Reg. No ..... Name **23U303**

B. Sc. DEGREE END SEMESTER EXAMINATION : NOVEMBER 2023

SEMESTER 3 : COMPUTER APPLICATION

COURSE : **19U3CRCAP5 : DATA COMMUNICATION AND COMPUTER NETWORKS**

(For Regular 2022 Admission and Improvement / Supplementary 2021/2020 / 2019 Admissions)

Time : Three Hours Max. Marks: 75

PART A

Answer All (1 mark each)

1. Explain error detection vs error correction.
2. In a ___ topology, if there are n devices in a network, each device has n-1 ports for cable.
3. Define cell in network.
4. Distinguish private key and public key.
5. List out the main technology used in 4G and 5G.
6. What is bit length in data communication?
7. Define TELNET.
8. List out the types of unguided transmission media.
9. The type of routing which automatically updates when changes are made to the network configuration is called _____.
10. List out the protocols of random access.

(1 x 10 = 10)

PART B

Answer any 8 (2 marks each)

11. Define VoIP. List out its advantages and disadvantages.
12. Differentiate WLAN, WPAN and WMAN.
13. Explain the functions of Data Link Layer of OSI model.
14. Briefly explain the fundamental characteristics of data communication.
15. Distinguish fixed size framing and variable size framing.
16. Explain remote logging.
17. Define ARP.
18. Write the relationship between the bandwidth and frequency.
19. Define piggy backing.
20. Suppose a signal travels through a transmission medium and its power is reduced to one-half. Calculate the attenuation (loss of power).

(2 x 8 = 16)

PART C

Answer any 5 (5 marks each)

21. Explain linear block codes.
22. Illustrate bus topology with its merits and demerits.
23. Explain hamming distance and minimum hamming distance.
24. Distinguish between synchronous TDM and statistical TDM.

25. Illustrate go-back-N ARQ.
26. Classify the transmission media. Give examples for each.
27. Explain the use of cloud technology.

(5 x 5 = 25)

PART D

Answer any 2 (12 marks each)

28. Write short notes on the following:
    a) Radio Waves
    b) Micro Waves
    c) Infrared
29. Explain in detail about all connecting devices in network.
30. Illustrate TCP/IP model.
31. Define framing. Explain its protocols.

(12 x 2 = 24)