6

1

snumber -> sname
snumber -> city
sumber -> postcode
city -> postcode

minimal key: snumber

1NF -> **Yes**, every schema is 1NF
2NF -> **Yes**, because it doesn't have a composite key
3NF -> **No**, existence of a non prime pointing to another non prime

Highest normal form: 2NF

2

employee -> branch (k1 = employee)
customer, branch -> employee (k2 = customer, branch)
employee, customer -> branch
minimal key: (customer, branch), (employee, customer)

1NF -> **Yes**, every schema is 1NF
2NF -> **Yes**, because no non prime attributes that depend on part of the key
3NF -> **Yes**, because no existence of non prime pointing to another non prime
BCNF -> **Not in BCNF** because relationship where the left side is not a super key

Highest normal form: 3NF

3
pnumber → address
pnumber → rent
pnumber → onumber
onumber → oname

minimal key: pnumber
1NF -> **Yes**, every schema is 1NF
2NF -> **Yes**, because no non prime attributes that depend on part of the key
3NF -> No, because of existence of non prime pointing to another non prime (onumber)

Highest normal form: 2NF

4

lecturer -> school
school -> bldg#
bldg# -> campus

minimal key: lecturer

1NF -> **Yes**, every schema is 1NF
2NF -> **Yes**, because no composite key
3NF -> **No**, because existence of non prime pointing to another non prime

Highest normal form: 2NF

5

T → N
T → E
O → C
O → T

minimal key = 0

1NF -> **Yes**, every schema is 1NF
2NF -> **Yes**, because no composite key
3NF -> **No**, because existence of non prime pointing to another non prime

Highest normal form: 2NF