
 17. What are the ACID properties? Explain. (8-Marks) (8a) (June-July.2018 | 10-scheme)
 18. Explain 2PL. (4-Marks) (8b) (June-July.2018 | 10-scheme)
 19. What is a schedule? Explain with examples serial, non-serial and conflict serializable schedules. (8-Marks) (8c) (June-July.2018 | 10-scheme)
 20. What is meant by the concurrent execution of a database transaction in a multiuser system? Why concurrency control is needed, and give informal examples? (10-Marks) (8a) (Dec.2017/Jan.2018 | 10-scheme)
 21. Briefly discuss the two-phases locking techniques for concurrency control. (10-Marks) (8b) (Dec.2017/Jan.2018 | 10-scheme)

22. Explain transition diagram of a transaction. (6-Marks) (8a) (Dec.2016/Jan.2017 | 10-scheme)
23. Explain the principles used behind ARIES algorithm. (6-Marks) (8b) (Dec.2016/Jan.2017 | 10-scheme)
24. What is a schedule? Explain conflict serializable schedule with example. (8-Marks) (8c) (Dec.2016/Jan.2017 | 10-scheme)
25. What are ACID properties? Explain with example. (6-Marks) (8a) (June/July.2017 | 10-scheme)
26. Briefly discuss the two phase locking protocol used in concurrency control. (8-Marks) (8b) (June/July.2017 | 10-scheme)
27. Briefly explain the recovery process. (6-Marks) (8c) (June/July.2017 | 10-scheme)

**ANSWER SCRIP FOR THESE
QUESTIONS WILL BE UPLOADED ASAP**

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