DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER V [IT]
SUBJECT: (IT502) DATABASE MANAGEMENT SYSTEM

Examination	**:Third Sessional**	**Seat No.**	**: _____**
Date	**: 12/10/2013**	**Day**	**: Saturday**
Time	**: 11.15 to 12.30**	**Max. Marks**	**: 36**

INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed. **[12]**

(a) In shadow copy technique when database is updating then b-pointer points to **[1]**
(A) Old copy of database (B) New copy of database
(C) Both old and new copy of database (D) Does not point any where

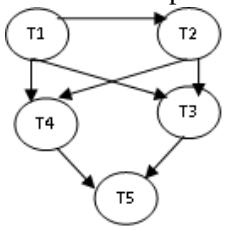
(b) The drawback of shadow paging technique are **[1]**
(A) Commit overhead (B) Data fragmentation
(C) Garbage collection (D) All of these

(c) In strict phase locking protocol **[1]**
(A) All excusive mode lock taken by transaction be held until transaction commits
(B) All excusive mode lock taken by transaction can be released before transaction commits
(C) All locks can be released before transaction commits
(D) None of these

(d) Cascading rollback can be avoided by **[1]**
(A) Two phase locking protocol (B) Strict two phase locking protocol
(C) Cannot be avoided (D) Can be avoided but there is no actual protocol

(e) Suppose there are three transactions T22, T23, T24 with time stamp 10, 20, 30. Now T23 occupy a data item which is required by T22 and T24. Among the four possibilities what will be true in wait die scheme. **[2]**
(A) if T22 request the data item, T22 will wait
(B) if T24 request the data item, T24 will wait
(C) if T22 request the data item, T23 will wait
(D) if T24 request the data item, T23 will wait

(f) From the following graph we can say that the corresponding schedule is **[2]**



(A) View Serializable (B) Conflict Serializable
(C) Both view and conflict serializable (D) Not seralizable schedule

(g) What is cursor? Explain types with example. **[2]**

(h) Consider the schedule of three transactions T1, T2 and T3. **S :** R2(A); R2(B); W2(A); R2(B); R3(A); W1(B); W3(A); W2(B). Where R stands for READ, W for WRITE and schedule no. Determine schedule is serializable or not. If so give the serial schedule. **[2]**

Q.2 Attempt *any two* from the following. **[12]**

(a) Explain graph based protocol. **[6]**

(b) Answer the following. **[6]**
1. Compare the shadow paging with the log-based techniques. [2]
2. What is the recoverable schedule and non-recoverable schedule? [2]
3. What is the difference between serial and serializable schedule? [2]

(c) Explain 2-phase commit protocol with how it handling failures of distributed database system. **[6]**

Q.3 (a) Consider three transactions: T1, T2, T3 and T4. Draw the precedence graph for the Following schedule and determine whether it is Serializable OR not. If so, give its serial order(s). **[6]**

Time	T1	T2	T3	T4
t1 :				read(C)
t2 :	read(A)			
t3 :				write(B)
t4 :		read(B)		
t5 :		write(B)		
t6 :	read(C)			
t7 :	write(A)			
t8 :			read(A)	
t9 :	write(B)			
t10 :			write(A)	
t11 :				read(A)
t12 :				write(A)

(b) Explain time-stamp ordering protocol. **[6]**

OR

Q.3 (a) What is deferred modification technique for recovery? How does recovery take place in case of failures in this technique? **[6]**

(b) Explain multiple granularity protocol. **[6]**