**OOPD ASSIGNMENT - 1**

1. **Identified Entities(Classes):**

* Hospital
* Department
* Staff
* Person
* Doctor
* Nurse
* ClinicalAssistant
* Patient
* Lab
* Ward
* Pharmacy

2. **Identified Classes Properties and Hierarchy:**

* Hospital

+ name -->String

+ address -->String

+ contactNumber --> String

+ getDetails()

* Department

+ deptId -->String

+ deptName -->String

+ deptLocation --> String

+ doctors --> int

+ nurses --> int

+ labTechnicians -->int

+ nonTechnicalStaff --> int

+ getDetails()

* Staff extends Department

+ staffId --> String

+ staffDept --> String

+ category --> String

+ department --> String

- getDetails()

* Person

+ firstName

+ lastName

+ gender

- dateOfBirth

+ bloodGrp

+ address

- salary

- contact

+ getData()

* Doctor extends Person

+ speciality

+ availability

+ experience

+ deptName

+ successRate

- getDetails()

* Nurse extends Department

+ availability

+ experience

+ deptName

getDetails()

* ClinicalAssistant extends Person

+ deptName

+ availability

+ experience

+ getDetails()

* Patient extends Person

+ patientId

+ illness

+ assignedDoctor

- medication

- bill

+ getDetails()

* Lab extends Department

+ labDept

+ equipment

+ technicians

+ getDetails()

* Ward

+ capacity

+ filledRooms

+ vacantRooms

+ getDetails()

* Pharmacy extends Department

+ medicines

+ checkMedicines()

+ orderMedicines()

+ getPatientsbills(patientId)

3. **Relationships between Entities:**

* clinical assistant assists doctors --> one to many
* patient go to hospital --> many to many relationship
* patient consults doctor --> many to one relationship
* doctor prescribes medicines to patient -->
* labs tests patient illness --> one to many relationship
* pharmacists gives medicines to patient --> one to many
* nurse takes care of patients --> one to many
* Hospital has wards --> many wards in hospital
* staff in hospital --> many to one
* patients admits in ward --> many to one
* many departments are in hospital.

Notation: +,- to class members is access specifier.

4,5 . **UML Diagram**

