

Register No.: ..... Name: .....

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2024**

(2020 SCHEME)

**Course Code : 20CST286****Course Name: Introduction to Computer Networks****Max. Marks : 100****Duration: 3 Hours****PART A****(Answer all questions. Each question carries 3 marks)**

1. List the different service primitives in computer networks.
2. Define the term protocol. Mention its necessity in reference model.
3. What is the concept of sliding window protocols?
4. Differentiate between bridges and switches.
5. State the Optimality Principle.
6. What are Congestion Control algorithms?
7. Categorize different classes of IP Address.
8. Describe the working of DHCP.
9. What are Transport Service Primitives?
10. State the working of Email.

**PART B****(Answer one full question from each module, each question carries 14 marks)****MODULE I**

11. Explain the OSI Reference model with neat diagram. Compare it with TCP/IP protocol suite. 14

**OR**

12. a) Describe computer networks and explain any five applications of computer networks. (8)  
b) Compare LAN, MAN, and WAN. (6)

**MODULE II**

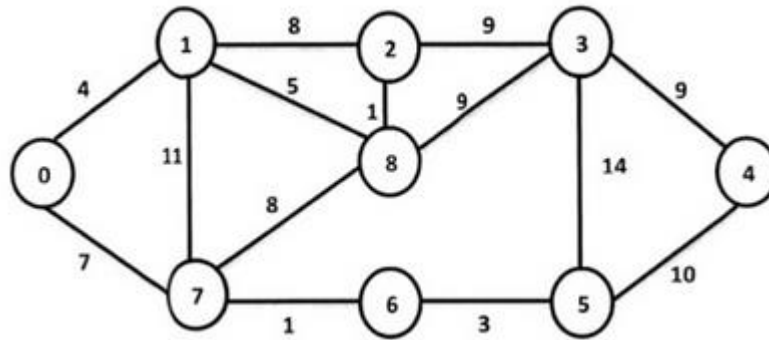
13. a) Explain the various design issues in Data Link layer. (5)  
b) Describe the working of IEEE 802.11 with help of architecture. (9)

**OR**

14. a) What is an Error? Explain different types of errors. (5)  
b) Explain the following error detecting codes with example. (9)  
i) parity ii) checksum iii) CRC

**MODULE III**

- 15. a) What is Routing? How routing algorithms are classified? (5)
- b) Explain shortest path routing algorithm with given example (9)



**OR**

- 16. a) Illustrate Link State Routing algorithm with help of routing table and an example. (7)
- b) Discuss in detail about Distance Vector Routing Protocol. (7)

**MODULE IV**

- 17. a) Explain Address Resolution Protocol and Reverse Address Resolution Protocol. (7)
- b) How BGP works? Explain in detail. (7)

**OR**

- 18. a) Draw IPv6 Datagram format. (4)
- b) Suppose you have a company with 500 employees. You want to set up 3 department with 5 rooms of 80 seat each. You are subscribed internet service from a provider. A proxy server is set up in the company. Draw a layout for setting up the computer networks in 5 rooms and assign IP address to each computer. [Not required to draw entire diagram – show only first two computer and then last computer] (10)

**MODULE V**

- 19. a) Distinguish between TCP and UDP header formats. (7)
- b) Describe the role of SMTP (Simple Mail Transfer Protocol) in E-mail? (7)

**OR**

- 20. a) With the help of diagram, explain the working of SNMP. (7)
- b) Explain the concept of DNS. (7)

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