**17U633**  (Pages: 2)  Name: ……………..……….

Reg. No…………..………

### SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2020
(CUCBCSS-UG)
### CC17U BCS6 B13 - COMPUTER NETWORKS
Computer Science - Core Course
(2017 Admissions - Regular)

Time: Three Hours                                        Maximum: 80 Marks

### PART A
Answer *all* questions. Each question carries 1 mark.

1. Write any two differences between OSI and TCP/IP models.

2. What is DTE-DCE interface?

3. What is a burst error? How is it length calculated?

4. Write the concept of simplest protocol in a noiseless channel.

5. Give an example for IPV4 address.

6. Expand the acronym IGMP.

7. Write any two uses of UDP protocol.

8. What is the significance of sequence number in TCP packet or segment?

9. How is plain text, key and cipher text related?

10. What is a digital signature?

**(10 x 1 = 10 Marks)**

### PART B
Answer *all* questions. Each question carries 3 marks.

11. Differentiate LAN, MAN, WAN.

12. Discuss 2G, 3G and 4G mobile networks.

13. Write the applications of routers, bridges and repeaters.

14. Where is SCTP used? How does it differ from TCP and UDP?

15. Write a note on traditional symmetric key ciphers.

**(5 x 3 = 15 Marks)**

### PART C
Answer any *five* questions. Each question carries 5 marks.

16. Draw a neat diagram of OSI model. Write the responsibilities of its layers.

17. Differentiate the various switching techniques used in physical layer.

18. What is Hamming code? Enumerate the steps needed to generate a Hamming code for a 7-bit codeword. Demonstrate with an example.

19. What is mask in classless addressing? Suppose you are given an IP address 205.6.37.39/28. Identify the mask, first address, last address, and total number of addresses that can be allocated.

20. Describe the error reporting messages of ICMP.

21. Explain the closed loop congestion control mechanisms.

22. Discuss FTP. Differentiate the need of control connection and data connection in FTP.

23. Explain asymmetric key cryptography with reference to RSA.

**(5 x 5 = 25 Marks)**


## PART D

Answer any *three* questions. Each question carries 10 marks.

24. Explain in detail about guided media transmission in physical layer.

25. Write the approaches used by the following protocols in noisy channels

    a) Go back n ARQ

    b) Selective Repeat ARQ

26. Differentiate the random access protocols CSMA/CD and CSMA/CA.

27. Discuss the following protocols used in address mapping in network layer.

    a) ARP

    b) RARP

    c) DHCP

                                                      (5+2+3)

28. TCP is a connection oriented protocol. Explain how TCP manages to do that?

**(3 x 10 = 30 Marks)**


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