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

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER M.C.A DEGREE EXAMINATION (Regular), FEBRUARY 2022
(2021 SCHEME)

Course Code:	**21CA104**
Course Name:	**Advanced Computer Networks**
Max. Marks:	**60** **Duration: 3 Hours**

PART A

(Answer all questions. Each question carries 3 marks)

1. Briefly explain the P2P architecture.
2. What are the services provided by DNS?
3. Define multiplexing and de-multiplexing in transport layer.
4. Outline the UDP segment structure.
5. Differentiate virtual circuit and datagram networks.
6. Write short note on IPV6.
7. Distinguish between communication at the network layer and at the data-link layer.
8. Briefly explain slotted ALOHA protocol.
9. Explain Network Address Translation (NAT).
10. Write short note on Firewalls.

PART B

(Answer one full question from each module, each question carries 6 marks)

MODULE I

11. SMTP, FTP and HTTP are protocols to transfer messages from one point to another. Compare and contrast their use. (6)

OR

12. Compare and contrast OSI and TCP/IP network reference models. (6)
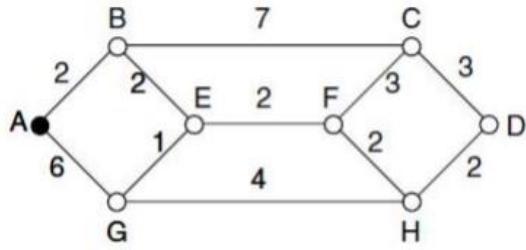
MODULE II

13. a) What is meant by reliability in data communication? How it is achieved in datagram networks? (2)
     b) Compare the reliable data transfer protocol Go-Back-N and Selective repeat. (4)

OR

14. Describe the following
     i) TCP segment format. (6)
     ii) TCP services.

MODULE III

15. Explain link state routing algorithm. Find the shortest path between A and D in the undirected graph given below using the link state routing algorithm. Solve the problem stepwise. (6)

OR

16. Describe the format of IPv4 datagram with the help of a diagram, highlighting the significance of each field.   (6)

MODULE IV

17. Explain IEEE format of an Ethernet network with suitable diagram.   (6)

OR

18. Define Error detection and correction. What is redundancy? Explain how errors are detected using CRC.   (6)

MODULE V

19. Explain the functions of Wi-Fi and Bluetooth in detail.   (6)

OR

20. Write a short note on:
    a. Traffic analysis tools   (6)
    b. Troubleshooting

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