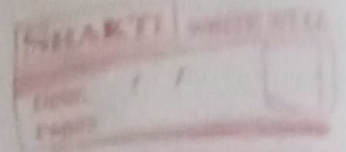


Name: Ayush Singh  
Reg - 19BCE10151



Q1)

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

Candidate Key - Ep Id

$R_1$  (Emp Id, Emp Name)  $R_2$  (Emp Id, Department)

Emp	EmpN	Emp Id	Department
101	Amit	101	OBIEE
102	Dweya	101	ETL
103	Yodhini	102	CONGNOS
		103	SIEBEL

2NF

Emp	Emp	Emp p Name
101	101	Amit
102	102	Dweya
103	103	Ramya

EmpN	Department
101	OBIEE
102	CONGNOS

which is in 3F

3NF

83)  $R = (A \ B \ C \ D \ E \ F)$

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

Cand Key =	su	pre
	C	F
	E	A
	EC	D
	<del>A</del>	B

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

$\therefore EC$  is candidate key

84)  $A \rightarrow B \quad A \rightarrow C$   
 $CD \rightarrow E, \quad B \rightarrow D, E \rightarrow A$

a)  $CD \rightarrow AC$   
 $CD \rightarrow DA \quad (E \rightarrow A)$   
 $ED \rightarrow AC \quad (A \rightarrow C)$

b)  $BD \rightarrow CD$   
 $BD \rightarrow C$   
 $BD \rightarrow D$   
Not possible

$$c) BC \rightarrow CD$$

$$B \rightarrow D \text{ (Given)}$$

$$BC \rightarrow CD \text{ (con B on both side)}$$

True

a)

$$AC - BC$$

$$A \rightarrow B$$

$$AC \rightarrow BC$$

True

Ans (b)

Q5)

$$AB \rightarrow CD$$

$$AF \rightarrow D$$

$$DE \rightarrow F$$

$$C \rightarrow G$$

$$F \rightarrow E$$

$$G \rightarrow A$$

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

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 Path



The Given table is in 1NF form,

2) 2NF form

check for partial dependency

User Id  $\rightarrow$  emailName | name City State Zip

1) Zip  $\rightarrow$  City State

City  $\rightarrow$  Zip State

(Non Prime  $\rightarrow$  Non Prime)

So no partial dependency.

It is in 2NF form

3NF form

for 3NF condition, the condition for  $X \rightarrow Y$

X must be superkey

or

Y must be prime attribute

So, for

Zip - City State, City  $\rightarrow$  Zip State

it is not valid.

User\_Personal (User Id, U\_email, Fname, Lname, Zip)

City (Zip, city, State)

← User Id U\_email Fname Lname Zip  
Table I

Zip city State  
→ Table II

New uts in 3NF form.

(91)

3NF

emp Id	emp name	Ed	city	Re
101	Anant	101	Kolh	ODPG
102	Pooja	101	Kolh	BODG
103	Woj	102	Indo	WODG
104	Anit	103	Hyd	SHF
		104	Kolh	ETC