31. a. Describe the segment formats for TCP and UDP.

(OR)

b. Explain in detail about the various congestion control methods used in network layer.

32. a. Explain the following in HTTP.
    (i) Request message
    (ii) Response message
    (iii) Header

(OR)

b. Explain data encryption standard encryption and decryption mechanism.

* * * * *

Reg. No.														

B.Tech. DEGREE EXAMINATION, NOVEMBER 2019
First to Eighth 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. A fully connected mesh network consists of devices. The total number of full duplex links required are
   (A) 56 (B) 28
   (C) 64 (D) 49

2. Which method is used if the channel has time slots with a slot duration equal to or greater than the maximum propagation time
   (A) 1 Persistent (B) M-Persistent
   (C) P-Persistent (D) Non persistent

3. _____are special interest groups that quickly test, evaluate and standardize new technology
   (A) Forums (B) Standard organizations
   (C) Regulatory agencies (D) Protocols

4. 10 base 2 uses ____cable.
   (A) Thin coaxial (B) Fiber optic
   (C) Twisted pair (D) VTP

5. In normal response mode of HDLC protocol _____is the initiator.
   (A) Primary (B) Secondary
   (C) Both primary and secondary (D) Either one or primary or secondary

6. The type of addressing in data link layer is
   (A) Logical addressing (B) Network addressing
   (C) Physical addressing (D) Port addressing

7. In selective repeat ARQ, the size of the sender and the receiver window must be atmost
   (A) 2^m (B) Half of 2^m
   (C) 2^{m-1} (D) Half of 2^{m-1}

8. In a linear block code, the ____of any two valid code word
   (A) EXNOR (B) EXOR
   (C) NOR (D) OR

9. Header length of IPV4 is
   (A) 20 – 40 bytes (B) 20 – 60 bytes
   (C) 40 – 60 bytes (D) 40 – 80 bytes

10. Identify the class of address 252.5.15.111
   (A) Class A (B) Class B
   (C) Class C (D) Class E

11. Open shortest path algorithm is a _____routing protocol.
   (A) Distance vector (B) Link state
   (C) Path vector (D) Inter domain

12. HDLC is a _____oriented protocol.
   (A) Word (B) Byte
   (C) Bit (D) Character

13. IPV4 is a _____datagram protocol.
   (A) Reliable and connectionless (B) Reliable and connection oriented
   (C) Unreliable and connection oriented (D) Unreliable and connectionless

14. A packet in TCP is called a
   (A) Frame (B) Segment
   (C) Datagram (D) Sequence

15. Which algorithm transforms plain text to cipher text?
   (A) Encryption (B) Decryption
   (C) Security (D) Link state

16. The variation in packet delay is called
   (A) Reliability (B) Bandwidth
   (C) Delay (D) Jitter

17. When the sender and receiver of an e-mail are on the same system, how many user agents are required?
   (A) One (B) Two
   (C) Five (D) Ten

18. In file transfer protocol, the protocols for control and data connection are
   (A) 20, 21 (B) 21, 21
   (C) 20, 20 (D) 21, 21

19. The OSI models ____layer decides the location of synchronization points.
   (A) Transport (B) Session
   (C) Presentation (D) Application

20. Use the shift cipher with key=15 to decrypt the message "WTAAD".
   (A) FROMM (B) CLASS
   (C) APPLE (D) HELLO

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

21. Compare circuit switching and packet switching networks.

22. List out the standards under computer communications.

23. Why do the sender window size in GO back N ARQ has been chosen lesser than 2^m? Justify the answer with flow diagram by considering m=2.

24. Draw the block diagram of ERC encoder and explain.

25. Define netid, hosted, subnetting and supernetting.

26. Draw the frame format of UDP and explain the fields in it.

27. Write about data encryption standard.

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

28. a.i. With a neat sketch, explain the frames in IEEE 802.5. (8 Marks)

ii. List out the network topologies and explain any two. (4 Marks)

(OR)

b. Explain the switching techniques in detail.

29. a. Explain Go-back-N ARQ mechanism if m bits are used in frame to represent frame sequence number, then why window size should be less than 2^m.

(OR)

b. Explain HDLC in detail.

30. a. Explain IPV4 in detail with frame format. Also list out the advantages of IPV6 over IPV4.

(OR)

b. For the given network build a routing table using distance vector routing algorithm and find the shortest path and draw the respective routing tree.