



Course Name: Computer Networks (1) **Code:** ECE 462, CCE 462 (2019 Reg.), ECE 491, CCE 491 (2013 Reg.)

Program: Electronics and Communication Eng. (ECE) Program & Computer and Control Eng. (CCE) Program

Academic Year: 2023/2024

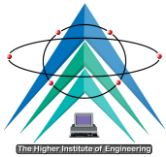
Level: Fourth Year

Semester: First

Sheet No. (2)

Subject: Network Layers

1. What is the function of each layer in OSI model?
2. What is the protocol data unit for each layer in OSI model?
3. What are the main protocols used in application, transport, and network layer in TCP/IP model?
4. Mention with explanation the typical network components?
5. Compare between Hub, Switch, and Router?
6. What are the communication technologies used in LAN and WAN?
7. What is DTE?
8. What is DCE?
9. Mention the types of LAN cables?
10. Compare between UTP, STP, Optical Fiber cables?
11. Explain the categories of twisted pair cables?
12. Explain the categories of optical fiber cables?
13. Explain the types of Ethernet cards?
14. Compare between the connection types (straight cable, crossover cable, and roll over cable)?
15. Mention layer one devices?
16. What is standard A and standard B connection?
17. HTTP stands for
 - A. Hyper text transfer protocol
 - B. Hyper type transfer protocol



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C. Hybrid text transfer protocol

D. None of the mentioned

18. In _____ topology if the computer cable is broken, networks get down.

A. Bus

B. Ring

C. Star

D. None of the mention

19. The speed of Cat 3 cable is _____

A. 8 Mbps

B. 8 Kbps

C. 8 Gbps

D. None of the mention

20. STP cable stands for _____

A. Shielded Twisted Pair cable

B. Shifted Twisted Pair cable

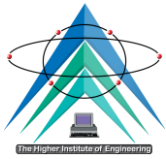
C. Shadowed Twisted Pair cable

D. None of the mention

21. The connection type between PC and switch is straight cable.

A. True

B. False



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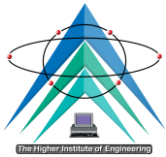
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22. A group of concepts that will help the device to send data hop by hop (step by step) and then end to end, this is the definition of
- A. Network
 - B. Network Model
 - C. Operating System
 - D. None of the mention
2٣. The layer, which is responsible for making sure that all data, information required for session opening become ready and in that case it will give order for session establishment, management, control and termination is
- A. Application layer
 - B. Presentation layer
 - C. Session layer
 - D. Transport layer
2٤. Which protocol / protocols used in the application layer?
- A. RTP
 - B. TCP
 - C. UDP
 - D. IPv4
2٥. According to the OSI model which layer handles the LAN switching?
- A. Session
 - B. Data link
 - C. Presentation
 - D. Network



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2٦. Hub is layer _____ device.

- A. 1
- B. 3
- C. 5
- D. 7

2٧. How is a unique MAC address assigned to a computer network card?

- A. It is built into the card when the card is manufactured
- B. The network administrator must assign the address
- C. A unique address is automatically assigned when the card drivers are installed
- D. A unique address is automatically assigned whenever you boot up the computer

2٨. The header size of transport layer is 20 bytes.

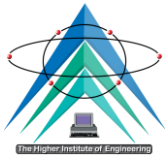
- A. True
- B. False

٢٩. Network congestion occurs _____

- A. in case of traffic overloading
- B. when a system terminates
- C. when connection between two nodes terminates
- D. in case of transfer failure

3٠. Session layer is implemented in _____

- A. End system
- B. NIC
- C. Ethernet
- D. Signal transmission



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3\ . Home Access is provided by _____

- A. DSL
- B. FTTP
- C. Cable
- D. All the mentioned