

# HOSPITAL MANAGEMENT SYSTEM

Patient\_ID → {P\_Name, P\_Email, P\_Gender, Blood\_Group, P\_DOB, P\_Street1, P\_Street2, P\_City, P\_State, P\_Country}

P\_Email → Patient\_ID

Treatment\_ID → {Patient\_ID, Disease/Injury, Doctor\_Assigned, Patient\_Type}

Treatment\_ID → Visit\_Date

Treatment\_ID → {Admission\_Date, Discharge\_Date, Room\_No, Block, R\_Name, Relation, R\_Phone}

{Admission\_Date, Discharge\_Date} → {Treatment\_ID, Emp\_ID, Start\_Time, End\_Time}

R\_Phone → R\_Name

{Room\_No, Block} → R\_Type

R\_Type → R\_Cost

Test\_ID → {Timestamp, Treatment\_ID, Test\_Type}

Test\_ID → {Test\_Name, Cost}

Test\_Name → {Cost, Machine}

Medicine\_Name → {M\_Cost, M\_Type}

{Treatment\_ID, Medicine\_Name} → Quantity

{Treatment\_ID, Bill\_Date} → {Tests\_Cost, Medicine\_Cost, Room\_Cost, Consultation\_Cost, Total\_Cost}

$\text{Emp\_ID} \rightarrow \{\text{E\_Name}, \text{E\_Type}, \text{Salary}, \text{E\_DOB}, \text{E\_Email}, \text{E\_Street1}, \text{E\_Street2}, \text{E\_City}, \text{E\_State}, \text{E\_Country}, \text{Department\_ID}, \text{Joining\_Date}, \text{Leaving\_Date}\}$

$\text{E\_Email} \rightarrow \text{Emp\_ID}$

$\text{E\_Phone} \rightarrow \text{Emp\_ID}$

$\text{Emp\_ID} \rightarrow \{\text{Doc\_Qualification}, \text{Doc\_Specialization}\}$

$\text{Emp\_ID} \rightarrow \{\text{N\_Qualification}, \text{N\_Type}\}$

$\text{DID} \rightarrow \{\text{D\_Name}, \text{HOD}, \text{Head\_Since}\}$

### **IS IT IN BCNF FORM?**

We can observe that for any FD  $X \rightarrow Y$  given above,  $X$  is either the key of its respective table (relation) or it is one of the candidate keys. So, the criteria for BCNF that  $X$  must be a super key is satisfied by all FDs. Hence, all our relations are in BCNF form