

Image

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ID 14495

24/06/20.

14495

Question: No 1

Answers:-

IP = 101.18.11.X / 101.14.95

Networks ADDRESS: ?
Broadcast ADDRESS: ?

Solution:-

Network IP = 101.101.1011.X / 101.14.95

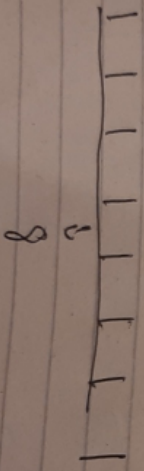
ID = 14495 / 10415 = 14

X = 23

Networks IP = 101.10.11.23 / 14.10.95

Network Bits

2⁵ 2⁴ 2³ 2² 2¹ 2⁰



14495

(2)

Host Bits

2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
								24							

\Rightarrow Subnet Mask = 255.252.0.0

Network IP = 101.8.0.0

Broadcast IP = 101.11.255.255

Total number of Host = 26214

Number of Network = 64

14495 (2)

Question NO 2.

Ans 1-

ID 14495 (decimal number)

1110001001111 | 2 | 14495

2 | 7247 - 1

(Binary number) 2 | 3623 - 1

14495 = 1110001001111 2 | 1811 - 1

2 | 905 - 1

2 | 452 - 1

NRZL graph

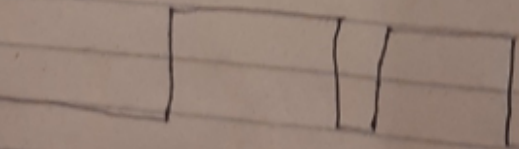
2 | 226 - 0

2 | 113 - 0

2 | 56 - 1

1110001001111 |

NRZ-L



2 | 56 - 1

2 | 28 - 0

2 | 14 - 0

2 | 7 - 0

2 | 3 - 1

1

14495 (4)
Question No 4:-

Q1:-

D = 160.23.13.0/16 class B,

$$X = 23$$

$$ID_{3+4} = 13$$

Group 1:

part I) 16 customer, each need 64 address for this group each

customer need 64 addresses

This mean that 6 bits are needed to define each host

$$\text{Prefix length } 32 - 6 = 26$$

1st customer: 160.23.13.0/26

2nd customer: 160.23.14.0/26

16 customer = 160.23.28.0/26

14495 (5)

(Group 2/15)

64 Customer: each need 32 address

Prefix length = $32 - 5 = 27$

Subnet mask = $255.255.255.0$

1st customer: $160.23.29.0/27$

2nd customer: $160.23.29.32/27$

64th customer: $160.23.92.32/27$

(Group 3)

64 customer: 16 address

Prefix length $32 - 4 = 28$

Subnet mask = $255.255.255.0$

1st customer $160.23.93.0/28$

2nd customer $160.23.93.128$

64th C

Numb
ISP

Numb

ISP

Num

14495 Ⓟ

94th Customer: 160.23.156.95/28

Number of granted addresses to ISP = 65536

Number of allocated addresses by

ISP = $(16 \times 64) \times (64 \times 32) \times (64 \times 16) = 4096$

Number of available addresses = 64446

Question: 3,

Before A send any frames

Sender: [0123]45

Window of PDU that may be transmitted - 4 bits window

Receiver

0123456

Answer

After A sends

0,1,2,3,4 and receiver
acknowledgment from B for
0,1,2

Sender A has shrunk its
window as it has transmitted
5 PDUs but has received ack
for 3 PDUs hence it is
keeping copy of one PDU

01213 [45] 6 14495 (8)

Acknowledgment received for
two bits

Receiver : 01213 [45] 6

Receiver has received all
data hence the window remain
w bits size

Answer C:-

Sender
0 1 2 3 4 5 6 [7 8] 9

Receiver
Ack received for one bit

0 1 2 3 4 5 6 [7 8] 9