

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VI COMPUTER SCIENCE & BUSINESS SYSTEMS : SUMMER : 2024
SUBJECT: COMPUTER NETWORKS

Day : Tuesday
Date : 21/05/2024

S-24181-2024

Time : 02:30 PM-05:30 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 Differentiate between guided and unguided transmission media used in computer networks and provide example of each type. (10)

OR

Q.1 Explore various connection topologies used in computer networks and their applications. (10)

Q.2 Explain CSMA/CD (Carrier Sense Multiple Access with Collision Detection) and its role in Ethernet networks. (10)

OR

Q.2 Discuss Hamming code in detail. If 7 bit hamming code word is received by a receiver is 1011011 (assume the even parity), State whether the receiving code word is correct or wrong? If wrong locate the bit in error. (10)

Q.3 Explain the structure of an IPv4 address and its limitations compared to IPv6. (10)

OR

Q.3 Discuss the role of RIP (Routing Information Protocol) and OSPF (Open Shortest Path First) in unicast routing. (10)

Q.4 Explain the role of DNS (Domain Name System) in the internet and its significance in translating domain names into IP addresses. (10)

OR

Q.4 Explain the purpose of SNMP (Simple Network Management Protocol) and discuss how it is used for network management and monitoring. (10)

Q.5 Briefly explain how spread spectrum techniques like Direct Sequence Spread Spectrum (DSSS) increase signal resilience to interference. (10)

OR

Q.5 Explain multiplexing in detail. Explain the concept of Time Division Multiplexing (TDM) and discuss its advantages in utilizing bandwidth efficiently. (10)

Q.6 Discuss the importance of directory services and network security management in ensuring network security and integrity. (10)

OR

Q.6 Provide an example of a commonly used symmetric key algorithm and its advantages for secure communication. (10)
