**1. Objectives**

a) To prepare Conceptual Design using ER Diagram

b) Prepare the relations

c) Normalize the relations up to 3NF

**2. Pre-requisites**

a) ER Diagram Concepts

b) Normal forms up to 3NF

c) Relational database concepts

**3. Skills/concepts**

ER Diagrams, Normalization

**4. Duration in hours**

5 hours

**5. Scenario set up**

The Power Transmission Corporation (PTC) monitors the supply and usage of electricity by all the users. Daily there will be lot of requests from various sectors (domestic and non-domestic like commercial and industrial) for new power connections. For any new connection, the department obtains an application along with certain deposit amount. Public at the circle offices of the department, under whose jurisdiction they fall, makes such requests. All such new connections accorded along with details of deposit are to be advised by each circle office to their accounts department with a copy to their planning department once in a fortnight by creating a database at their end. The format of the report is :

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| The report on New Power connections for the fortnight ending / /200  Of the circle office …………. | | | | | |
| Date of appl | Consumer Name | Consumer Address | Unique Consumer No | Sector (Dom/Comm/Ind) | Deposit Amount (Rs) |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Total New connections = | | | Total Deposit amount collected =Rs. | | |

**Assumptions:**

It is presumed that PTC wants separate stand-alone software for each circle for creation of database of all new connections and a fortnightly report out of it. Such information through the above report facilitates lot of decision making with regard to sector-wise demand, additional load of power expected in future etc.

**Functional specification:**

**FS01:** Proposed power consumer to submit an application along with the cash deposit.

**FS02:** Data to be captured from out of the application for creation of a database and generation of the fortnightly report.

**FS03:** Data entry required:

Date of application

Consumer name

Consumer address

Consumer No (can be generated by the system with reference to the previous one

Sequentially)

Sector (domestic/commercial/industrial)

Deposit amount

**6. Deliverables**

1) ER-diagram

2) Normalized tables.

**7. References**

http://hstslc007/eltplearning/RDBMSConcepts /index.html

*Fundamentals of database systems by Elmasri & Navathe*

*An introduction to DBMS by C.J.Date*

*Database management systems by Korth*