

Members

<u>ID</u>	<u>Mem_ID</u>	Name	Address	Phone Number	<u>ID</u>
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Membership

<u>ID</u>	Reg. Date	Fee	Type
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Normal

<u>ID</u>	Norm-Pack
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Premium

<u>ID</u>	Prem-Pack
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PB

<u>Benefit</u>	therapy	confid
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ME

<u>ID</u>	<u>E-ID</u>
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Equipment

<u>E-ID</u>	Name	Price	type	<u>Supplier S-ID</u>
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NI

<u>E-ID</u>	Mechanical-equip
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Special

<u>E-ID</u>	Electrical-equip
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Supplier

<u>S-ID</u>	Name
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Trainer

<u>T-ID</u>	Type	Name	<u>M-ID</u>	1	1
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Hourly train

<u>T-ID</u>	Hourly charge
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Salary Trainer

<u>T-ID</u>	Salary	<u>B-ID</u>
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Manager

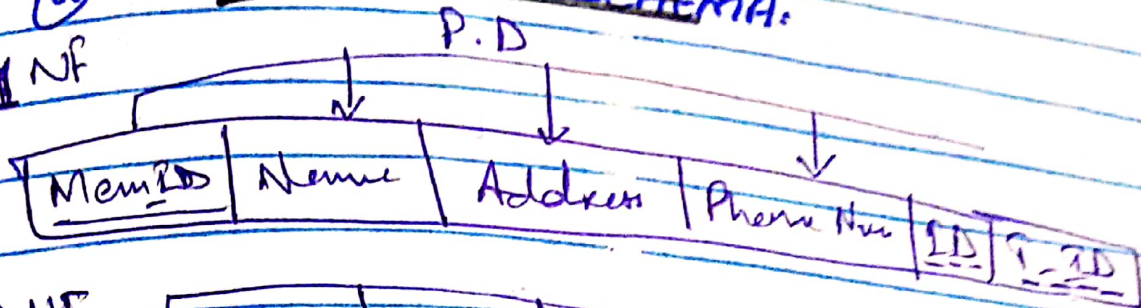
<u>M-ID</u>	Name
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Branch

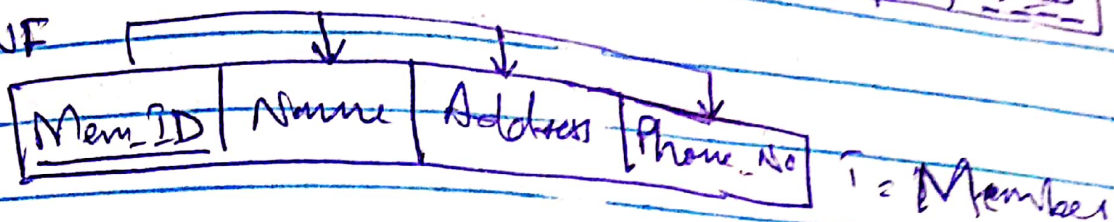
<u>B-ID</u>	Address	<u>M-ID</u>
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(a) RELATIONAL SCHEMA:

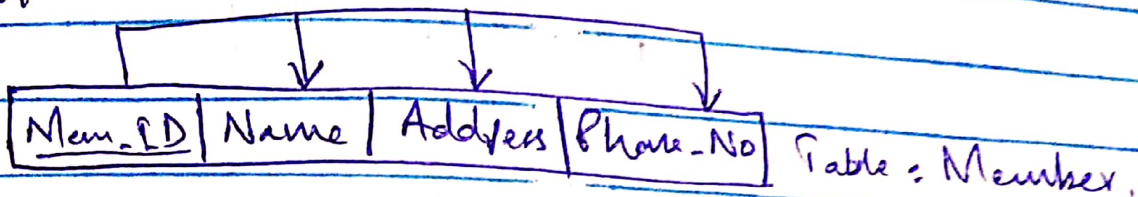
1NF



2NF

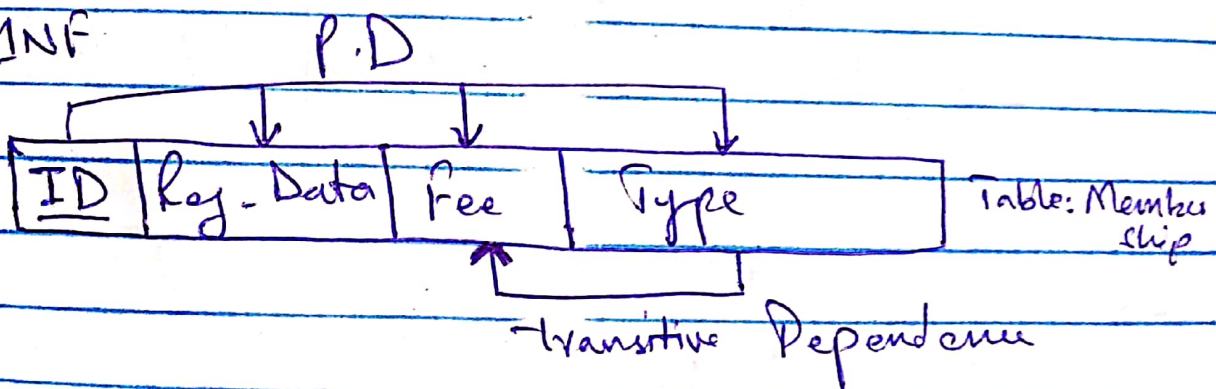


3NF

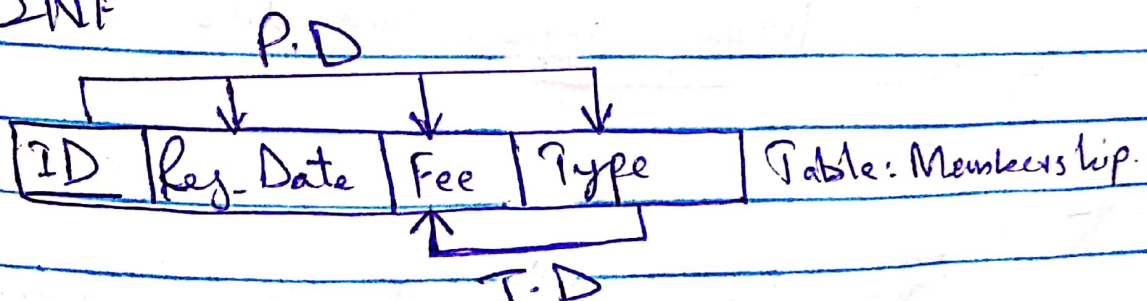


MEMBERSHIP:

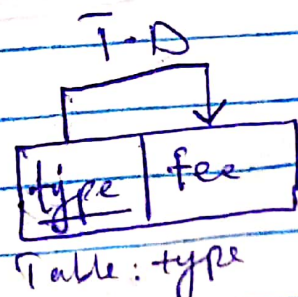
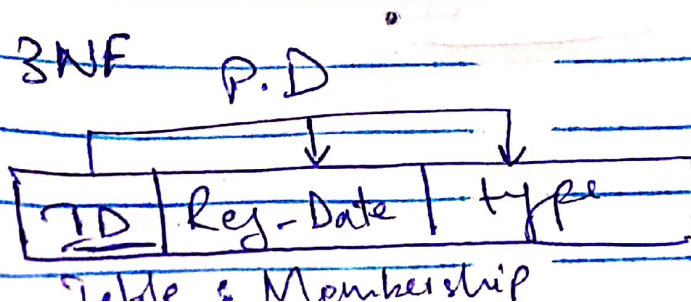
1NF



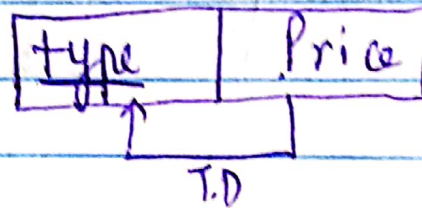
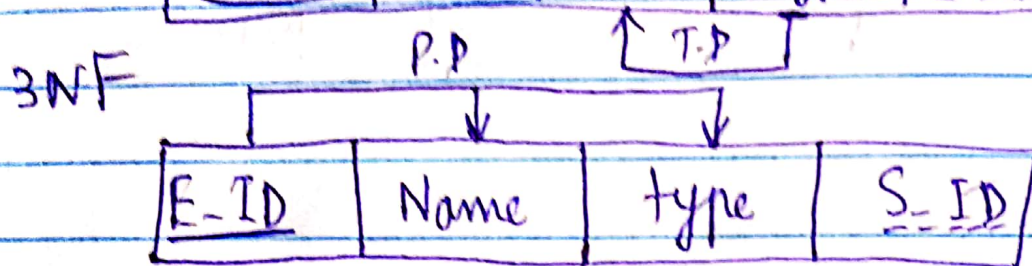
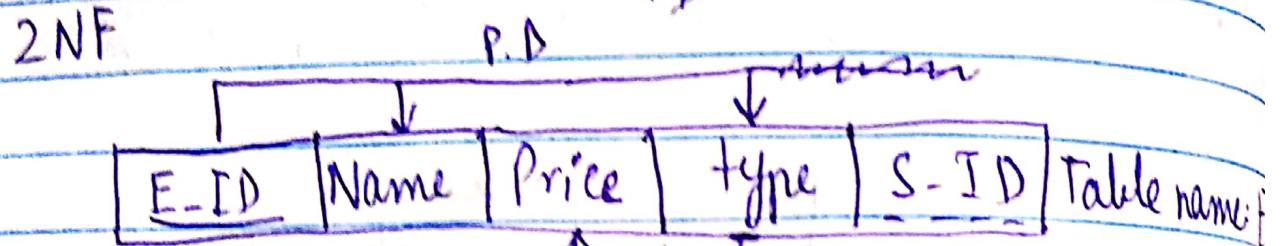
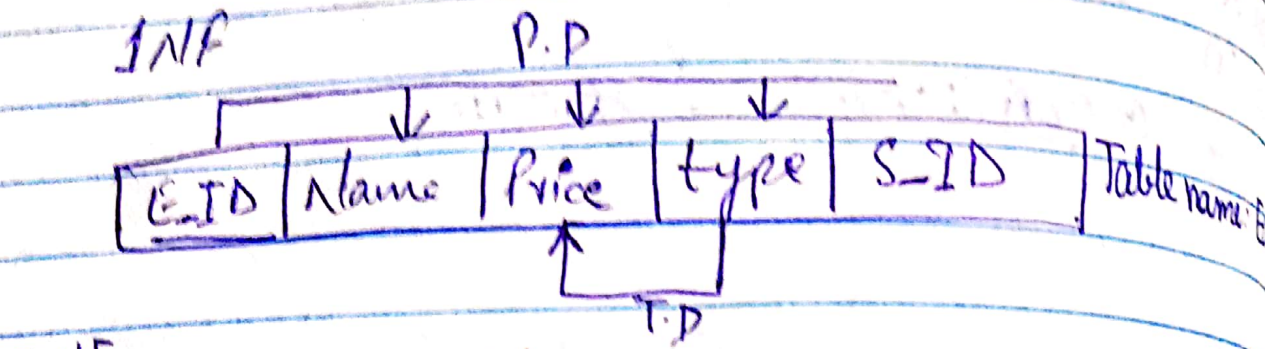
2NF



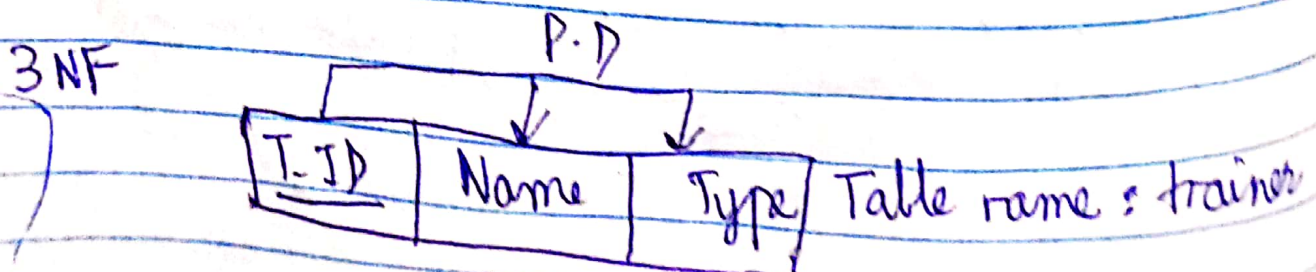
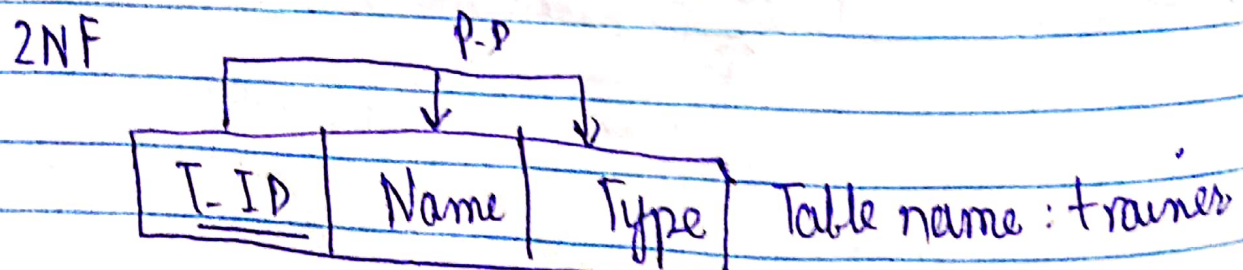
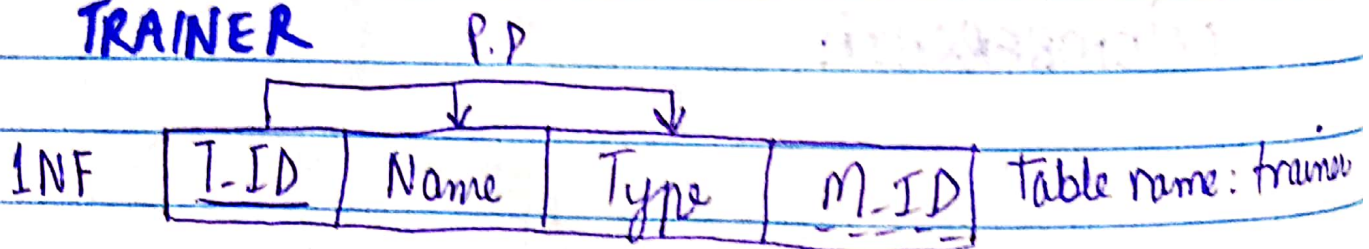
3NF



EQUIPMENT:



TRAINER



Day: **MTWTFSS**

Date: ___/___/___

Manager:

1NF

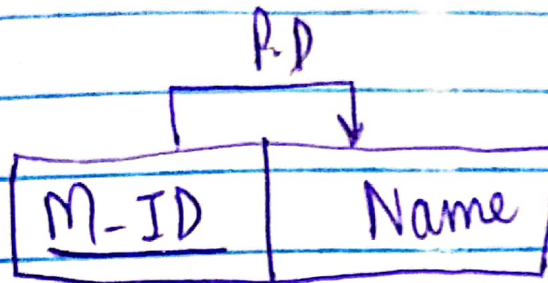


Table name: Manager

2NF

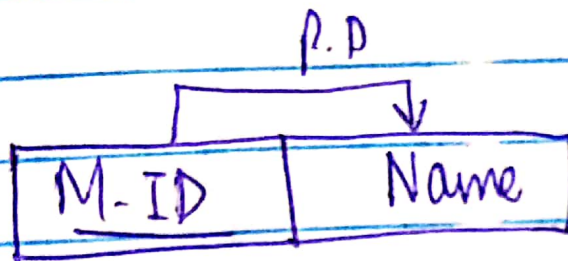


Table name: Manager

3NF

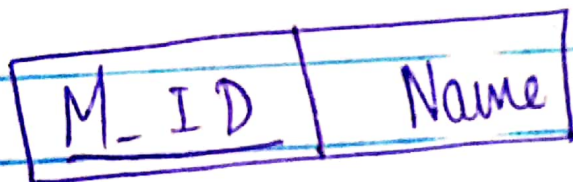
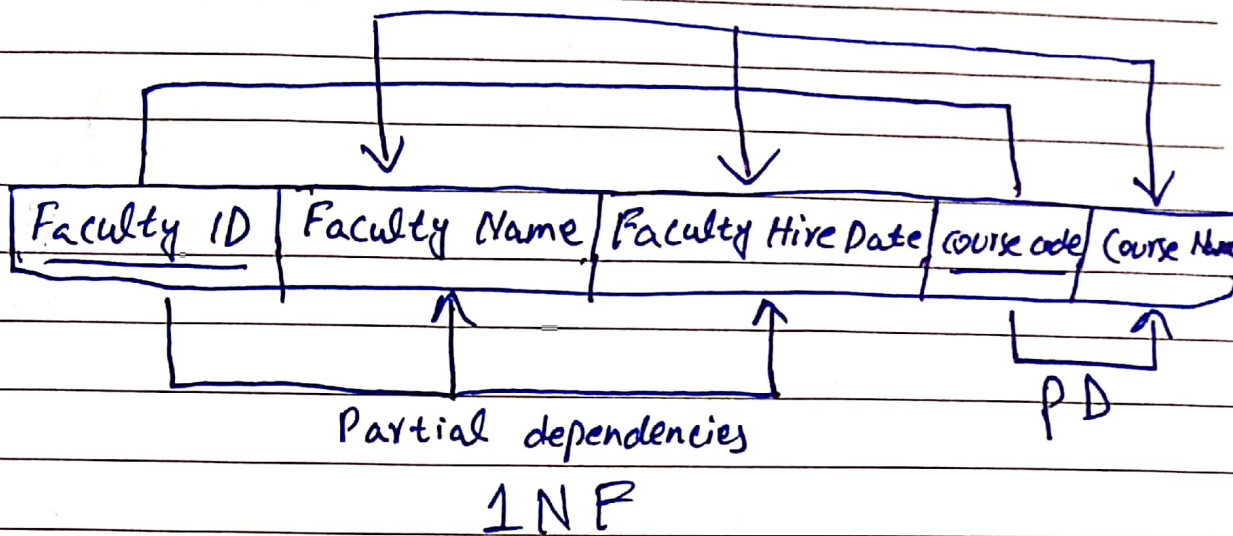


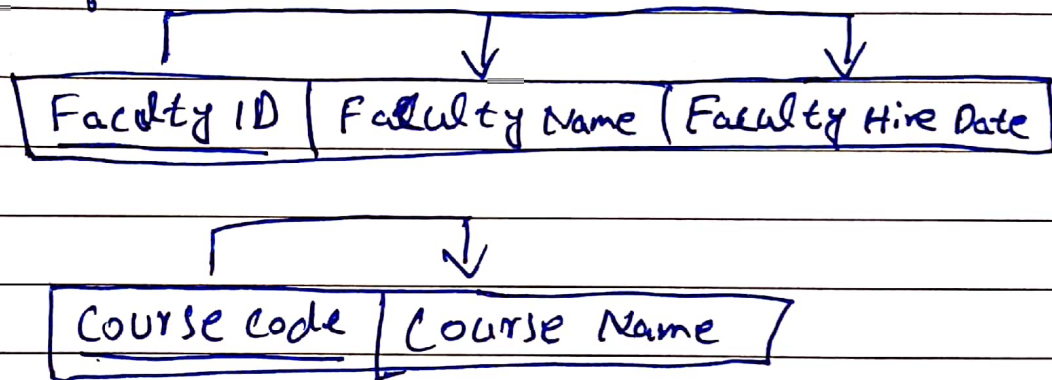
Table name: Manager.

(Q2)
a)

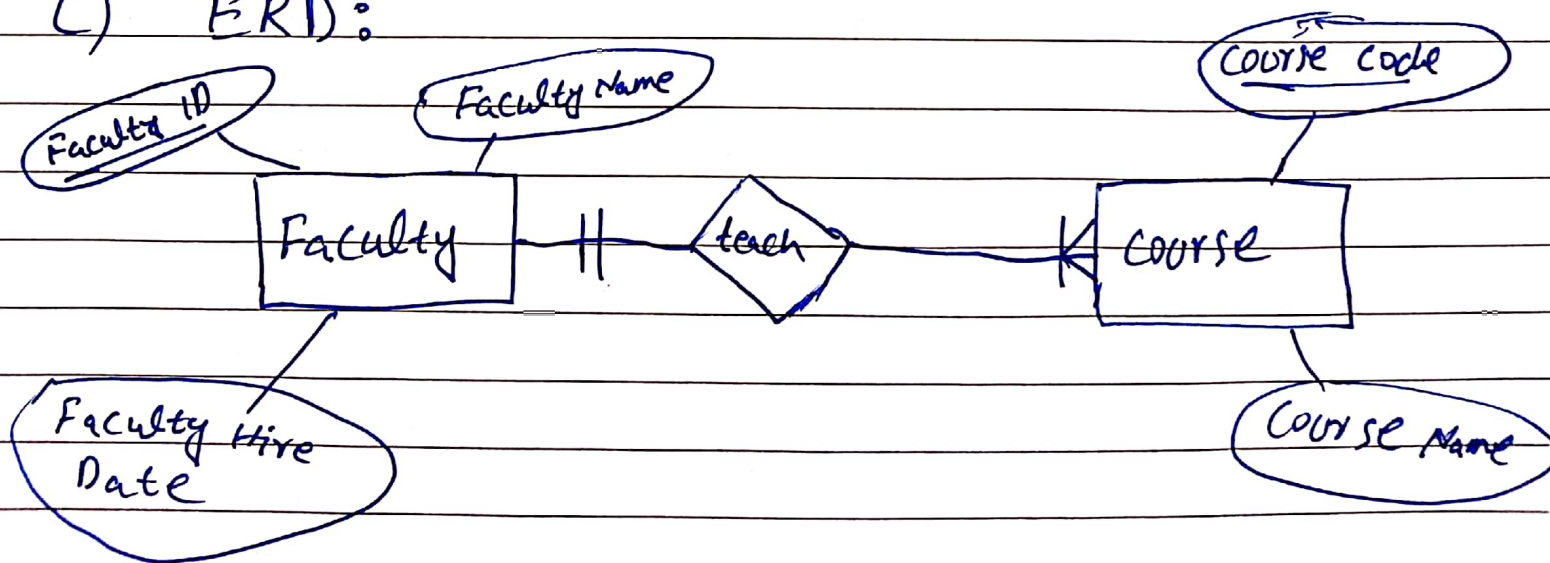


b)

2NF and 3NF:



c) ERD:



No:

Date:

(Q3)

1. PK Assignment:

Primary keys are assigned to each table. e.g: PROJ_NUM, JOB_CODE, ASSIGN_NUM, EMP_NUM are the primary keys of Project, JOB, ASSIGN and EMPLOYEE respectively.

2. Naming Conventions:

Each attribute in the tables is properly named. e.g: PROJ_Name, JOB_CHG HOUR etc.

3. Attribute atomicity:

Each attribute is atomic and it can not have multiple values. e.g: JOB_Description can consist of only one job. and Employee name is subdivide into L_Name, F_Name for atomicity.

4. Adding Attributes:

Some attributes are added to prevent loss of information. e.g:- EMP_NUM is added to the PROJECT table.

5. Adding Relationships:

The primary keys of some tables are added as foreign keys in other tables to show that they have some kind of relationship.

6. Refining PKs:

If we have a composite primary key, we can refine it to make processing easy.

e.g.: On slide 26, ASSIGN has a composite primary key consisting of EMP_NUM and PROJ_NUM, ~~it~~ it is refined to ASSIGN_NUM on slide 32.

7. Using Derived attributes:

In Normalized form, we removed derived attributes but in the completed database we add it again.

(Q4)

(Ans) Slide 9 has BCNF dependancy meaning that a primary key depends upon a simple attribute. BCNF dependancy is removed by making a seperate table where the simple attributes become ~~the~~ the primary key and primary key ~~acts~~ acts as a simple attribute.

The difference b/w partial dependancy and BCNF dependancy is that in partial dependancy, a non-key attribute depends on a key attribute while in BCNF dependancy, a key attribute depends on a non-key attribute.

No:

Date:

(Q5)

(Ans) On slide 17 PROJECT is in 3NF but EMPLOYEE has a transitive dependency b/w JOB_DESCRIPTION and JOB_CHG_HOUR. To remove this, we will create another table where JOB_DESCRIPTION and JOB_CHG_HOUR will be the attributes and JOB_CODE will be its key attribute. To prevent loss of information, JOB_CODE is included in EMPLOYEE table. And EMP_NUM is included in PROJECT table. To properly incorporate PROJECT and EMPLOYEE relationship, ASSIGNMENT associative entity must be defined.

