1)

Name: Kiran Vasantha.
Roll No: 19 BG059
Sub: DBMS-LaB

1)

a) This table is not in 1NF because in the course column has multiple values.

But for a table to the in 1NF it must contain only atomic values at each row and column.

Here the attribute 'Id' is the primary key and the candidate key, The attributes "Name" "Age" "Location" "course" are non prime attributes, "Id" is the prime attributs.

The 1NF would be.

Id	Name	Age	Location
1	Sachin	22	Delhi
2	Ram	22	Jamshepur
3	mike	23	chennai
4	Sameer	21	Bengaluru
5	vijay	22	Mumbai

Id	Course
1	OS
1	DBMS
2	DAA
2	DBMS
3	ML
3	OS
4	DAA
4	ML
5	ML
5	DBMS

→ Here The Primary Key is { Id, Course }

2) The table 2.1 is not in 2nd Normal form Beause it is not fully functionally independent as →

EMP →ID →Name →Age
EMP = ID   Duty shift- ID → Duty-shift

primary Keys → EMP ID
candidate Keys → EMP ID
prime attribute → EMP ID, Duty shift ID
Non prime → Age, Name, Duty - shift

converted table :→

Table 1   (Emp -ID)

EMP -ID	Name	Age
101	Arun	26
102	Bobby	28
103	Suresh	30
109	Seta	24

(Table -2   Duty shift -ID)

Emp ID	Duty shift -ID.	Duty shift
101	1	morining
102	2	After noon
103	3	Night
109	4	morining

Table 2.2   is not in 2NF becauye it is
not fully functionally independent os :-

emp   ID → Name.

Emp   ID → project - ID → project Name

NO of hours.

primary key → Emp -ID

candidate key → Emp ID   , project -ID

prime attributes → Emp ID project -ID.

Non prime → Name, project - Name, No
— of hours

converted table →

EMP - ID	Name
1 2 3	Ajay
3 2 1	Charu
5 4 6	Rajsh
7 6 5	Abhishek

Emp -ID	project -ID	prj- Name	No. of hou
1 2 3	Prj - 21	speech system	10
3 2 1	prj - 45	HR system	15
5 4 6	prj -24	Automate Title	23
7 6 5	prj -11	NCP	16

Ans

3) Table 3.1

primary — Cost ID

candidate — Cust -ID, Cust -Name
Cust- postcode , Cust - address

prime - Cust-ID Cust-Name - Cust postcod
Cust -address

Non- prime - Cust -

Table. 3.2

primary ──>, Building

candidate ──> Building   contractory

Builder   fee

prime   ──> Building   contractor.

Builder -fee

Non - prime ──>

3)

5)
Here There exist transtive dependency

so it is not in 3NF.

{ contractor } ─{Fee}

There should be no transtive. dependency

is 3NF. There should

{ Building } ──> primary key

{ contractor Builder Fee} ──> non prime
atteributs

{Building } ⇒ contractor

{ Building ──> Builder

transtive dependency on Building ID

so not in 3NF

3NF would be

primary key

Building	Contractor	Builder
B - 2156	Taylor	prystige
B - 8765	Samdeep	Hironandani
B - 4567	vishala	Toda

primary key - { Contractor Fee }.

contractor   fee

Taylor   2567891

Samdeep   35 67356

vishala :   4567 990