K23P 3464

Reg. No. : ....

Name : ....

I Semester M.C.A. Degree (CBSS – Reg./Supple./Imp.) Examination, November 2023
(2020 Admission Onwards)
MCA1C04 : DATA COMMUNICATION AND COMPUTER NETWORKS

Time : 3 Hours   Max. Marks : 60

SECTION – A

Answer **all** questions. **Each** question carries two marks.

1. What is meant by line configuration ?

2. Which transmission mode is suitable for applications that requires simultaneous two-way communication and why ?

3. Differentiate between serial transmission and parallel transmission.

4. Describe DTE-DCE interface. Give examples.

5. What is VRC ?

6. Suggest a method in error correction to detect errors in both single bit and multiple bits of data. Explain its working briefly.

7. What is the significance of switch in networking ?

8. Explain the functionality of NIC.

9. Summarize the functions of the transport layer.

10. What is SCTP ?

P.T.O.

SECTION – B

Answer **all** questions. **Each** question carries **eight** marks.

11. a) What is meant by network topology ? Compare star topology with bus topology.

    OR

    b) What is meant by transmission impairment ? Explain in detail.

12. a) Define the following in the context of an analog signal :

    i) Amplitude

    ii) Frequency

    iii) Period

    iv) Wave length.   [2+2+2+2]

    OR

    b) Explain methods used to convert digital data to analog signal.

13. a) Discuss the features of data link layer.

    OR

    b) Compare and contrast stop and wait protocol with sliding window protocol.

14. a) What are the strengths and weaknesses of IP address ?

    OR

    b) What is the purpose of routing algorithm ? Compare and contrast adaptive and non-adaptive routing algorithms.

15. a) Explain the working of TCP/IP in detail. Specify its features.

    OR

    b) What is remote login in application layer ? Explain the procedure of remote login.

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