Date: _____

NAME Mian Daud jan

CLASS BSSE(A), 4th sem

Roll no 14468

Teacher Mansoor

Subj CC&N.

Date:

Mian Daud
14468

Question No2

In a block of addresses, we know the IP . . . . . in this block?

Answer:

The given IP of host is

101 . 10 . 11 . X / ID_{4+5}.

where, ID = 14468

X: $X = 1+4+4+6+8 = 23$

$\boxed{X = 23}$

$ID_{4-5} = 6+8 = 14$

$\boxed{ID_{4-5} = 14}$

IP of host:

101 . 10 . 11 . 23 / 14

Comparing with

x . y . z . t / n

$\Rightarrow \boxed{n = 14}$

The Binary Representation of given decimal is using (Appendix B)

01100101 00001010 00001011 00010111

First Address on block:

Setting 32 - 14 = 18 digits From Right equal to zero.

01100101 00001000 00000000 00000000

Converting to decimal,

101.8.0.0 → First Address in the block

Last Address:

Setting 32 - 14 = 18 digits from right to 1's

01100101 00001011 11111111 11111111

converting back to decimal,

101.11.255.255 → last Address on block.

Date: Pg (3) Mian Daud 14468

Question no2:

Take your Roll no as ... decimal ... has been positive.

Answer:

Roll no : 14468

Converting it into Binary

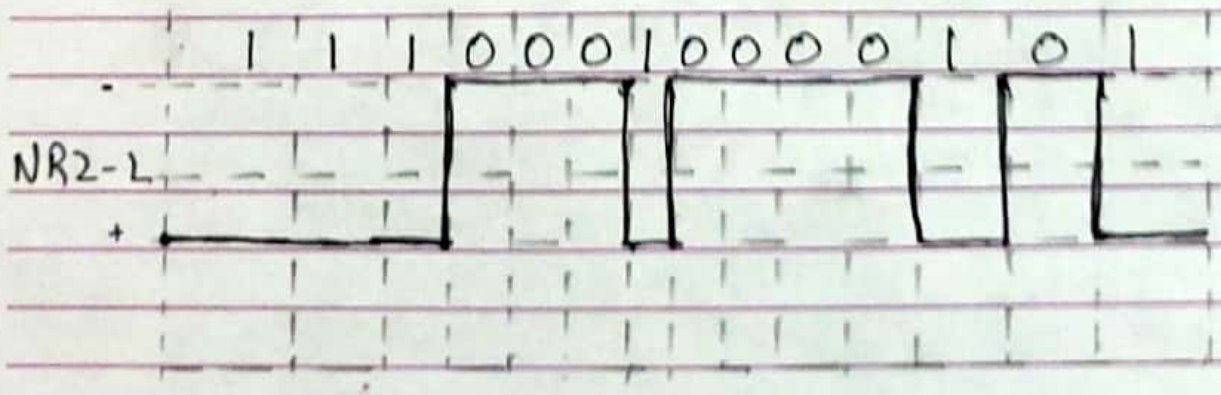
Binary Form:

11100010000100

as the last signal is positive

⇒ 11100010000101

NR2-L Graph:



DARSI NOTES

Mian Daud
14468

Date:

Question # 03:

Two Neighboring nodes (A and B) use a sliding window protocol .... succession of events.

- After A sends Frames 5,6 and B acknowledges - - - . A.

Answer: ID = 14468

$ID_{last} = 8 > 5$

$\Rightarrow ID_{last} = 8/2 = 4$

$\Rightarrow$ Window size is 4.

(a) Before A sends any frames:

Sender side position:

0	1	2	3	4	5	6

Receiver side:

Window of POU that may be transmitted = 4 bit window.

DARSI NOTES

Date:

M. David Jan
1/1/06

0	1	2	3	4	5	6

(3) After A sends frames 0, 1, 2, 3, 4 and Receives ACK from B for 0, 1 and 2

Sender: A has shrunk its window as it has transmitted 5 pdu's but received acknowledgements for only 3.

0	1	2	3	4	5	6

Receiver:

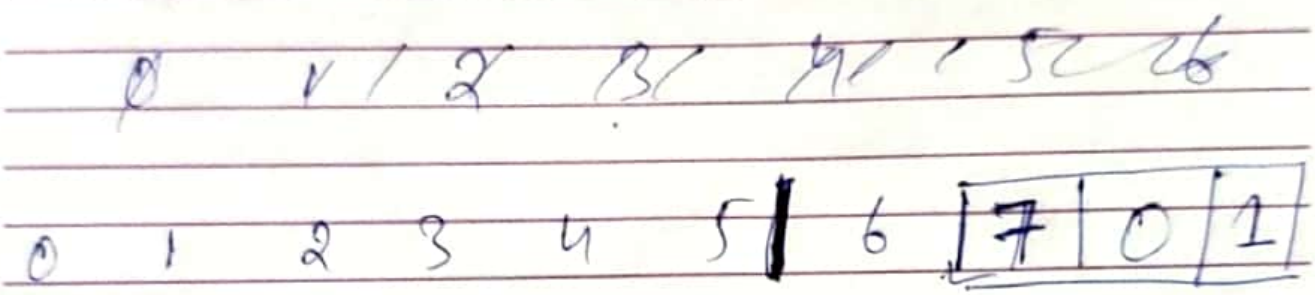
0	1	2	3	4	5	6

Mian Daud Jan
14468

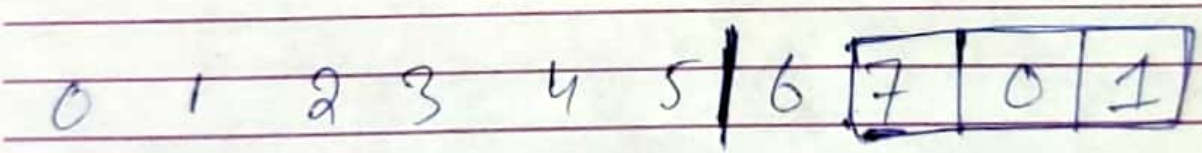
Date:

(c) After A sends Frames 5, 6 and B Acknowledges 5 and Acknowledgement is Received by A.

Sender:



Receiver: Acknowledgement received for two bits



M. Dawood Tariq 14468

Date:

Question No 4:

An ISP is granted a block of ... ... how many addresses are still available after these allocations

Answer:

ID = 14468

X = 1+4+4+6+8 = 23

ID_{3+4} = 4+6 = 10

Given IP:

160 . X . D(3+4) . 0/16

⇒ 160 . 23 . 10 . 0/16

Total no of Addresses Allocated to ISP:

$2^{32-16} = 65536$

DARSI NOTES

Date: M. Daud. Jan 14468

Group 1 :

Customers = 16

Each need = 64 Addresses

$\log_2(64) = 6$

Prefix length = 32 - 6 = 26

Total IPs allocated to this group:

= 16 x 64 = 1024

The IPs are,

1st Customer: 160.23.10.0/26 ... 160.23.10.63/26

⋮

16th Customer: 160.23.25.0/26 ... 160.23.25.63/26

Group 2 :

Customers = 64

Each needs = 32 Addresses

$\log_2(32) = 5$

Prefix length = 32 - 5 = 27

Total IPs allocated to this group

= 64 x 32 = 2048

DARSI NOTES

Date:

M. Daud Jan
1447B

The IPs are.

1st Customer: 160.23.26.0/27 ---- 160.23.26.31/27

64th Customer: 160.23.89.0/27 ---- 160.23.89.31/27

Group 3:

Customers = 64
Each needs = 16 Addresses.

$\log_2(16) = 4$

Prefix length = 32 - 4 = 28

Total allocated IPs to this group

= 64 x 16 = 1024

The IP's are:

1st Customer: 160.23.90.0/28 ---- 160.23.90.15/28

64th Customer:

160.23.153.0/28 ---- 160.23.153.15/28

DARSI NOTES

M. David. Jom
14468

Date:

Addresses Available:

Total = Available + allocated

⇒ Available = Total - allocated

= 65536 - (1024 + 2048 + 1024)

= 65536 - 4096

Available = 61440

Diagram: