



Formula_Master		
•Product_ID	varchar(20)	
•Material_ID	varchar(20)	
◦Weight_per_tablet	numeric(10)	

Product Master		
•Product_ID	varchar(20)	
•Product_Name	varchar(20)	
•Generic_Name	varchar(30)	
•Product_type	varchar(20)	
•Packing_type	varchar(10)	
•Packing_size	varchar(5)	
•SalableorSample	varchar(1)	
•GenericorBranded	varchar(1)	

Material Master		
•Material_ID	varchar(20)	
•Material_Name	varchar(20)	
•Material_Type	varchar(20)	
•Therapeutic_Category	varchar(20)	
•Material_state	varchar(10)	
•Storage_Condition	varchar(100)	
•Shelf_Life	numeric(3)	
•isHazardous	boolean	
•isInflammable	boolean	
•UOM	varchar(3)	

Batch		
•Batch_No	numeric(10)	
•Batch_Size	numeric(10)	
•Mfg_Date	date	
•Exp_Date	date	
•Product_ID	varchar(20)	
•Stock_Qty	numeric(10)	
•UT_Q_A	varchar(2)	

Product quality Check		
◦Batch_no	numeric(10)	
•Report_ID	varchar(20)	
◦Analysis_Date	date	
◦Analyst_Name	varchar(20)	
◦Sample_Size	numeric(10)	
◦Process_State	varchar(20)	
◦Test	varchar(10)	
◦Limits	varchar(10)	
◦Results	varchar(30)	

Material Dispensing		
•Batch_no	numeric(10)	
•Item_ID	numeric(10)	
◦Quantity_Issued	numeric(10)	

Warehouse		
•Item_ID	numeric(10)	
•Material_ID	varchar(20)	
•Invoice_No	numeric(10)	
•UT_Q_A	varchar(2)	
•Stock	numeric(10)	

Material quality check		
•Item_ID	numeric(10)	
•Report_ID	varchar(20)	
•Analysis_Date	date	
•Analyst_Name	varchar(20)	
•Sample_Size	numeric(10)	
•Test	varchar(10)	
•Limits	varchar(10)	
•Results	varchar(30)	

Transactions		
•InvoiceNo	numeric(10)	
•Transaction_Date	date	
•Currency	varchar(3)	
•Transaction_type	varchar(4)	
•Paid_Received	boolean	
•Account_no	varchar(11)	
•Total_value	numeric(10,2)	

Account Master		
•Account_no	varchar(11)	
•Account_Name	varchar(20)	
•Phone_No	varchar(13)	
•Address	varchar(100)	

RM Transaction		
•Invoice_no	numeric(10)	
•Item_ID	numeric(10)	
•Val	numeric(10,2)	
•RM_Qty	numeric(10)	

FG Transaction		
•Invoice_No	numeric(10)	
•Batch_No	numeric(10)	
•Sale_Qty	numeric(10)	
•Val	numeric(10,2)	

# Group 5.15

## FUNCTIONAL DEPENDENCIES

### ➤ Material Master

- $\text{Material\_ID} \rightarrow \{ \text{Material\_Name}, \text{Material\_Type}, \text{Storage\_Condition}, \text{Shelf\_Life}, \text{Therapeutic\_Category}, \text{Material\_state}, \text{isHazardous}, \text{isInflammable}, \text{UOM} \}$
- This is in BCNF form with primary key Material\_ID

### ➤ Product\_Master

- $\text{Product\_ID} \rightarrow \{ \text{Product\_Name}, \text{Generic\_Name}, \text{Product\_type}, \text{Packing\_type}, \text{Packing\_size}, \text{SalebleorSample}, \text{GenericorBranded} \}$
- This is in BCNF form with primary key Product\_ID

### ➤ Warehouse

- $\{ \text{Material\_ID}, \text{Invoice\_No} \} \rightarrow \{ \text{UT\_Q\_A}, \text{Stock}, \text{Val}, \text{Buy\_Qty} \}$
- This is in BCNF form with primary key Item\_ID

### ➤ Formula Master

- $\{ \text{Product\_ID}, \text{Material\_ID} \} \rightarrow \{ \text{Weight\_per\_tablet} \}$
- This is in BCNF form with primary key  $\{ \text{Product\_ID}, \text{Material\_ID} \}$

### ➤ Material Dispensing

- $\{ \text{Batch\_No}, \text{Invoice\_No}, \text{Material\_ID} \} \rightarrow \{ \text{Qty\_Issued} \}$
- This is in BCNF form with primary key  $\{ \text{Batch\_No}, \text{Item\_ID} \}$

### ➤ Batch

- $\text{Batch\_No} \rightarrow \{ \text{Product\_ID}, \text{Batch\_Size}, \text{Mfg\_Date}, \text{Exp\_Date}, \text{Stock\_Qty}, \text{UT\_Q\_A} \}$
- This is in BCNF form with primary key Batch\_No

### ➤ Account\_Master

- $\text{Account\_No} \rightarrow \{ \text{Account\_Name}, \text{Phone\_No}, \text{Address} \}$
- This is in BCNF form with primary key Account\_No

➤ Transactions

- InvoiceNo → {Account\_no, Transaction\_Date, Transaction\_type, Currency, Total\_Value, Paid\_Received}
- This is in BCNF form with primary key InvoiceNo

➤ FG\_Transaction

- {InvoiceNo, Batch\_No} → {Sale\_Qty, Val}
- This is in BCNF form with primary key {InvoiceNo, Batch\_No}

➤ Product\_Quality\_Check

- Report\_ID → {Batch\_No, Analysis\_date, Analyst\_name, Sample\_size, Process\_Stage, Test, Limits, Result}
- This is in BCNF form with primary key Report\_ID

➤ Material\_Quality\_Check

- Report\_ID → {Material\_ID, Invoice\_No, Analysis\_date, Analyst\_name, Sample\_size, Process\_Stage, Test, Limits, Result}
- This is in BCNF form with primary key Report\_ID