

## Course Details

Course Title: Computer Communication Network  
 Instructor: \_\_\_\_\_

Module: 06  
 Total Marks: 30

## Student Details

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Q1.	(a)	<ol style="list-style-type: none"> <li>1. _____ topology has unidirectional movement of traffic.</li> <li>2. Set of rules that govern communication is called _____</li> <li>3. _____ of a network is the frequency of failure and network recovery time after a failure is measured.</li> <li>4. ASK, PSK, FSK and QAM are all examples of _____ modulation.</li> <li>5. Data synchronization is a function related with _____ layer.</li> <li>6. The _____ layer changes bits into electromagnetic signals.</li> <li>7. The information to be communicated in a network is called the _____.</li> <li>8. _____ topology requires the maximum number of I/O ports.</li> <li>9. A signal that repeats itself is a _____ signal.</li> <li>10. A 56k modem can download at a rate of _____ Kbps and upload at a rate of _____ Kbps.</li> <li>11. In mesh topology, if there are five nodes then there will be _____ links.</li> <li>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.</li> <li>13. A _____ device will convert an analog signal to a digital signal.</li> <li>14. _____ is the collection of all the component frequencies.</li> </ol>	Marks 14 CLO 1
Q2.	(a)	<ol style="list-style-type: none"> <li>1. How are frames different from packets? Explain with examples.</li> <li>2. A phone line being analog can we send digital data on phone lines? Support your answer with examples.</li> <li>3. Give some details about fault tolerance, which network topologies have fault tolerance capability?</li> <li>4. How is logical addressing different from physical addressing? Support your answer with examples.</li> <li>5. A local telephone company wants to connect the LANs in all its offices throughout a city. For this case which network category would be used?</li> </ol>	Marks 10 CLO 1
Q3.	(a)	Consider the following network, how many hops will it require for data to reach from node A to node J. <div style="text-align: center; margin-top: 10px;"> <pre>                     graph LR                         A[End system A] --- B[Intermediate system B]                         B --- C[Intermediate system C]                         B --- E[Intermediate system E]                         B --- I[Intermediate system I]                         C --- D[End system D]                         E --- F[End system F]                         I --- J[End system J]                     </pre> </div>	Marks 04 CLO 1
	(b)	A Sine wave has a frequency of 135 Hz. What is its period?	Marks 02 CLO 1



Q No (1)(a)

- 1) Ring
- 2) Protocol
- 3) Reliability
- 4) Digital to analog
- 5) Physical layer
- 6) Physical
- 7) Message
- 8) Mesh
- 9) Periodic
- 10) 56.6 , 33.6
- 11) 10
- 12) Transport layer
- 13) Analog to Digital
- 14) frequency.

Q(2) (a)

- 1) A frame can be defined as a data unit used in data link layer. on the other hand a packet is the protocol data unit used in the network layer. Frames are formed in data link layer of the OSI whereas packets are formed in network layer.
- 2) Computer transmit data, expressed as electrical impulse, whereas telephone transmit voice frequency as analog signals to transmit digital data. The sending modem must first modulate, or encode a computer's data signal into an analog signal that can travel over the phone.  
Examples:- Digital telephone sending high speed data over phone lines. New communication systems are over digital. Analog is slowly on its way out.



3) Fault tolerance is the property that enable a system to continue operating properly in the event of the failure some are more faults with in some of its components. Mesh topology have multiconnections making it the most fault tolerant topology available every component of network is connected directly to each other component.

~~4) fault tolerance is the property that enable a system~~

4) Logical:

- i) It is the virtual addressing generated by CPU.
- ii) Set of all logical addressing generated by CPU is reference to a programme is required as logical.
- iii) The user can view the logical address of a program.

Physical:

- i) The location is memory unit.
- ii) mapped to corresponding logical addressing is as physical addresses.
- iii) The user can never physical address of program.



5) local telephone company wants to connect the lanns in all its offices in the city for this case the Ring network category would be used.

Q No 3 (a)

There are 3 hops required for data to reach from node A to node J.

b) Given data

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

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

$$\Rightarrow \frac{1}{135} = 0.0074$$

$$T = 0.0074 \text{ sec}$$

The End