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Name

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QUESTION#1

ANSWER#1

Booking a tickets and resorts, Packing a luggage, Go to airport, airport entry, checking a bags, Boarding, Take-off, landing, off-boarding claiming, go to resort.

QUESTION#2

ANSWERS#2

Advantages

- i) All functionalities are provided in one layer.
- ii) Bandwidth for more layers were reserved through this one layer that will reduce to one

Disadvantages

- i) Handling a error will be reside in a big layer
- ii) if application layer open at a single point so there will be security issues as network issues

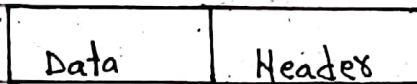
(2)

QUESTION#3

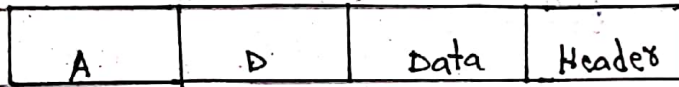
ANSWERS#3

COMPUTER A

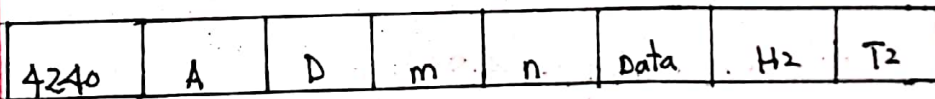
Contents of Segment at transport Layer



Contents of Packet at Network Layer

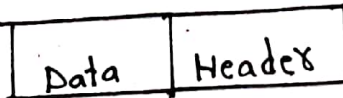


Contents of Frame at data Link Layer

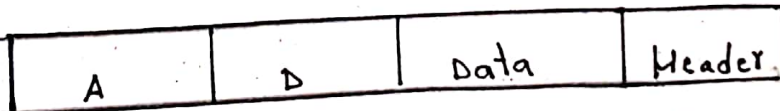


COMPUTER B

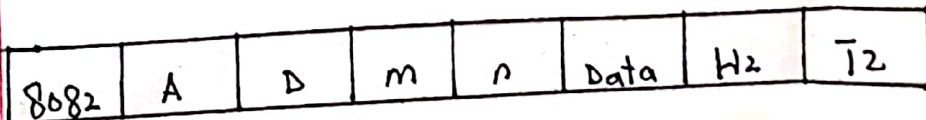
Contents of Segment at transport Layer



Contents of Packet at Network Layer



Contents of Frame at data Link Layer



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QUESTION#4

ANSWERS#4

$$C = b \times (\text{SNR}_{\text{db}}) / 3$$

i) $C = (15 \text{ kHz} \times 30) / 3 = 150 \text{ kbps}$

ii) $C = (100 \text{ kHz} \times 2) / 3 = 66.67 \text{ kbps}$

iii) $C = (0.5 \text{ MHz} \times 10) / 3 = 1.67 \text{ Mbps}$

QUESTION#5

ANSWERS#5

$$B_{\text{min}} = N/2 \times \log_2 L$$

$$4800 / 1000 \text{ bps} = 4.8 \text{ kbps}$$

$$B = 4.8 / 2 \times \log_2 8 = 35590.42 \text{ Hz}$$

QUESTION#6

ANSWERS#6

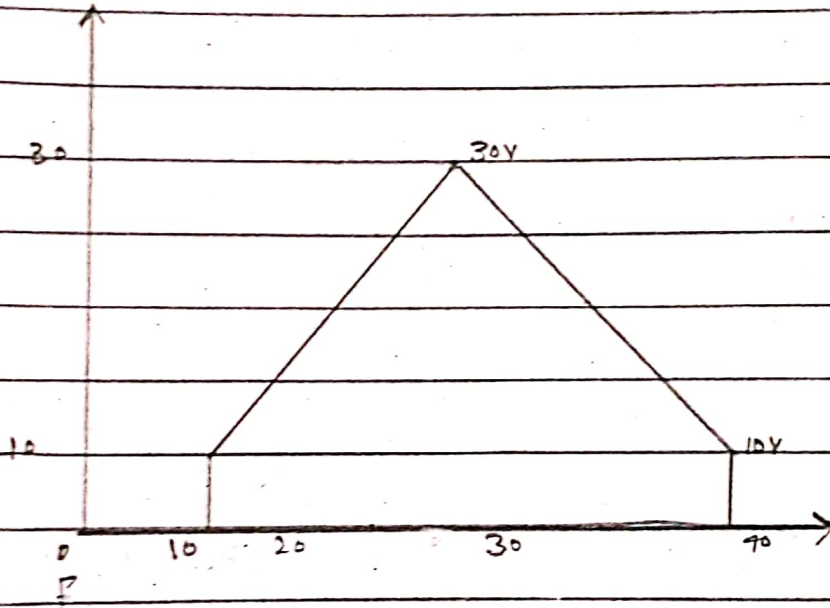
8 bit sent in 1 ns

20 bit rate = 8 ns

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QUESTION#8

ANSWER#8



QUESTION#7

ANSWER#7

$$C = 40 \text{ Mbps}, B = 6 \text{ MHz}$$

$$C = B \log_2(1 + \text{SNR})$$

$$\log_2(1 + \text{SNR}) = C/B$$

$$\log_2(1 + \text{SNR}) = 40/6$$

$$\log_2(1 + \text{SNR}) = 6.67$$

$$2^{6.67} = 1 + \text{SNR}$$

$$101.8 = 1 + \text{SNR}$$

$$\text{SNR} = 101.8 - 1 = 100.8 \text{ Levels.}$$