CN Lab Assignment

OSPF and RIP

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Sec – A

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Q1) Implement RIP and OSPF

Ans-

Subnetting ->

For C –

346 -> 512 = 2^9

32-9=/23

Mask – 255.255.254.0

N/W IP – 100.0.0.0

Broadcast IP- 100.0.1.255

For B –

300 -> 512 = 2^9

32-9=/23

Mask – 255.255.254.0

N/W IP – 100.0.2.0

Broadcast IP- 100.0.3.255

For D –

251 -> 256 = 2^8

32-8=/24

Mask – 255.255.255.0

N/W IP – 100.0.4.0

Broadcast IP- 100.0.4.255

For A –

100 -> 128 = 2^7

32-7=/25

Mask – 255.255.255.128

N/W IP – 100.0.5.0

Broadcast IP- 100.0.5.127

For R1-R2 –

2^2=4

32-2=/30

Mask – 255.255.255.252

N/W IP – 100.0.5.128

Broadcast IP- 100.0.5.131

For R1-R4 –

2^2=4

32-2=/30

Mask – 255.255.255.252

N/W IP – 100.0.5.132

Broadcast IP- 100.0.5.135

For R1-R3 –

2^2=4

32-2=/30

Mask – 255.255.255.252

N/W IP – 100.0.5.136

Broadcast IP- 100.0.5.139

For R2-R4 –

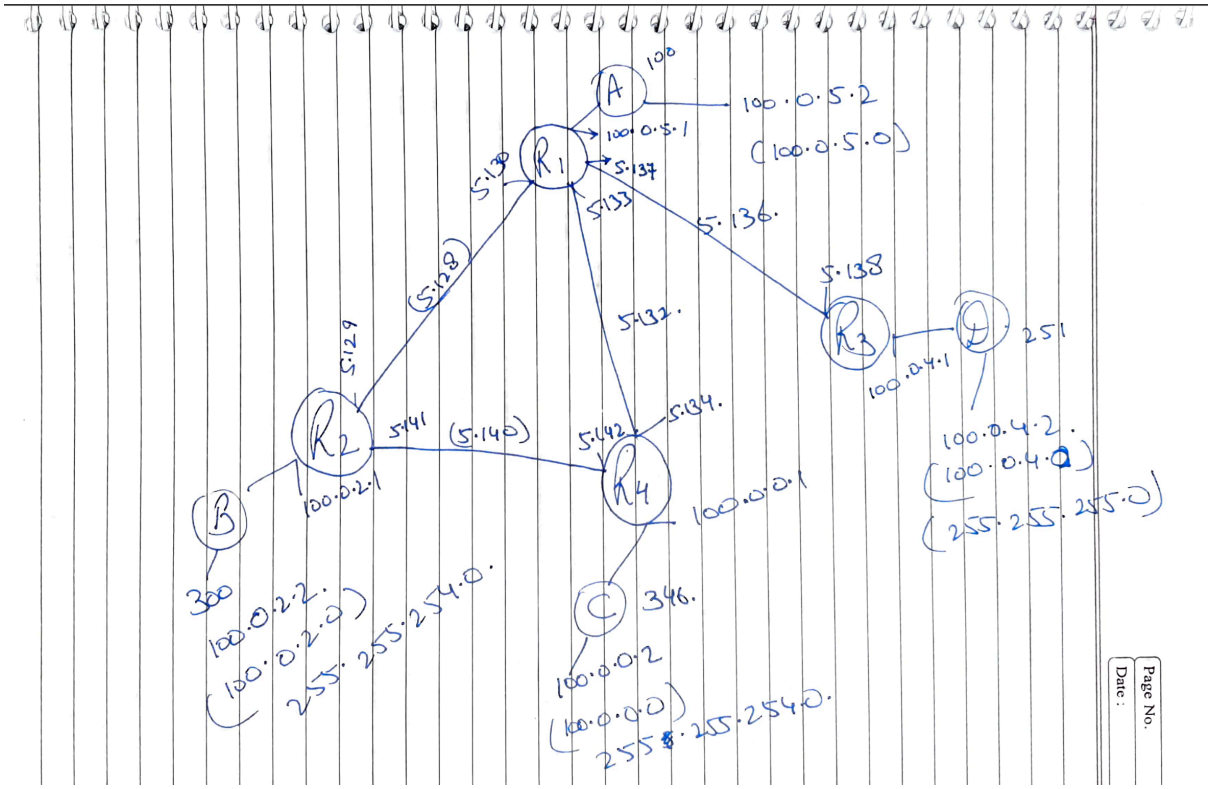
2^2=4

32-2=/30

Mask – 255.255.255.252

N/W IP – 100.0.5.140

Broadcast IP- 100.0.5.143



Router Config Commands (for all the routers) -

Router > en

Router # sh run

Router # config t

Router # hostname R1

R1 (config) # > line console 0

R1 (config) # > password cisco

R1 (config) # > login

Ctrl+z

R1 # > wr mem

R1 # > exit

RIP Config For R1 –

R1 # config t

R1 (config)# router rip

R1 (router-config)# version 2

R1 (router-config)# network 100.0.5.0

R1 (router-config)# network 100.0.5.136

R1 (router-config)# network 100.0.5.132

R1 (router-config)# network 100.0.5.128

R1 (router-config)# do wr mem

RIP Config For R2 –

R2 # config t

R2 (config)# router rip

R2 (router-config)# version 2

R2 (router-config)# network 100.0.5.140

R2 (router-config)# network 100.0.2.0

R2 (router-config)# network 100.0.5.128

R2 (router-config)# do wr mem

RIP Config For R3 –

R3 # config t

R3 (config)# router rip

R3 (router-config)# version 2

R3 (router-config)# network 100.0.4.0

R3 (router-config)# network 100.0.5.136

R3 (router-config)# do wr mem

RIP Config For R4 –

R4 # config t

R4 (config)# router rip

R4 (router-config)# version 2

R4 (router-config)# network 100.0.0.0

R4 (router-config)# network 100.0.5.140

R4 (router-config)# network 100.0.5.132

R4 (router-config)# do wr mem

OSPF Config for R1-

R1(config)# router ospf 1

R1(router -config)# network 100.0.5.0 0.0.0.127 area 0

R1(router -config)# network 100.0.5.136 0.0.0.3 area 0

R1(router -config)# network 100.0.5.132 0.0.0.3 area 0

R1(router -config)# network 100.0.5.128 0.0.0.3 area 0

R1(router -config)# do wr mem

OSPF Config for R2-

R2(config)# router ospf 1

R2(router -config)# network 100.0.2.0 0.0.1.255 area 0

R2(router -config)# network 100.0.5.140 0.0.0.3 area 0

R2(router -config)# network 100.0.5.128 0.0.0.3 area 0

R2(router -config)# do wr mem

OSPF Config for R3-

R3(config)# router ospf 1

R3(router -config)# network 100.0.4.0 0.0.0.255 area 0

R3(router -config)# network 100.0.5.136 0.0.0.3 area 0

R3(router -config)# network 100.0.5.132 0.0.0.3 area 0

R3(router -config)# do wr mem

OSPF Config for R4-

R4(config)# router ospf 1

R4(router -config)# network 100.0.0.0 0.0.1.255 area 0

R4(router -config)# network 100.0.5.140 0.0.0.3 area 0

R4(router -config)# network 100.0.5.132 0.0.0.3 area 0

R4(router -config)# do wr mem