BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)

B.Tech.Sem - V COMPUTER SCIENCE & ENGINEERING :

SUBJECT : COMPUTER NETWORKS

Day : Friday | Time : 02:30 PM-05:30 PM

Date : 08-12-2023 | **W-24318-2023** | Max. Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labelled diagram **WHERE-EVER** necessary.
4) Assume suitable data if necessary.

Q.1 Explain various types of network based on size with diagram. **[10]**

OR

Q.1 Explain OSI reference model with diagram. **[10]**

Q.2 Explain sliding windows protocol in detail. Compare and contrast the GO BACK – N ARQ protocol with selective repeat ARQ. **[10]**

OR

Q.2 Explain various error detection and correction mechanisms used in computer network. Explain the working and CRC using the following example. (Show the complete steps of division) **[10]**

Data bits : 1101110110

Generator polynomial : $x^3 + x + 1$

Write the redundant bits that will be sent along with the data bits. Suppose 2nd bit from the left is inverted during transmission. Show that error is detected at the receivers' end.

Q.3 Explain routing protocols RIP, OSPF and BGP with diagram. **[10]**

OR

Q.3 Explain path vector routing. Discuss its advantages over distance vector routing. **[10]**

Q.4 What is socket? Explain various socket primitives used in connection oriented client and server side? **[10]**

OR

Q.4 What is traffic shaping? Discuss any two algorithms used for traffic shaping. **[10]**

Q.5 Explain FTP in detail. Explain any four FTP commands. **[10]**

OR

Q.5 Explain DHCP and SMTP in detail. **[10]**

Q.6 Explain different cryptographic techniques in detail. **[10]**

OR

Q.6 Explain in detail directory services and network management. **[10]**

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