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Question Paper Code : 30126

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2023.

Fourth Semester

Computer Science and Engineering

CS 3591 — COMPUTER NETWORKS

(Common to : Computer Science and Engineering (Cyber Security)/Computer and Communication Engineering/Artificial Intelligence and Data Science/Information Technology)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Computer Network.
2. What is POP3?
3. Write about Hamming code.
4. Define Quality of Service (QoS)
5. Difference between CSMA Collision detection and Collision Avoidance.
6. Define tunneling.
7. Write any two differences between Connection Oriented and Connectionless service.
8. List the Multicast Routing Protocols.
9. Define Circuit Switching.
10. Define CSMA/CD.

PART B — (5 × 13 = 65 marks)

11. (a) Explain how are OSI and ISO related to each other? Discuss about Internet standards.

Or

- (b) Write in detail about the SMTP protocol and FTP protocol.

12. (a) Define Congestion Control mechanism and explain in detail about Congestion avoidance.

Or

- (b) Explain about the Flow control and Connection Management in TCP

13. (a) Describe about Ipv4 frame format along with packet switching in detail.

Or

- (b) Explain about ARP and RARP in detail.

14. (a) (i) Explain the working of link state routing in detail. (6)
(ii) Explain DVMRP in detail. (7)

Or

- (b) (i) Define BGP Protocol. Describe its routing functionality in detail. (7)
(ii) Write about Flow control and Buffering. (6)

15. (a) Explain in detail the design issues associated with framing in data link layer. Explain the flow control mechanism in data link layer.

Or

- (b) (i) List the responsibilities of the data link layer in the Internet model. (7)
(ii) Explain error detection and error correction techniques. (6)

PART C — (1 × 15 = 15 marks)

16. (a) Define route. Why routing algorithm is required? Routes can be pre determined and then use them when required (or) Routes can be determined when needed and use them immediately. First method is proactive and second method is reactive. Which one is preferred for wired networks? Justify your answer.

Or

- (b) Write an example, demonstrate how to make routing table using distance vector routing. And list down the limitation. Explain in detail about the Uni-cast Routing protocols.
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