Final Exam

Program: IS	**Course: *Time Series Database***	**Course Code: IS**
Level: 3	**Lecturer: Dr. Hosam Refaat**	**Date: 18/6/2023**
Total Pages: 5	**Total Marks: 70**	**Time Allowed: 120 min**

Form

swer the following Questions

estion (1): Select the correct answer **(70 marks)**

1- R1(A),w2(A),r3(A),w1(A),w3(A), Commit3, Commit2, Commit1

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

2- W1(X), R2(X), W1(X), Commit2, Abort1

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

3- R1(A),w2(A),r3(A),w1(A),w3(A)

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

4- R1 (A) R2 (B) W2 (B) W1(A) W2 (A) Commit2 R1 (C)

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

5- W1(X), R2(X), W1(X), C2, C1

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

6- R1(X), W2(X), W1(X), Abort2, Commit1

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

7- R1(X), W2(X), W1(X), Commit2, Commit1

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

8- R1(X), R2(X), W1(X), Commit1, W2(X), Commit2

A) Recoverable	B) Cascadeless	C) Strict	D) Not recoverable

9- R1(X), R2(X), Commit1, W2(X), Commit2

A) Recoverable	B) Cascadeless	C) Strict	D) None of these

10- W1(X), R2(Y), R1(Y), R2(X), Commit1, Commit2

A) Recoverable	B) Cascadeless	C) Strict	D) None of these

11- ____system has at most one user at a time can use the system.

A) Single-User	B) Parallel	C) Multiuser	D) Both A and B	E) None of these

12- If the DDMS does not have concurrent control, what cloud be the problem for the transaction show below?

Time	T1	T2
1	Read (X);	
2	X := X - 10;	
3	Write (X);	
4		Read (X);
5		X := X +20;
6		Write (X);
7		COMMIT;
8	Read (Y);	
9	ROLLBACK;	

A) no problem
B) Dirty Read and incorrect summary
C) Lost update and dirty read
D) Lost update and incorrect summary
E) Lost update, dirty read and incorrect summary

13- The type of problem the can be occurs in the following schedule is

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T_1	T_2
read_item(X); X:=X-N;	
	read_item(X); X:=X+M;
write_item(X); read_item(Y);	
	write_item(X);
Y:=Y+N; write_item(Y);	

A) Lost Update	B) Dirty Read	C) Incorrect Summary	D) None of these

14- The type of problem the can be occurs in the following schedule is

T_1	T_2

read_item(X);
X:=X-N;
write_item(X);	

	read_item(X);
	X:=X+M;
	write_item(X);

read_item(Y); Abort	

A) Lost Update	B) Dirty Read	C) Incorrect Summary	D) None of these

15- Basic unit of data transfer from the disk to the computer main memory is one record. (true/false)

16- The deadlock avoidance algorithm discovers that blocking a transaction is likely to create a cycle, it rolls back the transaction. (true/false)

17- Every Cascadeless Schedules is Recoverable. (true/false)

18- Precedence Graph Algorithm is used validate the concurrent scheduler are conflict equivalent or not. (true/false)

19- All transaction that in the "partially committed" state will be committed successfully. (true/false)

20- Starvation occurs when a particular transaction consistently waits or restarted and never gets a chance to proceed further. (true/false)

21- The concurrent execution of multiple processes in a single CPU is called parallel computing.(true/false)

22- the _____ is operation similar to rollback except that it applies to a single operation rather than to a whole transaction.

A) Undo	B) Redo	C) Both A and B	D) None of these

23- _____ processing: concurrent execution of processes is interleaved in a single CPU

A) Interleaved	B) Parallel	C) Both A and B	D) None of these

24- _____ processing: processes are concurrently executed in multiple CPUs.

A) Interleaved	B) Parallel	C) Both A and B	D) None of these

25- _____ is logical unit of database processing that includes one or more access operations (read - retrieval, write - insert or update, delete).

A) Interleaved process	B) Transaction	C) application program	D) None of these

A) Lost Update	B) Temporary Update	C) Incorrect Summary	D) None of these

41- This schedule can be classified as R1(x), W1(x), R1(y), W1(y), C1, R2(x), W2(x), C2

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

42- This schedule can be classified as R2(x), R1(x), W1(x), R1(y), W1(y), C1, W2(x), C2

A) Recoverable	B) Cascadeless	C) Strict	D) None of these

43- The _____ operation specifies to ensure that all the operations of a committed transaction have been applied successfully to the database.

A) Undo	B) Redo	C) Both A and B	D) None of these

44- Two schedules are called _____ if they produce the same final state of the database.

A) Result equivalent	B) Conflict equivalent	C) Conflict serializable	D) Serializable

45- The following schedules are conflict equivalent. (true/false)

S: R1(x), W2(x), R1(y), W2(y)
S': W1(x), W1(y), R2(x), R2(y)

46- The following schedules are conflict equivalent. (true/false)

S: W1(x), W1(y), R2(x), R2(y)
S': R1(x), R1(y), W2(x), W2(y)

$W_1(x) - R_2(x)$
$W_1(y), R_2(y)$

47- Real-Time Data Base System can be defined as those computing systems that are designed to operate in a timely manner. (true/false)

48- Being serializable is the same as being serial. (true/false)

49- The concurrency control method may decide to abort the transaction, to be restarted later, because it violates serializability. (true/false)

50- A schedule is view serializable if it is view equivalent to a serial schedule. (true/false)

51- Every Recoverable Schedules is Strict and Cascadeless. (true/false)

52- The transaction-id that is generated automatically by the system and is used to identify one or more transaction. (true/false)

53- Every Strict Schedules is Recoverable. (true/false)

54- _____ is not executed after its deadline and no value is gained by the system from the tasks that miss their deadlines.

A) soft-deadline	B) Firm-Deadline	C) Hard-Deadline	D) None of these

55- the lazy video system is an example of ___

A) soft-deadline	B) Firm-Deadline	C) Hard-Deadline	D) None of these

56- Missing a _____ can result in catastrophic consequences.

A) soft-deadline	B) Firm-Deadline	C) Hard-Deadline	D) None of these

57- The operator switchboard for a telephone is an example of ___

A) soft-deadline	B) Firm-Deadline	C) Hard-Deadline	D) None of these

58- The ___scheduler can arbitrarily suspend and resume the execution of the task without affecting its behavior.

A) Recoverable	B) Cascadeless	C) Preemptive	D) Non-preemptive

59- After a transaction reaches its commit point, any portion of the log that has not been written to the disk yet must now be written to the disk. (true/false)

60- Transaction failure may also occur because of erroneous parameter values or because of a logical programming error. (true/false)

– The Journal keeps track of all transaction operations that affect the values of database items. (true/false)

2- The transaction operations are stored in Journal after affecting the value of database file. (true/false)

3- In read operation, it's not necessary to bring the disk block into the main memory buffer. (true/false)

4- The System Log contain the this line [write_item,T,X] to record that transaction T has changed the value of database item X. (true/false)

5- Each transaction should be ended explicitly after implicit Begin. (true/false)

6- A schedule S is serializable if it is equivalent to some serial schedule of the same n transactions. (true/false)

67- Local errors occur when certain conditions necessitate cancellation of the transaction is violated. (true/false)

68- Basic operations in the database are read and write. (true/false)

69- The basic unit for database read operation from the computer storage to the main memory is one record. (true/false)

70- Some disk blocks may lose their data because of a read or write malfunction or because of a disk read/write head crash. (true/false)

71- Strict Schedules can be requiring cascaded rollback. (true/false)

72- Temporal-consistency is maintaining consistency between the actual state of the environment and the state as reflected or perceived by the system. (true/false)

73- A schedule S is serial if, for every transaction T participating in the schedule, all the operations of T are executed consecutively in the schedule. (true/false)

74- The following schedules are conflict equivalent. (true/false)

S : R1(x), W2(x), R1(y), W2(y)
S': R1(x), R1(y), W2(x), W2(y)

75- _____ is a computer monitoring the state of the environment supplying the environment with the appropriate driving signals.

A) Controlled System	B) Controlling System	C) Both A and B	D) None of these

76- A schedule S is said to be ____ if it is conflict equivalent to some serial schedule S'.

A) Result equivalent	B) Conflict equivalent	C) Conflict serializable	D) Serializable

77- _____ is the underlying application.

A) Controlled System	B) Controlling System	C) Both A and B	D) None of these

78- Two schedules are said to be ___ if the order of any two conflicting operations is the same in both schedules.

A) Result equivalent	B) Conflict equivalent	C) Conflict serializable	D) Serializable

79- _____ Deadline is timely and logically correct execution is considered to be critical.

A) Soft	B) Firm	C) Hard	D) None of these

80- Missing a _____ does not cause a system failure or compromises the system's integrity

A) soft-deadline	B) Firm-Deadline	C) Hard-Deadline	D) None of these

26- A schedule S is _____ if no transaction T in S commits until all transactions T' that have written a item that T reads have committed.

A) Recoverable	B) Cascadeless	C) Strict	D) None of these

27- The _____ problem occurs when two transactions that access the same database items have their operations interleaved in a way that makes the value of some database item incorrect.

A) Lost Update	B) Dirty Read	C) Incorrect Summary	D) None of these

28- A condition, such as insufficient account balance in a banking database, may cause a transaction suc as a fund withdrawal from that account, to be canceled. this problem is called _____

A) Local errors	B) exception conditions	C) Both A and B	D) None of these

29- This schedule can be classified as _____

R2(X), R1(X), W1(X), R1(Y), W1(Y), C1, W2(X),C2

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

30- This schedule can be classified as _____

R1(X), W1(X), R1(Y), W1(Y), R2(X), W2(X), C2, C1

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

31- ____schedule: One where every transaction reads only the items that are written by committed transactions.

A) Recoverable	B) Cascadeless	C) Strict	D) None of these

32- The following schedule can be classified as _____

R1(x), R2(x), R1(z), R3(x), R3(y), W1(x), C1, W3(y), C3, R2(y), W2(z), W2(y), C2

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

33- The following schedule can be classified as _____

R1(x), R2(x), R1(z), R3(x), R3(y), W1(x), W3(y), R2(y), W2(z), W2(y), C1, C2, C3

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

34- This schedule can be classified as _____ **R1(x), R2(x), W2(x), W1(x), C2, R1(y), W1(y), C1**

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

35- The following schedule can be classified as _____

R1(x), R2(z), R3(x), R1(z), R2(y), R3(y), W1(x), C1, W2(z), W3(y), W2(y), C3, C2

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

36- The following schedule can be classified as _____ **R1(x), W1(x), R2(x), R1(y), W2(x), C2, A1**

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

37- This schedule can be classified as _____

R1(X), R2(X), W1(X), R1(Y), W1(Y), C1, W2(X), C2

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

38- The following schedule can be classified as _____

R1(x), W1(x), R2(x), R1(y), R2(y), W2(x), W1(y), A1, A2

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

39- The following schedule can be classified as _____ **R1(x), R2(x), W1(x), R1(y), W2(x), C2, W1(y), C1**

A) Recoverable	B) Cascadeless	C) Strict	D) Not Recoverable

40- The _____ problem occurs if one transaction is calculating an aggregate summary function on a number of records while other transactions are updating some of these records.