

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER M.C.A DEGREE EXAMINATION (S), MAY 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. Discuss the importance of protocols in communication. Write brief notes on the functions of HTTP and SMTP.
2. Describe the working of peer to peer file sharing networks.
3. Compare connection oriented and connection less protocols with an example.
4. Analyze the working of stop and wait flow control mechanism.
5. What is the main function of Network Layer? Write short notes on IPv4 and IPv6.
6. Discuss the working of Virtual Circuit and Datagram Networks.
7. Write the working principles of ARP and RARP.
8. Write a short note on IEEE 802.3 Ethernet.
9. List the various IEEE 802.11 WLAN components and write brief notes on any two.
10. What is the main responsibility of Network Management Protocols? Present your deliberations on SNMP.

PART B*(Answer one full question from each module, each question carries 6 marks)***MODULE I**

11. a) Why layered architecture is preferred in Network? Present a neat sketch of the OSI Model. (3)
b) Elucidate the functions of Data Link Layer, Network Layer and Transport Layer. (3)

OR

12. a) "FTP refers to a group of rules that govern how computers transfer files from one system to another over the internet." Present your thoughts on the statement. (3)
Illustrate the working of FTP.
b) Elaborate on the operation of any three layers of TCP/IP reference model. (3)

MODULE II

13. a) With the help of activity diagram, describe the working of Go-back-N protocol. (4)
b) Present your views on the need of multiplexing and de-multiplexing in transport layer. (2)

OR

14. Illustrate the working of Transmission Control Protocol (TCP) with a neat sketch of various connection phases. (6)

MODULE III

15. a) Compare static and dynamic routing algorithms. (2)
b) Elucidate Distance Vector Routing Algorithm in detail. (4)

OR

16. a) Present your views on routing in internet. Elaborate the working of Border Gateway Protocol (BGP). (4)
b) How does congestion affect the performance of network? Comment on congestion control. (2)

MODULE IV

17. What is the main functionality of multiple access protocols? Discuss the working of slotted ALOHA and CDMA. (6)

OR

18. Why error detection mechanisms are important in network? With suitable example illustrate Cyclic Redundancy Check (CRC). (6)

MODULE V

19. Specify the IEEE standard of Bluetooth. With essential sketch, describe Bluetooth layers and their functionality. (6)

OR

20. a) "Firewalls are filtering mechanisms for attaining network security". Justify the statement and present your understanding on Firewalls. (4)
b) Define Virtual Private Network (VPN). Discuss its merits. (2)
