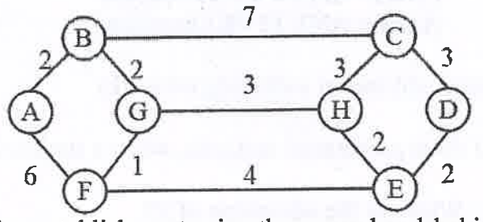

31. a. Describe a TCP connection establishment using three way handshaking.

(OR)

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

32. a. What is the difference between symmetry key and asymmetric key cryptography? Enumerate the RSA algorithm with a suitable examples.

(OR)

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

* * * * *

Reg. No.														

B.Tech. DEGREE EXAMINATION, NOVEMBER 2019
Third to Seventh 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 type of switching uses the entire capacity of a dedicated link?
   (A) Circuit switching (B) Datagram switching
   (C) Virtual circuit switching (D) Message switching

2. _____refers two characteristics when data should be sent and how fast it can be sent.
   (A) Semantics (B) Syntax
   (C) Timing (D) RFC

3. The topology with highest reliability is
   (A) Bus (B) Star
   (C) Ring (D) Mesh

4. The number of full duplex links, required in mesh topology to connect 'n' devices is
   (A) $n(n-1)$ (B) n^2
   (C) $\frac{n(n-1)}{2}$ (D) $(n-1)^2$

5. Error detection of data link layer is achieved by _____ in wired network.
   (A) Bit stuffing (B) Equalizer
   (C) ARQ schemes (D) Cyclic redundancy check

6. In the go-back-N protocol, the sequence number are
   (A) Modulo 2^m (B) Modulo 2^{m-1}
   (C) Modulo 2^{m+1} (D) Modulo 2^{m-2}

7. The data link layer takes the packet it gets from the network layer and encapsulates them in to _____
   (A) Cells (B) Packets
   (C) Frames (D) Segments

8. Decryption and encryption of data is the responsibility of the _____layer.
   (A) Physical (B) Session
   (C) Network (D) Presentation

9. Which of the following is the default mask for the address 190.0.46.201?
   (A) 255.0.0.0 (B) 255.255.0.0
   (C) 255.255.255.0 (D) 255.255.255.255

10. Which class addresses are reserved for multicast?
   (A) Class B (B) Class C
   (C) Class E (D) Class D

11. What is the main function of the transport layer?
   (A) Node-node delivery (B) Process-process delivery
   (C) Synchronization (D) Updating and maintenance of routing table

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

13. A packet in TCP is called as
   (A) User datagram (B) Frame
   (C) Segment (D) Bits

14. Which of the following services use TCP?
   (A) DHCP (B) SMTP
   (C) TFTP (D) BGP

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

16. Identify the well-known port number used by TCP and UDP for the day time protocol
   (A) 07 (B) 09
   (C) 11 (D) 13

17. The session initiation protocol (SIP) is a protocol devised by
   (A) IETF (B) IAB
   (C) IEEE (D) ISO

18. RSA provide security based on
   (A) Only one key (B) One symmetric key
   (C) Difficulty of factoring number (D) Permutation

19. FTP server listens to connection on port
   (A) 19 to 20 (B) 20 to 21
   (C) 21 to 22 (D) 20 to 22

20. _____is used by an administrator to manage the internet at global and local levels.
   (A) DNS (B) HTTP
   (C) SNMP (D) FTP

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

21. Compare circuit switching and packet switching networks.

22. Explain the behavior of three persistence methods, when a station finds a channel busy.

23. What is piggy backing? What are the advantage of it?

24. The mask for finding network address is 255.255.0.0 and subnet mask is 255.255.224.0. How many number of subnets are possible? How many hosts will be supported per subnet?

25. Write a note on the fields present in UDP format.

26. How compression is done for audio signal?

27. Discuss how SIP is used in the transmission of multimedia.

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

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

ii. Write a note on serial and parallel transmission. (4 Marks)

(OR)

b.i. Discuss the various network topologies with their advantages and disadvantages. (8 Marks)

ii. Compare LAN and WAN. (4 Marks)

29. a.i. Explain the following in Go-Back-N ARQ with relevant diagram.
   (1) Sender sliding window and its control variables
   (2) Lost frame operation

ii. Enumerate the responsibilities of user support layers of OSI model.

(OR)

b. Describe the HDLC structures, HDLC configuration and HDL modes in detail.

30. a.i. Compare packet and extension headers in IPv4 and IPv6. (8 Marks)

ii. Briefly describe the various classes of IP address. (4 Marks)

(OR)

b. With a neat flow chart explain Dijktra algorithm for the network shown below. Assume 'A' as root node. Mention the routing table for root A.