

15196

**B. Tech 5th Semester Examination  
Computer Networks (NS)  
CS-314**

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

**Note :** Attempt five questions in all, selecting one question from the sections A, B, C and D and all the subparts of the questions in Section E.

SECTION - A

1. Discuss the layered network architecture of ISO-OSI model and describe in detail the functions of network and data link layer. (20)

2. Explain the following concepts:

  - (a) Modulation and its types
  - (b) Multiplexing Techniques (20)

SECTION - B

3. Describe the following protocols:  
(a) Sliding Window Protocols  
(b) Stop and Wait Protocols (20)

4. Discuss following IEEE standards:  
(a) IEEE 802.3  
(b) IEEE 802.5 (20)

[P.T.O.]

SECTION - C

5. Discuss the following design issues of Network layer:
    - (a) Routing
    - (b) Congestion Control
  6. How internet working is carried out? Discuss the internet architecture and addressing schemes.

SECTION - D

- What is the role of transport layer? Explain the concept of socket and connection management. (20)
  - How network management is done? Discuss the role of firewalls and proxy servers. (20)

SECTION - E

9. (a) What is the role of Cyclic redundancy code?  
(b) Compare the performance of fibre optic and coaxial cable.  
(c) What is meant by FDDI protocol?  
(d) Discuss the concept of virtual LAN.  
(e) List the significance of load shedding.  
(f) Differentiate between gateway and router.  
(g) What is the role of checksum?  
(h) Differentiate between TCP and UDP.  
(i) Write a short note on Quality of Service.  
(j) Write a short note on Datagrams. (2×10=20)