Q1

a):

B->EF, F->D violate BCNF

b):

A	B	C	D	E	F
1	1	1	1	1	1
2	2	2	1	1	1

Redundancy are highlighted. This redundancy exists because F->D violates BCNF.

c):

R1(ABC), R2(BDEF)

d):

R1(ABC) {A->BC, BC->A}
R2(BDEF) {B->DEF, F->D}

e):

The new schema is not in BCNF

Q2

a):

{BC}

b):

For a set of attribute to be a key, that set has to contain B and C. Since BC is already a key, therefore nothing else can be key.

c):

Construct a minimal basis M of FDs
{A->DE, C->A, E->A}

For each FD X->Y in M, define new relation with schema XY
R1(ADE), R2(AC)

If no relation is superkey for R, add relation whose schema is some key
R3(BC)