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# SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**FIRST SEMESTER M.C.A DEGREE EXAMINATION (Regular), DECEMBER 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. Describe the working of peer to peer file sharing networks.
2. FTP and HTTP are protocols to transfer messages from one point to another. Compare and contrast their use.
3. Demonstrate stop-and-wait protocol in reliable data transfer.
4. Discuss three-way handshaking in TCP.
5. What is the main function of network layer? Write short note on IPv4.
6. Differentiate intra and inter domain routing.
7. Illustrate IEEE 802.3 frame structure.
8. Explain the working of ARP in data link layer.
9. Write short note on firewalls.
10. Illustrate network address translation.

## PART B

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

### MODULE I

11. Elaborate the functions of five layers of TCP/IP reference model. (6)

**OR**

12. Write short note on
    i) POP3
    ii) HTTP. (6)

### MODULE II

13. Explain connectionless transport layer protocol with header format. (6)

**OR**

14. Explain connection oriented transport layer protocol with header format. (6)

**MODULE III**

15. Explain link state routing algorithms. (6)

**OR**

16. Write short note on
    i) OSPF (6)
    ii) RIP.

**MODULE IV**

17. Why are error detection mechanisms important in network? With a suitable example illustrate cyclic redundancy check (CRC). (6)

**OR**

18. Write short note on:
    i) Collision based multiple access protocol (6)
    ii) Token based multiple access protocol.

**MODULE V**

19. Illustrate and explain the 802.11 architecture. (6)

**OR**

20. What is bluetooth? Explain the various layers of bluetooth with a neat diagram. (6)

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