b. What is congestion control? Explain the various techniques adapted in open loop congestion control mechanism.

32. a. Differentiate between
(i) FTP and TFTP
(ii) SMPT and HTTP

(OR)

b. Explain briefly the various compression techniques.

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Reg. No.															

B.Tech. DEGREE EXAMINATION, NOVEMBER 2018

3rd to 7th Semester

15EC405J – COMPUTER COMMUNICATION

(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. Which of the following has a data rate of 100 Mbps?
(A) 10 base 10 (B) 10 base 100
(C) 100 base 10 (D) 10 base 100

2. What is the size of Ethernet address in IEEE 802.3 MAC standard?
(A) 6 bytes (B) 7 bytes
(C) 5 bytes (D) 4 bytes

3. Which layer of ISO/OSI model make use of port address?
(A) Physical layer (B) Network layer
(C) Data link layer (D) Transport layer

4. IEEE standard for token bus is
(A) 802.2 (B) 802.5
(C) 802.4 (D) 802.3

5. The technique of temporarily delaying outgoing acknowledgements so that they can be hooked on to the next outgoing data frame
(A) Cyclic redundancy check (B) Piggy backing
(C) Checksum (D) Congestion control

6. In Go-back-N protocol, if the size of the sequence number field is 8, the sequence numbers are in _____ arithmetic.
(A) Modulo-256 (B) Modulo-8
(C) Modulo-2 (D) Modulo-4

7. In _____ the station configuration is unbalanced. We have one primary station and multiple secondary station.
(A) ARM (B) NBM
(C) NRM (D) ABM

8. ARQ error management mechanism is provided by
(A) Logical link control sublayer (B) Media access control sublayer
(C) Network interface control sublayer (D) Physical layer

9. The header length of an IPV6 datagram is
   (A) 10 bytes (B) 25 bytes
   (C) 30 bytes (D) 40 bytes

10. Identify the class of the following IPV6 address: 229.1.2.3
   (A) A (B) B
   (C) D (D) C

11. The number of addresses assigned to an organization in classless addressing is
   (A) Can be any number (B) Must be a multiple of 256
   (C) Must be a multiple of 16 (D) Must be a power of 2

12. The routing information protocol (RIP) is an intra domain routing based on _____ routing.
   (A) Distance vector (B) Link state
   (C) Path vector (D) Least cost routing

13. In a network, after the load reaches the capacity, throughput _____
   (A) Increases sharply (B) Increases proportionally with the load
   (C) Declines sharply (D) Declines proportionally with the load

14. To accomplish flow control, TCP uses a _____ window protocol.
   (A) Limited size (B) Sliding
   (C) Fixed size (D) Selective repeat

15. TCP is a _____ protocol.
   (A) Connection-oriented (B) Connectionless
   (C) Both (A) and (B) (D) Either (A) or (B)

16. The combination of an IP address and a port number is called _____
   (A) Transport address (B) Physical address
   (C) Logical address (D) Socket address

17. UDP packets are encapsulated in
   (A) An Ethernet frame (B) An TCP segment
   (C) An IP datagram (D) An HDLC frame

18. The actual mail transfer is done through _____
   (A) UA's (B) MTA's
   (C) MAA's (D) UAA's

19. When the sender and the receiver of an email are on different systems, we need only
   (A) One MTA (B) Two UA's
   (C) Two UA's and one pair of MTA's (D) Two UA's and two pair of MTA's

20. _____ is a repository of information linked together from points all over the world.
   (A) The WWW (B) HTTP
   (C) HTML (D) SIP

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

21. What are the reasons for not implementing CSMA/CD in wireless LAN? With a diagram, explain CSMA/CA.

22. Explain bit stuffing in HDLC.

23. Compare DVR and LSR.

24. List the different connecting devices on the basis of layers they operate.

25. Find CRC for a frame of message bits 1010001101, if the generator polynomial $G(x) = x^5 + x^4 + x^2 + 1$.

26. Discuss the functions and format of UDP header.

27. Explain UDL.

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

28. a. Brief out the functionalities of network support layers of OSI reference model.

(OR)

b.i. Give the syntax and semantics of IEEE 802.3 MAC frame format.

ii. Explain FDDI token ring network.

29. a. With neat diagram, explain the various frame formats supported by HDLC.

(OR)

b. What is a sliding window protocol? Explain how the size of the window is decided and analyze the three cases of error control mechanisms in Go-Back-N protocol.

30.a.i. An ISP granted a block of addressing with 190.100.0.0/16. Show how the ISP distribute these address to two groups of customer as per the following requirement:
   (1) First group has 64 customers each with 256 addresses
   (2) Second group has 128 customers each with 128 addresses

ii. Identify the major problems for IPV4 and discuss how they are addressed in IPV6.

(OR)

b. Give an overview of the distance vector method of updating routing table information. What problem is encountered in deciding whether a host has become unreachable? Explain with a suitable networking diagram.

31. a. Describe TCP connection establishment using three way handshake.

(OR)