CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
IV–B.TECH–I–Semester End Examinations (Regular) - November- 2023
DATA COMMUNICATIONS AND NETWORKS
(ECE)

[Time: 3 Hours]   [Max. Marks: 70]

Note: This question paper contains two parts A and B.
       Part A is compulsory which carries 20 marks. Answer all questions in Part A.
       Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1. a) List out the applications of networks.   [2M]
   b) List the different types of network topologies.   [2M]
   c) Give brief note on ALOHA.   [2M]
   d) Compare flow control and error control.   [2M]
   e) What is the function of Network Layer?   [2M]
   f) Compare circuit switched networks and datagram networks.   [2M]
   g) Recall UDP packet frame format.   [2M]
   h) What is the relation between transport and network layer?   [2M]
   i) What information would you use to examine the view of DNS?   [2M]
   j) Define STMP and HTTP.   [2M]

PART-B   (50 Marks)

2. Explain the OSI reference model with neat diagram.   [10M]

OR

3. a) Distinguish between OSI and TCP/IP model.   [5M]
   b) Write a short note on Internet.   [5M]

4. a) Illustrate the importance of flow control in the data link layer.   [5M]
   b) Discuss the function and frame formats of MAC and physical layers of IEEE 802.11.   [5M]

OR

5. a) What are the different types of error detection methods? Explain.   [5M]
   b) Explain HDLC frame format in detail.   [5M]

6. a) How would you summarize the services expected from the network layer?   [5M]
   b) Explain the Header format of IPV4 Protocol.   [5M]

OR

7. a) Describe about the Virtual Circuit and datagram networks.   [5M]
   b) What is the purpose of ICMP? Explain its messages in detail.   [5M]

8. a) Discuss the transport layer service primitives.   [5M]
   b) Explain the various methods used by TCP for congestion control   [5M]

OR

9. a) Discuss about the Round-Trip Time Estimation and Timeout.   [5M]
   b) Elaborate about transport layer in the internet.   [5M]

10. a) Explain the transport services available to applications.   [5M]
    b) Discuss in detail about FTP commands and replies.   [5M]

OR

11. a) Describe the operation of SNMP protocol in detail.   [5M]
    b) What is an Electronic mail? Explain the architecture of E-Mail.   [5M]

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