1. Which coding transition is at the middle of the bit and changes phase when a different bit is encountered?
2. Differential Manchester
3. Manchester
4. Delta modulation
5. Pulse code modulation
6. Which mode of transmission the entire capacity of the channel can be utilized for each direction?
7. Simplex B. Half duplex C. Full duplex D. all except A
8. Which topology failure of one node/station affects the rest of network?
9. Bus topology C. ring topology E. A and B
10. star topology D. mesh topology F. all except C
11. A channel with a bandwidth that does not start from zero---------------------------
12. Low-pass channel B. Bandpass channel C. Baseband transmission D. Phase shift
13. Software and hardware that uses hypertext Transfer Protocol to respond to client requests is -----?
14. File server B. mail server C. web server D. A and C
15. Which coding Zero voltage represents binary 0 and bit 1 is represented by altering positive and negative voltages.
16. Differential Manchester B. Manchester C. Pseudoternary D. Alternate Mark Inversion
17. The velocity of propagation of a signal through a guided medium varies with frequency. This type transmission impairment is called……………………………?
18. Noise B. Attenuation distortion C. Delay distortion D. B and C
19. Which one of the following is **not correct** statement?
20. Both unipolar encoding and polar encoding techniques are NRZ.
21. NRZ-I changes voltage level when a different bit is encountered
22. NRZ-L changes voltage when a 1 is encountered.
23. A and C E. B and C
24. Which conversion method high voltage is transmitted to represent binary 1 and no voltage is transmitted to represent 0?
25. Polar B. Bi-polar C. Unipolar D. A and B E. B and C
26. Which multiplexing is/are digital?
27. Wavelength division B**.** Time division C. Frequency division D. all
28. Which one of the following is incorrect statement?
29. Adjacent bits not affected in single bit error
30. Single bit error is most likely to happen in parallel transmission
31. Error cannot be occurred in consecutive bits in burst error
32. All E. None
33. Assume, the sender computer want to send binary digits 101111001001111001 to the receiver computer. The transmission system wants to check either the bits are correct or not. To check this, the system generates the checking functions and finally sends 1011110010011110011 to the destination checker function. What type of redundancy check used to check this error?
34. Vertical Redundancy Check C. Longitudinal Redundancy Check
35. Cyclic Redundancy Check D. Checksum
36. Which connectivity device packets send to all connected device at the same time?
37. Switch B. router C. Hub D. Bridges E. all except
38. Which LAN generation characterized by auto negotiation feature?
39. Standard Ethernet C. Gigabit Ethernet
40. 10 gigabit Ethernet D. Fast Ethernet
41. Unshielded twisted pair cable that is used for 16 Mbps Token Ring is -----------------------
42. Category 5 B. Category 6 C. Category 4 D. Category 3
43. Which one of the following is used to connect fiber optic cable?
44. Straight tip connector C. RJ-45 connector
45. Bayone Neill Concelman connector D. barrel connector
46. Which one of the following wireless transmission systems the sending and receiving antennas need not be aligned?

A. Microwave B. Radio waves C. Infrared waves D. Bluetooth

1. Sender computer sends the data called “hallo world”. During transmission time, these data should be converted into 1s and 0s. which OSI layer is responsible for this?
2. Presentation layer C. physical layer
3. Application layer D. data link layer
4. Which TCP/IP layer allows an IP packet to make a physical link to transmission media?
5. Application layer C. network access layer
6. Internet layer D. transport layer
7. Which one of the following is the correct order of encapsulation from layer 1 to 7 of OSI model?
8. Bit🡪 packet🡪 segment🡪 frame🡪 data C. Data🡪 segment🡪 packet🡪 frame🡪bit
9. Bit🡪 segment🡪 frame🡪 packet🡪 data D. Bit🡪frame🡪 packet🡪 segment🡪 data
10. Which one of the following subnet masks represents class A before and after subnetting?
11. 255.0.0.0 B. 255.255.0.0 C. 255.255.255.0 D. all E. none
12. Which one of the following is **incorrect** statement?
13. All 1s subnet mask represents network address
14. Class C supports more host address than class A
15. We can borrow more bits from class A address than class C
16. We can not borrow all bits from host address
17. All are correct
18. Which one of the following is used for only local communication in private network?
19. 172.16.6.2 B. 10.123.16.145 C. 192.168.14 23 D. All E. None
20. What is the number of possible network ID for class B?
21. 16 B. 14 C. 214  D. 216 E. 230
22. Given an IP address 178.191.12.1 with subnet mask of 255.255.255.128, what will be the block address after subnetting?
23. 178.191.12.1/25 B. 178.191.12.1/24 C. 178.191.12.1/17 D. 178.191.12.1/16
24. Based on the above question #13, what will be first and last host address of subnet #2?
25. 178.191.1.0—178.191.1.254 C. 178.191.0.0—178.191.0.254
26. 178.191.0.129--178.191.0.254 D. 178.191.254.0—178.191.255.254
27. Based on the above question #13, what is the broadcasting address for subnet #2?
28. 178.191.0.255 B. 178.191.255.255 C. 178.191.1.255 D. 178.191.12.255
29. Which class of IPV4 is reserved for multicast assignment?
30. Class A B. class B C. class C D. class D E. class E
31. Which wireless security method generates new keys each time when a client establishes connection to the router?
32. Wi-Fi Protected Access
33. Extensible Authentication Protocol
34. Wired Equivalency Protocol
35. Traffic Filtering
36. Which IP assignment method is helpful for mobile users that come and go on a network?
37. Static B. Dynamic C. Both D. none
38. Which one of the following is not characteristics of IPV6 over IPV4?
39. Broadcasting support C. End to end connectivity E. A&B
40. Any casting support D. Auto configuration F. C&D
41. Assume you are required to prepare a cable to connect two switches, one switch will communication with others through Hub or switch. Identify the correct order of color arrangement to prepare the cable at the side of sender device.

## Orange🡪white orange🡪 white green🡪white blue🡪blue🡪green🡪brown🡪white brown

## White orange🡪Orange🡪white green🡪blue 🡪white blue 🡪green🡪white brown🡪 brown

## White green🡪green🡪white orange🡪white brown🡪brown🡪 orange🡪 blue🡪 white blue

## White brown🡪brown🡪green🡪blue🡪white blue🡪white green🡪white orange🡪orange

1. Which types of switching each node receives the entire message, stores it, and then transmits it to the next node?
2. Circuit Switching B. Packet Switching C. Message Switching D. all
3. Which multiplexing subdivides the available bandwidth into different channels, sub bands, each of which carries a separate signal?

Frequency division Multiplexing

Wavelength Division Multiplexing

Time Division Multiplexing

A and B

A and C

1. Which layer allows an IP packet to make a physical link to the media?
2. Internet layer
3. Network access layer
4. Transport layer
5. Application layer
6. Which mode of transmission the entire capacity of the channel can be utilized for each direction?
7. Simplex B. Half duplex C. Full duplex D. all except A
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13. Pseudoternary D. Differential Manchester
14. Which one of the following is correct statement?
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16. Both NRZ-L and NRZ-I changes voltage level when different bit is encountered
17. NRZ-I changes voltage level at when a different bit is encountered
18. NRZ-L changes voltage when a 1 is encountered.
19. Assume, the sender computer sends binary digits 10110101 11100100 11111001 10000011 to the receiver computer. The transmission system wants to check either the bits are correct or not. To check this, the system calculates the parity bit by organizing into columns and create a new 8 bits then send 10110101 11100100 11111001 10000011 **00101011** to check. What type of redundancy check used to check this error?
20. Vertical Redundancy Check C. Longitudinal Redundancy Check
21. Cyclic Redundancy Check D. Checksum