32. a. Write a short note on Physical Layer cables with a neat diagram. List its advantages & Disadvantages too.

(OR)

b. i. Write a short note on 802.16

ii. Define: Latency, Delay, Bandwidth

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Reg. No.														

B.Tech. DEGREE EXAMINATION, JUNE 2019
1st to 7th Semester

15IT303J – COMPUTER NETWORKS
(For the candidates admitted during the academic year 2015 - 2016 to 2017 - 2018)

Note:
(i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
(ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: Three Hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

1. A set of rules that governs data communications.
   (A) Standards (B) Protocols
   (C) RFC's (D) Internet

2. Communication channel shared by all the machines on a network
   (A) Unicast Network (B) Broadcast Network
   (C) Multicast Network (D) Multipart Network

3. Bluetooth is an example of
   (A) PAN (B) MAN
   (C) LAN (D) WAN

4. Packet information at the application layer is called
   (A) Pocket (B) Message
   (C) Segment (D) Frame

5. Transport layer is responsible for
   (A) Process to Process delivery (B) Port to Port delivery
   (C) System to System delivery (D) Network to Network delivery

6. In stub network, the mask & destination address are both _____ in routing table
   (A) Any, any (B) 0.0.0.0, 0.0.0.0
   (C) 255.255.255.255, 255.255.255.255 (D) 0.0.0.0, 255.255.255.255

7. Number of bits in network part of a default class B network is
   (A) 16 (B) 8
   (C) 24 (D) 32

8. CIDR for a fixed FLSM with 32 IP address per network will have _____
   (A) /24 (B) /25
   (C) /26 (D) /27

9. Subnet most equivalent to /30 is
   (A) 225.225.225.252 (B) 255.255.255.252
   (C) 252.252.252.252 (D) 255.255.255.248

10. Distance vector routing uses _____ algorithm to build 0 routing table
   (A) Dijikstra Algorithm (B) Shortest Path Algorithm
   (C) Travelling Sales man Algorithm (D) Path Vector Algorithm

11. Preamble is used in Ethernet frame
   (A) As padding for data (B) For time synchronization
   (C) Identify source address (D) Identify destination address

12. AD of OSPF is
   (A) 110 (B) 90
   (C) 1 (D) 100

13. RIP VI car be used for
   (A) Classless Routing (B) Classful Routing
   (C) External Routing (D) Internal routing

14. Which error detection mechanism uses is compliment arithmetic?
   (A) 2D parity Check (B) Checksum
   (C) CRC (D) Simple Parity Check

15. To guarantee the detection & correction of upto 5 errors in all cases, the minimum humming distance in a block must be _____ & _____
   (A) 5,6 (B) 5,5
   (C) 6,11 (D) 5,11

16. Which of the following task is not done by Data link Layer?
   (A) Framing (B) Error Control
   (C) Flow Control (D) Channel Coding

17. IEEE 802.11 covers _____ is _____
   (A) Physical Layer & Data Link Layer (B) Data Link Layer & Network Layer
   (C) Physical Layer & Internet Layer (D) Datatink Layer & Internet Layer

18. Key concern in the design of data transmission system is Data rate _____
   (A) Data Flow (B) Path
   (C) Distance (D) Switching

19. _____ is also known as forward switching since the messages are stored at intermediate nodes in route to their destination
   (A) Message Switching (B) Packet Switching
   (C) Circuit Switching (D) Hybrid Switching

20. Name a device which works of Physical Layer
   (A) Bridge (B) Hub
   (C) Switch (D) Routes

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

21. Compare: OSI & TCP/IP model.

22. List the private range IP address of class A, B&C.

23. What is the major difference between Interior Gateway & Exterior Gateway routing protocols?

24. Given an address 192.168.1.0/25. Create 4 subnet with equal number of OP address. Write its first & last usable IP address of each network.

25. Write a short note on 802.11.

26. Explain Humming Code Error correction techniques used in Data Link Layer.

27. Draw the frame format of IEEE 802.15

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

28. a. Explain TCP/IP reference model with protocols & functions at each layer.

(OR)

b. List & define different network topologies with advantages & disadvantages of each.

29. a. An admin to ABC corp. You are allocated with 100.200.0.0/23. You are requested to create the following sub networks & allocate IP address with minimum wastage.
   (i) 5 networks with 64 IP address each
   (ii) 2 network with 16 IP address each
   (iii) 8 subnets to connect different routers each

(OR)

b. As and admin to SRM Corp you are allocated with 10.0.0.0/13. You are requested to create 20 subnetworks each with 1000 IP address each. Write the network address, First & Last usable IP address & broad cost IP address of first subnetwork & last subnetwork.

30. a. Explain the operations of OSPF protocol in detail.

(OR)

b. With Dijikstra's Algorithm, explain RIP protocol. Explain RIP message types with its timers.

31. a. Write a short note on medium access control techniques with a neat diagram.

(OR)

b. i. Justify how Humming Code can be used for both error correction and error detection.

ii. Calculate the checksum for the following data frame.
Data Frame: 100110110111101111