A   Reg. No. :

Question Paper Code: 94C02

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

Fourth Semester

Computer Science and Business System

19UCB402 - COMPUTER NETWORKS

(Regulations 2019)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. What is the use of Bridge in Network?   CO1- U

    (a) to connect LANs   (b) to separate LANs

    (c) to control Network Speed   (d) to control Network Speed

2. A Link may have a bandwidth of B bps, but we can only send T bps   CO1- U
    through this link. Compare T and B

    (a) T is equal to B   (b) T always less than B

    (c) T always greater than B   (d)T is lesss than B

3. High-level Data Link   Control (HDLC) is a ___ communication   CO1- U
    over point-to-point and multi point links.
    (a) Juggling standards and business needs   (b) Obeying the rules

     (c) Acting on a considered judgment   (d) None of these

4. In Go-Back-N ARQ, if 5 is the number of bits for the sequence   CO1- U
    number, then the maximum size of the receive window must be

    _____.
    (a) 1   (b) 15   (c) 16   (d) 31

5. On which factors do the size of block depends in classless   CO1- U
    addressing?

    (a) Nature & size of an entity   (b) Number of addresses

    (c) Availability of the address space   (d) All of the above

6. IEEE802.11a,hasdatarate of _____MBps   CO1- U

   (a) 1   (b) 2   (c) 6   (d) none of the above

7. Transport layer aggregates data from different applications into a   CO1- U
   single stream before passing it to _____

   (a) network address   (b)host address   (c)both (a) and (b)   (d) none of the above

8. An endpoint of an inter-process communication flow across a   CO1- U
   computer network is called _____

   (a) socket   (b) pipe   (c) port   (d) machine

9. The packet of information at the application layer is called   CO1- U
   _____

   (a) Packet   (b) Message   (c) Segment   (d) Frame

10. Electronic mail uses which Application layer protocol?   CO1- U

    (a) SMTP   (b) HTTP   (c) FTP   (d) SIP

                        PART – B (5 x 2= 10 Marks)

11. Draw a hybrid topology with a ring backbone and three bus networks   CO1- U

12. What do you understand by CSMA protocol?   CO1- U

13. In a block of addresses, we know the IP address of one host is   CO2- App
    182.44.82.16/26. What are the first address and the last address in this
    block?

14. Draw UDP Header Format   CO1- U

15. Write down the characteristics of FTP   CO1- U

                        PART – C (5 x 16= 80 Marks)

16. (a)   Draw neat sketch of OSI reference model and list out various   CO1- U   (16)
          functions of the Layers.
                                    Or
    (b)   Explain the important characteristics of the following types of CO1- U   (16)
          cables. Also mention one application in which they are used?
          (a) Co axial cable.
          (b) twisted Pair cable
          (c) Fiber optical cable.

17. (a) Describe about services provided by the Data Link Layer.   CO1- U   (16)

<div align="center">Or</div>

    (b) Using 5-bit sequence numbers, what is the maximum size of   CO1- U   (16)
the sender and receiver windows for each of the following
protocols? How?

      (i)   stop and wait ARQ

      (ii)   Go –back –N ARQ

18. (a) Explain about IPV4? Compare IPV5 and IPv6   CO1- U   (16)

<div align="center">Or</div>

    (b) Explain the distance vector routing algorithm. Mention the   CO1- U   (16)
limitations of distance vector routing algorithm.

19. (a) Explain the characteristics and functionality of transmission   CO1- U   (16)
control protocol

<div align="center">Or</div>

    (b) Explain the congestion control categories in Transport layer   CO1- U   (16)
protocols

20. (a) Explain SMTP and HTTP .Give their uses, State strengths and   CO1- U   (16)
weakness.

<div align="center">Or</div>

    (b) Illustrate, the sequence of characters exchanged between the   CO1- U   (16)
TELNET client and the server to switch from the default mode
to the character mode.

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