Code No.: IT503PC   R20   H.T.No. [ ] [8] [R] [ ] [ ] [ ] [ ]

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
III–B. TECH–I–Semester End Examinations (Supply) - June- 2024
DATA COMMUNICATION & COMPUTER NETWORKS
(IT)

[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.

PART-A   (20 Marks)

1. a) How are computer networks classified on the basis of physical size?   [2M]
   b) List the different network topologies.   [2M]
   c) What are the types of errors?   [2M]
   d) Define the parity check.   [2M]
   e) Why the class C is most commonly used Network class?   [2M]
   f) Differentiate broadcasting and flooding.   [2M]
   g) Discover the processes involved in process-to-process delivery.   [2M]
   h) Why three-way handshake is used in TCP.   [2M]
   i) What is the need of FTP?   [2M]
   j) What is the header format of HTTP reply message?   [2M]

PART-B   (50 Marks)

2. With a neat diagram explain the OSI reference model in detail? Explain the functions performed in each layer.   [10M]

OR

3. Use IEEE 802.3 and IEEE 802.11 to generalize the differences between wired and wireless LANS.   [10M]

4. Describe various error detection and correction technique. The generator polynomial is $x3+x+1$. A sender wants to send data 1001. Generate CRC code. Also describe error checking process if 3rd bit is inverted from the left.   [10M]

OR

5. How performance is improved in CSMA/CD protocol compared to CSMA protocol? Explain.   [10M]

6. Draw and explain in detail about the IPV6 protocol.   [10M]

OR

7. What is classful addressing? Discuss class A, class B, class C, class D, class E address with its range in decimal dotted notation and example.   [10M]

8. Describe about Multiplexing and De-multiplexing.   [10M]

OR

9. Elucidate congestion control in datagram subnets and write about the features and applications of UDP.   [10M]

10. Describe the various parts of e-mail address and show the process of sending and receiving e-mails.   [10M]

OR

11. What is the use of DNS? Explain how it works?   [10M]

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