

# 1 Functional Dependencies

## 1. Schemes

$\text{Scheme\_Code} \rightarrow \text{Scheme\_Name}$   
 $\text{Scheme\_Code} \rightarrow \text{Provisions}$   
 $\text{Scheme\_Code} \rightarrow \text{Sector\_Code}$   
 $\text{Scheme\_Code} \rightarrow \text{Launching\_Date}$   
 $\text{Scheme\_Code} \rightarrow \text{Agegroup}$

The primary key in this table is – Scheme.Code.  
Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

## 2. Sector

$\text{Sector\_Code} \rightarrow \text{Sector\_Name}$   
 $\text{Sector\_Code} \rightarrow \text{Operator\_Id}$   
 $\text{Sector\_Code} \rightarrow \text{Ministry\_Code}$

The primary key in this table is – Sector.Code.  
Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

## 3. Operator

$\text{Operator\_Id} \rightarrow \text{Name}$   
 $\text{Operator\_Id} \rightarrow \text{Manager\_Id}$   
 $\text{Operator\_Id} \rightarrow \text{Address}$   
 $\text{Operator\_Id} \rightarrow \text{Sex}$   
 $\text{Operator\_Id} \rightarrow \text{DOB}$   
 $\text{Operator\_Id} \rightarrow \text{Supervisor\_Id}$

The primary key in this table is – Operator.Id.  
Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

## 4. Beneficiary

$\text{Enrollment\_Id} \rightarrow \text{City\_Code}$   
 $\text{Enrollment\_Id} \rightarrow \text{Enrollment\_Date}$

The primary key in this table is – Enrollment.Id.  
Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

## 5. Individuals

$\text{Enrollment\_Id} \rightarrow \text{FName}$   
 $\text{Enrollment\_Id} \rightarrow \text{MName}$   
 $\text{Enrollment\_Id} \rightarrow \text{LName}$

Enrollment\_Id  $\rightarrow$  Name  
Enrollment\_Id  $\rightarrow$  Sex  
Enrollment\_Id  $\rightarrow$  DOB

The primary key in this table is – Enrollment\_Id.  
Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

6. Organisation

Enrollment\_Id  $\rightarrow$  Organisation\_Name

The primary key in this table is – Enrollment\_Id.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

7. Identified\_By

Enrollment\_Id  $\rightarrow$  ID\_Name

Enrollment\_Id  $\rightarrow$  ID\_No

The primary key in this table is – Enrollment\_Id.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

8. Ministry

Ministry\_Code  $\rightarrow$  Ministry\_Name

Ministry\_Code  $\rightarrow$  Head\_Ministry

Ministry\_Code  $\rightarrow$  Govt\_Id

The primary key in this table is – Ministry\_Code.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

9. District

District\_Code  $\rightarrow$  District\_Name

District\_Code  $\rightarrow$  Manager\_Id

The primary key in this table is – District\_Code.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

10. location

Location.Code  $\rightarrow$  Location.Name

Location.Code  $\rightarrow$  Operator.ID

Location\_Code  $\rightarrow$  District\_Code

The primary key in this table is – Location\_code.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

11. Benefited\_by

Scheme\_Code, Enrollment\_Id  $\rightarrow$  Fund

Scheme\_Code, Enrollment\_Id  $\rightarrow$  Fund\_Status

The primary key in this table is – Scheme\_Code, Enrollment\_Id.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

12. Launching\_Govt

Govt\_Id  $\rightarrow$  Govt\_Name

The primary key in this table is – Govt\_Id.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

13. Audits

$\{Supervisor\_Id, Scheme\_code\} \rightarrow Fund\_Alloted$

$\{Supervisor\_Id, Scheme\_code\} \rightarrow Fund\_Spent$

The primary key in this table is – Scheme\_Code, Supervisor\_Id.

Since all the functional dependencies in the table are dependent only on the key, so it is in BCNF.

## 2 Normal Forms

All the relations are in BCNF.