

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VI Computer Science & Business Systems : WINTER : 2024
SUBJECT: COMPUTER NETWORKS

Day : Saturday
Date : 30/11/2024

W-24181-2024

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data **WHEREVER** necessary.
- 4) Draw neat diagrams **WHEREVER** necessary.

- Q.1** Compare and contrast wired LAN, wireless LAN and virtual LAN technologies. (10)
- OR**
- Q.1** Briefly explain functionalities of each layer in the OSI model and how they work together to facilitate network communication. (10)
- Q.2** Describe the operation of Slotted ALOHA and its advantages over pure ALOHA. (10)
- OR**
- Q.2** Describe the working principle of CRC in detail. A bit stream 1101011011 is transmitted using standard CRC method. The generator polynomial is x^4+x+1 . What is the actual bit string transmitted? (10)
- Q.3** Describe Path Vector Routing in detail. Discuss its advantages over Distance Vector Routing. (10)
- OR**
- Q.3** Compare IPv6 and IPv4. Draw and explain IPv6 header format. (10)
- Q.4** Define TELNET and explain how it facilitates remote terminal access over a network. (10)
- OR**
- Q.4** Differentiate between persistent and non-persistent HTTP. Also explain HTTP message format. (10)
- Q.5** Explain Frequency Division Multiplexing. How does it differ from WDM and TDM. (10)
- OR**
- Q.5** Explain the concepts of spread spectrum and discuss its role in enhancing communication security and reducing interference. (10)
- Q.6** Explain the security challenges associated with Email communication and discuss techniques for securing Email transmission. (10)
- OR**
- Q.6** Define Cryptography and discuss its role in securing communication over networks. (10)
