

- N.B. : (1) Question No. 1 is compulsory.
 (2) Attempt any four questions out of remaining six questions.
 (3) Make suitable assumptions if needed.
1. (a) Define transaction. Explain transaction state diagram. 10
 (b) Explain E-R model in detail with an example. 10
 2. (a) Explain ACID properties and usefulness of each property. 10
 (b) Explain 2 PL with suitable example. Explain its variation with suitable example. 10
 3. (a) Answer following questions :- 8
 - (i) Explain primary key, composite key with example.
 - (ii) What are different Aggregate functions in SQL ?- Explain with example.
 - (iii) State and explain specialization with example.
 - (iv) Explain shadow paging.
 - (b) Consider Insurance DB where primary key is underlined. Answer following 12 queries in SQL :-
 PERSON (Driver-id, name, address)
 CAR (license, model, year)
 ACCIDENT (Report-no, Date, location)
 OWNS (Driver-id, license)
 PARTICIPATED (Driver-id, license, report-no, damage-amount)
 - (i) Find total no. of people who owned cars that are involved in accidents in 2004.
 - (ii) Find no. of accidents in which car belonging to 'John Smith' were involved.
 - (iii) Add new accident to DB assume any values to required attributes.
 - (iv) Delete 'Santro' belonging to 'John Smith'.
 4. (a) Explain log based and check point based recovery mechanism in DBMS with example. 10
 (b) What is effect of deadlock ? How it is detected ? Discuss different types of 10 deadlock avoidance schemes.
 5. (a) Explain following :- 16
 - (i) DDL (ii) DML
 - (iii) TCL (iv) DCL.
 With respect to SQL.
 - (b) Explain following wrt to Relational algebra :- 4
 - (i) project (ii) insert
 - (iii) select (iv) delete.
 6. (a) Explain Murphy's law of GUI design and features of GUI. 10
 (b) What is view ? How it is created ? Explain with suitable example. 10
 7. Attempt any ten :- 20
 - (i) What is ADO ? List its objects.
 - (ii) Give any four intrinsic controls in UB. State use of it.
 - (iii) Difference between flexgrid and data-grid.
 - (iv) Explain different mouse related events.
 - (v) Give significance of Option Explicit.
 - (vi) Give use of msgbox, input box. Explain with example.
 - (vii) Explain use of MDI form.
 - (viii) Explain use of connection and datasource properties of ADO control.
 - (ix) How to create a form using code.
 - (x) Give decision making statements & loop structures statements in UB with example.
 - (xi) Give difference between listbox and combobox.
 - (xii) State and explain use of OLE.
 - (xiii) Give different naming convention, for Text, label, checkbox, combobox, optionbutton controls.