

Department of Electrical Engineering
Mid – Term Assignment Spring 2020
Date: 13/04/2020

Course Details

Course Title: Computer Communication Network
Instructor: Sir Waqas

Module: 06
Total Marks: 30

Student Details

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1.	<p>(a)</p> <ol style="list-style-type: none"> 1. _____ topology has unidirectional movement of traffic. 2. Set of rules that govern communication is called _____. 3. _____ of a network is the frequency of failure and network recovery time after a failure is measured. 4. ASK, PSK, FSK and QAM are all examples of _____ modulation. 5. Data synchronization is a function related with _____ layer. 6. The _____ layer changes bits into electromagnetic signals. 7. The information to be communicated in a network is called the _____. 8. _____ topology requires the maximum number of I/O ports. 9. A signal that repeats itself is a _____ signal. 10. A 56k modem can download at a rate of _____ Kbps and upload at a rate of _____ Kbps. 11. In mesh topology, if there are five nodes then there will be _____ links. 12. When data is transmitted from device A to device B using internet model, the header from A's layer 4 is read by B's _____ layer. 13. A _____ device will convert an analog signal to a digital signal. 14. _____ is the collection of all the component frequencies. 	<p>Marks 1 CLO 1</p>
2.	<p>(a)</p> <ol style="list-style-type: none"> 1. How are frames different from packets? Explain with examples. 2. A phone line being analog can we send digital data on phone lines? Support your answer with examples. 	<p>Marks 1 CLO 1</p>

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CCN Mid Exams:-

Q1 (a) MCQ's

- 1) Ring
- 2) Protocol
- 3) Reliability
- 4) Digital
- 5) Physical layer
- 6) Physical
- 7) Signal
- 8) Mesh Topology
- 9) Periodic Signal
- 10) 56.6 , 33.6
- 11) 10
- 12) Transparent layer
- 13) Analog to Digital Converter
- 14) Frequency Spectrum

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(2)

Question 2 (1)

Answer:- Frame is the serial collection of bits.

Frame encapsulates packets and packets are the fragmented form of data and it encapsulate segment.

Example:-

A particular example of frame is Ethernet frame. Its the data link ~~flow~~ layer and packets in the network layer protocol data unit. Source of distinction is MAC address and IP address of packet.

(2) Yes, We can send data on phone lines. because the computer works on Digital data i-e (0,1). To transmit digital data the sender's modem must modulate first and then encode the computer digital signal to analog signal that will travel through the telephone line.

(3) It is the property that makes a system to operate properly in fault conditions. (Not complete failure)

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(3)

→ Mesh Topology has multicommunications which makes it the most fault tolerance topology.

(4)

Logical Addressing

Physical Addressing

*) It is a virtual address & can be viewed by users.

*) All logical address generated by CPU By using programs

*) Physical address refers to a location in the memory unit.

*) Mapped to corresponding Physical address of program.

Example :-

Logical address is flexible and will keep changing with system but the physical object always remain constant. Whereas logical addresses get formatted when the system is rebooted while no change happens to physical address.

(5)

Ring Network Category will be used.

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(4)

Question 3

(a)

A total three hops will be required from node A to node J.

- 1) End System A to B router.
- 2) from router B to router I
- 3) from router I to J.

(b) Given Data:-

Sin wave

$$f = 135 \text{ Hz}$$

$$T = ?$$

Sol:-

As we know

Reciprocal of T in frequency

$$f = \frac{1}{T}$$

$$\text{So } T = \frac{1}{f}$$

$$T = \frac{1}{135 \text{ Hz}} = 0.0074 \text{ sec}$$

$$T = 7.4 \text{ msec}$$