

31. a. What is the difference between symmetric key and asymmetric key cryptography? With a suitable example. Enumerate the steps involved in RSA algorithm.

(OR)

b. Draw and explain TCP segment format.

32. a. Write a note on

- (i) FTP
- (ii) HTTP

(OR)

b. Explain the following

- (i) ATM header
- (ii) Compression techniques

(8 Marks)

(4 Marks)

15

Reg. No.

B.Tech. DEGREE EXAMINATION, NOVEMBER 2019
Seventh Semester

EC1027 – COMPUTER COMMUNICATION

(For the candidates admitted during the academic year 2013 – 2014 and 2014 -2015)

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. In which topology there is a central controller or hub?
(A) Star (B) Mesh
(C) Ring (D) Bus
2. In a network with 25 computers, which topology would require the extensive cabling?
(A) Mesh (B) Star
(C) Bus (D) Ring
3. The store and forward mechanism is used in _____ network.
(A) Circuit switched (B) Datagram
(C) Virtual circuit (D) Message switched
4. If a link transmits 4000 frames per second, and each slot has 8 bits, the transmission rate of this TDM circuit is _____.
(A) 32 kbps (B) 32 Mbps
(C) 64 kbps (D) 64 Mbps
5. The physical layer concerns with
(A) Bit by bit delivery (B) Process to process delivery
(C) Application to application delivery (D) Source to destination delivery
6. Protocols in which the sender sends one frame and then waits for an acknowledgement before proceedings are called _____.
(A) Sliding window (B) Stop and wait protocol
(C) Go Back N protocol, (D) Selective repetitive protocol
7. The data portion of a packet at level N-1 Carries the whole packet from level N. This process is known as
(A) Multiplexing (B) Demultiplexing
(C) Encapsulation (D) Decapsulation
8. _____ is not the part of U-frame in HDLC.
(A) Flag (B) User information
(C) Address (D) Frame control status

9. _____ is a best effort delivery scheme.
 (A) ARP (B) RARP
 (C) ICMP (D) IPv4
10. The address space of IPv6 is
 (A) 2^{127} (B) 2^{128}
 (C) 2^{129} (D) 2^{130}
11. _____ is an implementation of the link state protocol.
 (A) Routing Information Protocol (RIP) (B) Address Resolution Protocol (ARP)
 (C) Open Shortest Path First (OSPF) (D) Border Gateway Protocol (BGP)
12. A technique in which a congested node stops receiving data from the immediate upstream node or nodes is called as
 (A) Admission policy (B) Forward signaling
 (C) Backward signaling (D) Back pressure
13. In TCP, sending and receiving data is done as
 (A) Sequence of characters (B) Stream of bytes
 (C) Lines of data (D) Packets
14. The ports ranging from 0 to 1023 are assigned and controlled by IANA is
 (A) Well known ports (B) Registered ports
 (C) Dynamic ports (D) Unregistered ports
15. The header length of UDP datagram is a
 (A) Fixed size header of 8 bytes (B) Fixed size header of 16 bytes
 (C) Variable size header of 64 bytes (D) Variable size header of 128 bytes
16. Use the Caeson cipher with key = 5, to encrypt the message 'WORLD'
 (A) BAWQI (B) BTWXI
 (C) BTWQI (D) BTXQI
17. An ATM cell has the payload of _____ bytes.
 (A) 32 (B) 48
 (C) 64 (D) 128
18. HTTP is a _____ layer protocol.
 (A) Application (B) Presentation
 (C) Session (D) Transport
19. FTP server listens for connection on port number.
 (A) 20 (B) 21
 (C) 22 (D) 23
20. When the sender is connected to the mail server via a LAN or a WAN, we need _____ UAs and pairs of MTAs (client and server).
 (A) 2, 1 (B) 1, 2
 (C) 2, 2 (D) 2, 3

PART – B (5 × 4 = 20 Marks)

Answer ANY FIVE Questions

21. Enumerate the various persistent methods used in CSMA.
22. What is meant by bit stuffing and byte stuffing?
23. Why do the window size of sender in Go Back N ARQ is chosen lesser than 2^m ? justify the answer with flow diagram by considering $m=2$.
24. List out the advantages of IPv6.
25. Write a note on closed loop congestion control.
26. Draw and explain the UDP datagram.
27. List out the services provided by B-ISDN.

PART – C (5 × 12 = 60 Marks)

Answer ALL Questions

28. a. Describe the different topologies of the network with advantages and disadvantages.

(OR)

- b.i. Compare circuit switching and packet switching.

- ii. A multiplexer combines four 100 kbps channels using a time slot of 2 bits. Show the output with four arbitrary inputs. What is the frame rate, frame duration, bit rate and bit duration?

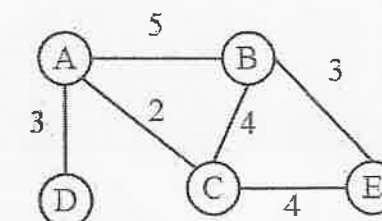
29. a. i. List out the responsibilities of network support layers in OSI model.

- ii. Discuss the sliding windows, and control variables at sender and receiver side in Go Back N ARQ scheme.

(OR)

- b. Explain the various frames in HDLC with suitable frame format.

30. a. For the given diagram, obtain the node B and node D final routing table using DVR (Distance Vector Routing)



(OR)

- b.i. Draw and explain IPv4 datagram format. (8 Marks)

- ii. Compare between IPv4 and IPv6. (4 Marks)