DATABASE MANAGEMENT SYSTEM LABORATORY

Lab Hours/ Week	: 3	Credits :	1.5
Sub. Code	: 6CSL01	CIE Marks :	50
		SEE Marks :	50

PART-A

Consider the following relations for a central store which receives raw materials from its venders and issues them to its different sections.

ITEM (Item-Code, Item-Description, Unit-Price, EOQ, ROL, SOH, Back-Order-Qty)

EOQ: Economic Order Quantity, ROL: Reorder level, SOH: Stock On Hand

ORDERING (Order-No. Item-Code, Quantity-Received)

ORDER (Order-No, Order-Date, Voucher-No, Vender-No, Due-date)

VENDER (Vender-No, Vender-Name, Vender-Address)

VOUCHER (Voucher-No, Voucher-Date, Vender-No, Cheque-No)

INDENT (Indent-No, Quantity-Demanded, Quantity-Issued, Section-Code, Item-Code)

SECTION (Section-Code, Section-Name)

CHEQUE (Cheque-No, Cheque-date, Cheque-Amount)

1. Create the above tables by properly specifying the primary keys and the foreign keys.
2. Enter at least five tuples for each relation.
3. Increase the unit price by 1% for all items
4. Add check constraint to Unit Price in Item table, which should allow only positive values.
5. Delete a voucher details from voucher table given by voucher no and make sure that, this operation automatically inserts null to all related tuples in a system.
6. Demonstrate with suitable example, group by, having, order by clauses.
7. Demonstrate all aggregation operations in SQL,with suitable examples,
8. Produce the list of orders between Jan 2000 to Jan 2006.
9. Demonstrate with suitable example, Left outer join, Right outer join and Full outer join.

10. Demonstrate Create Index and Drop index on any table.

11. Demonstrate with suitable example, Union, Intersect and Except operations

12. Produce the list of order with the following details: item code, descriptions and Unit-Price, given by Order-No & Vendor –No.

13. Alter the table SECTION by adding section In-charge-Code.

14. Produce the daily items receipt summary with the following details: Order-no, Order date, Vender no, vender date, vender address item code item description EOQ, quantity received. [Note: result should be displayed on date wise]

15. Produce the daily items issue summary with the following details: Indent no, section code, section name, item code, item description, quantity demanded, quantity issued. [Note: result should be displayed on date wise]

16. Produce the list of orders with the following details: order no, order date, due date, vender no and vender name, given by delay duration. [Note: Delay duration=current date- due date]

17. Produce the every day bill payment voucher with the following details: item code, item description unit price, EOQ, quantity Received and item order value in Rs(EOQ x quantity-received) given by order no, voucher no & vender no.

18. Produce the monthly bill settlement summery of given vendor no with the following details: voucher no, voucher date, cheque no, cheque date cheque amount.

19. Produce the monthly stores materials consumption summary with the following details: item code, item description, Unit price, quantity consumed and item consumption values in Rs.

20. Write a trigger to notify back order quantity (ROL-SOH) with suitable message whenever SOH crosses ROL.

21. Write a Stored procedure to display the details of ITEM which are ordered on specific Order-Date.

22. Write a Stored procedure which accepts Item-Code and vendor-no as parameter and displays the number of orders on the Item ordered by the vendor.

PART B

Choose a database application with which you are familiar (Eg. Library Database, Employee Database, Student Database, Inventory database.) Perform the following assuming a Relational Database Management System:

1) List the set of requirements
2) Identify the following:
    a. Entities and attributes
    b. Entity Types, Entity Sets, keys and Value Sets.
    c. Relationship types, Relationship Degree and Recursive Relationships.
    d. Relationship Constraints: Cardinality Ratio and Participation.
    e. Attributes of Relationship Types.
    f. Weak Entity Types.
3) Design an ER Diagram
4) Draw the Schema Diagram with Referential Integrity Constraints displayed.
5) Normalize the relations up to BCNF or 3rd Normal Form.
6) Create the database.
7) Insert suitable records in your database.
8) Execute any five typical queries on your database.
9) Generate any three typical reports on your database.
10) Write any three stored procedures on your database.

Note:

1. Students will be working on different databases in their regular lab. The above database is only an example.
2. Examiner can ask any query on any database. The examiner will provide the descriptions about the database to be implemented.

Guidelines:

Phase 1: Implementation of Part-A of lab exercise [Individual]

Phase 2: Design phase [2 members in a group]

- Chose any of the database (DB) application that you are familiar: For ex: University DB, Electronic voting DB, Sports DB, Bank DB, Hospital DB, Reservation(Bus/train) DB and so on.
- Identify all entities, attributes and the relationship between the entities for a chosen DB.
- Specify schema for your DB.
- Identify various integrity constraints applicable to your DB.