Hospital Management System

Scenario:

City Hospital wants to implment database applications for following requirements.
Pateint take admission into the Hospital Room with the help of Receptionist. Hospital room will consist of various beds. Doctor treats patient with the help of Nurse. Patient may undergo various test. At the time of discharge, patient pays the bill. Receptionist maintain all the records of Hospital.

Entities:

1) Patient (strong entity)
2) Room (strong entity)
3) Receptionist (strong entity)
4) Bed (strong entity)
5) Doctor (strong entity)
6) Nurse (strong entity)
7) Test (strong entity)
8) Bill (strong entity)
9) Record (strong entity)

Attributes:

1) Patient (patient_id, patient_name, patient_gender,patient_address, patient_phoneno, pateint_dob, patient_age, blood_group, medical_history)

Simple Attribute: **patient_gender, pateint_dob, blood_group**
Composite Attribute: patient_name(fname,lname,mname)
Single Valued: **patient_id**
Multivalued: patient_address, patient_phoneno, medical_history
Derived: **patient_age**

2) Room (Room_id, No_of_beds, No_of_vacantbeds, room_type, floor_no, room_charge)

3) Receptionist(Rec_id, Rec_name, Rec_gender, Rec_address, Redc_phoneno, rec_qualification, Shift_time, Rec_Salary)

4) Bed (Bed_id, Bed_type, Bed_state, Bed_charge)

5) Doctor(Doc_id, Doc_name, Doc_gender, Doc_address,Doc_phonno, Doc_specialization, Doc_salary, Shift_time, Type_of_doc)

6) Nurse (Nurse_id, Nurse_name, Nurse_gender, Nurse_address, Nurse_phoneno, Nurse_salary, Shift_time, Nurse_qualification)

7) Test (Test_id, Test_name, Test_charge, Test_result, Test_date)

8) Bill (Bill_id, Bill_date, Bill_amount,Bill_status)

9) Record (Record_id, Record_date)

Relationships:

1) Patient **is admitted in** room.
2) Receptionist **admits** pateint.
3) Patient **is alloted a** bed.
4) Doctor **treats** patient.
5) Patient **undergoes** test.
6) Patient **pays** bill.
7) Room **is alloted by** Receptionist.
8) Room **consist of** bed.
9) Receptionist **receives** bill.
10) Receptionist **maintains** record.
11) Nurse **helps** doctor.
12) Doctor **conducts** test.

Mapping Cardinilites:
1) **Many** Patient is admitted in **One** room.
2) **One** Receptionist admits **many** pateint.
3) **One** Patient is alloted a **One** bed.
4) **One** Doctor treats **many** patient.
5) **One** Patient undergoes **many** test.
6) **One** Patient pays **many** bill.
7) **Many** Room is alloted by **one** Receptionist.
8) **One** Room consist of **many** bed.
9) **One** Receptionist receives **many** bill.
10) **One** Receptionist maintains **many** record.
11) **Many** Nurse helps **many** doctor.
12) **One** Doctor conducts **many** test.

Draw ER diagram.

ER to Relational Mapping:

1) Patient (patient_id, fname,lname,mname, patient_gender, pateint_dob, patient_age, blood_group,bed_id,room_id,Rec_id,Doc_id)

2) Room (Room_id, No_of_beds, No_of_vacantbeds, room_type, floor_no, room_charge,Rep_id)

3) Receptionist(Rec_id, fname,lname,mname, Rec_gender, rec_qualification, Shift_time, Rec_Salary)

4) Bed (Bed_id, Bed_type, Bed_state, Bed_charge,patient_id)

5) Doctor(Doc_id, fname,lname,mname, Doc_gender, Doc_specialization, Doc_salary, Shift_time, Type_of_doc)

6) Nurse (Nurse_id, fname, lname, mname, Nurse_gender, Nurse_salary, Shift_time, Nurse_qualification)

7) Test (Test_id, Test_name, Test_charge, Test_result, Test_date, Patient_id,Doc_id)

8) Bill (Bill_id, Bill_date, Bill_amount,Bill_status,Patient_id)

9) Record (Record_id, Record_date,Rec_id)

10) Doc_Nurse (Doc_id,Nurse_id)

11) Patient_phone (patient_phoneno, Patient_id)

12) Patient_add (Patient_address, Pateint_id)

13) Rec_phone(Rec_phoneno, Rec_id)

14) Rec_add (Rec_address, Rec_id)

15) Doc_add(Doc_address, Doc_id)

16) Doc_phone(Doc_phonene, Doc_id)

17) Nurse_add (Nurse_address, Nurse_id)

18) Nurse_phone(Nurse_phoneno, Nurse_id)

19) Patient_Med (Patient_Medicalhistory, Pateint_id)