Q1)

Ep Id	EmpN	City	Dep
101	Amit	Kolk	OBIEE
102	Durga	Ind	CONGNOS
103	Yodhini	Hydr	SIEBEL
104	Amit	Kolk	ETL

Candidate Key - Ep Id.

R_1 (Emp Id , Emp Name) R_2 (Emp Id , departm

Em	EmpN
101	Amit
102	Durga
103	Yodhini

EmpId	
101	OBIEE
101	ETL
102	CONGNOS
103	SIEBEL

2NF

Emp

Emp	~~Deprat~~	Emp Name
101	101	Amit
102	102	Durga
103	103	Rama

EmpN

~~Dep~~ NO	Department
101	OBIEE
102	COGNOS

Which is in 3F

3NF

Q3) R = (A B C D E F)

$C \to F$, $E \to A$, $EC \to D$, $A \to B$

Cand Key =

su	pre
C	F
E	A
EC	D
~~A~~	B

* $EC^+ = (E, C, F, A, B, D)$

$\therefore$ EC is Candidate key

Q4) $A \to B$, $A \to C$

$CD \to E$, $B \to D$, $E \to A$

a) $CD \to AC$

$CD \to DA$ $(E \to A)$

$CD \to AC$ $(A \to C)$

b) $BD \to CD$

$BD \to C$

$BD \to D$

Not possible

c) $BC \to CD$

$B \to D$ (Given)

$BC \to CD$ (Con Both side

True

d) $AC - BC$

$A \to B$

$AC \to BC$

True

Ans (b)

Q5)

$AB \to CD$

$AF \to D$

$DE \to F$

$C \to G$

$F \to E$

$G \to A$

a) $(CF)^+ = (C, F, G, E, A, D)$

True

b) $(BG)^+ = (B, G, A, C, D)$

True

c) $(AF)^+ = (A, F, D, E)$

Not True

d) $(AB)^+ = (A, B, C, D, G, E, G)$

↳ Not F in Patch

The Given table in ~~in~~ 1NF form

2NF form
~~for~~ check for partial dependency

User_Id → { email Fname lname city State Zip }
Zip → city state
city → zip state
(Non Prime → Non Prime)
So no partial dependency.

It is in 2NF form

3NF form
for 3NF condition, the condare
for X → Y
X must be superkey
or
Y must be prime attribut

So, for
zip - city State, city → zip State
it is not valid.

User_Personal (User Id, U_email, Fname, Lname, Zip)

City (Zip, ~~a~~ city, State)

UserId U_email Fname Lname Ze

Table I

Zip city State

Table II

Now its in 3NF form.

(Q1) 3NF

Emp Id	emp name
101	Amit
102	Priya
103	Raj
104	Amit

Ed	city	P
101	Kolk	OD
101	Kolk	BC
102	Indo	Co
103	Hyb	S1
104	Kolk	ET