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Reg. No.: | 1 | 5 | 1 | 9 | 2 | 1 | 0 | 0 | 0 | 5 |

END TERM EXAMINATION – DECEMBER 2021
SEMESTER – V
(B.Tech. CSE- 2018, 2019)

Subject Code: 19CS 3003/ CS 3003   Duration: 3 hours
Subject: COMPUTER NETWORKS   Max. Marks: 100

Instructions
- All Questions are compulsory
- The Question paper consists of 2 sections - Part A contains 10 questions of 2 marks each. Part B consists of 5 questions of 16 marks each.
- There is no overall choice. Only Part B question include internal choice.

PART – A
*(2 * 10 = 20 Marks)*

1. What is the maximum length allowed for a UTP cable?
2. What does 10Base-T mean?
3. Explain the categories of networks.
4. How can you identify the IP class of a given IP address?
5. What are firewalls?
6. What is tracert?
7. What is the number of network IDs in a Class C network?
8. What is Piggybacking?
9. Explain detail about Domain Name System.
10. What is ARP, how does it work?

PART – B
*(16 * 5 = 80 Marks)*

11. a) What is the significance of layered architecture? Explain the OSI layered architecture with neat sketch.   16 Marks

OR

b) Illustrate the Manchester and differential Manchester encodings for the 1001111100010001 bit pattern.   16 Marks

12. a) What is the remainder obtained by dividing a frame X^7+X^5+1 by the generator polynomial X^3+1? Show that the transmission frame is error free?   16 Marks

OR

b) Encode a binary word 11001 into the even parity hamming code.

13. a) What is CSMA? How does it work? Distinguish between 1-persistent and non-persistent CSMA.   16 Marks

OR

b) Explain congestion control with a suitable example. Explain how to solve the congestion problem.   16 Marks

14. a) Describe the format of IPv4 datagram with the help of a diagram, highlighting the significance of each field.   16 Marks

OR

b) Explain about UDP and TCP features with neat diagrammatic representation.   16 Marks

15. a) Explain the following terms in detail.   16 Marks
    i) SMTP   ii) FTP

OR

b) With a neat sketch explain the concept of cryptography. Write the cipher of the following message (use the 3 row Rail Fence Cipher technique).   16 Marks
    i)   COME TOMORROW IN MY OFFICE
    ii)   LEAVE THEM BEHIND
    iii)   WE WILL BE THERE SOON