Group 03   (3.23)

a.   BANK, ACCOUNT, LOAN, CUSTOMER

b.   Yes.
name $\rightarrow$ BANK - BRANCH
partial key $\rightarrow$ BranchNo
BANK and BANK - BRANCH $\rightarrow$ one to many
ACCOUNT and BANK - BRANCH $\rightarrow$ many to one
LOAN and BANK - BRANCH $\rightarrow$ many to one

c.   foreign key constraint - Primary key of BANK (code)
     is the foreign key of BANK - BRANCH
Unique key constraint - BranchNo should be unique
Not null constraint - BranchNo should be not null.
relationship $\rightarrow$ Each BANK - BRANCH is associated
              with exactly one BANK. A BANK
              can have multiple branches.

d.   BANK and BANK - BRANCH $\rightarrow$
         1 (1, 1) : N (1, N)

BANK - BRANCH and ACCOUNT $\rightarrow$
         1 (1, 1) : N (1, N)

BANK - BRANCH and LOAN $\rightarrow$
         1 (1, 1) : N (0, N)

ACCOUNT and CUSTOMER $\rightarrow$
         N (1, N) : M (1, N)

LOAN and CUSTOMER $\rightarrow$
    M (0, N) : N (1, N)

e. A CUSTOMER can have multiple Account & Loans.

BANK - BRANCH offers LOAN and manages ACCOUNT.

ACCOUNT and CUSTOMER
    ACCOUNT (1, N) — CUSTOMER (1, M)

LOAN and CUSTOMER
    LOAN (1, 1) — CUSTOMER (1, 2)

LOAN and BANK-BRANCH
    BANK- BRANCH (1, N) — LOAN (1, 1)

f. CUSTOMER and LOAN $\rightarrow$ (0, 2) : M

BANK- BRANCH and LOAN $\rightarrow$ 1 : (0, 1000)

Reg. no
- 2022/CSC/076
- 2022/CSC/095
- 2022/CSC/020
- 2022/CSC/023
- 2022/CSC/033
- 2022/CSC/042
- 2022/CSC/043
- 2022/CSC/053
- 2022/CSC/063
- 2022/SP/142
- 2022/CSC/049

2022/SP/002
2022/CSC/062
2022/SP/020
2022/CSC/100
2022/CSC/012
2022/CSC/019
2022/CSC/064
2022/CSC/050
2022/SP/058
2022/SP/087

(a) Bank
Account
Loan
Customer

(b). ~~Bank Branch~~ – yes.
, name – Bank Branch,
Partial key – BranchNo
relationship – Branches. Id 1 – N

(c), partial key – For each bank, branchNo is unique
id – relationship ~~Each~~ bank-branch associated with
ship exactly one Bank
A bank can have multiple branches

(d)✓ branches.
Bank (1-1), bank-branch (1 – N) one to many
Accts   (min) (max) min –   max – N
Bank_Branch – Account (1 – N) one to many
                    (min) (max)
A – C
Accounts – Customer (M – N) many to many
              (max) (min)   max-1
~~Loan~~ L – C
Loan – Customer (M – N) many to many
              (min) (max)

Loans
Bank_Branch – Loan (1 – N) one to many.
              (min) (max)

e) • Each branch can have multiple branches.
   • each branch can manage multiple account loan.
   • each account and loan must be associated with specific branc.
   • Customers can have multiple account