

**Tribhuvan University**  
**Institute of Science and Technology**

**2076**

Bachelor level/ Second Year/ Third Semester/ Science  
Computer Science and Information Technology (CSC259)  
(Computer Network)

*Candidates are required to give their answers in their own words as far as practicable.*

All figures in the margin indicate full marks.

**Attempt any two questions:**

**Section A**

**Long Answer Questions**

**Attempt any Two Questions**

1. Explain each layer of TCP/IP model in detail. Compare it with OSI model.
2. Define transmission media. What are different types of transmission media? Explain different types of unguided media in detail.
3. Define flow control. Explain Go-Back-N ARQ with suitable example. How is it different from Stop-and-Wait ARQ?

**Section B**

**Short Answer Questions**

**Attempt any Eight questions.**

4. Define network topology. Explain ring topology along with its merits and demerits.
5. Explain LAN with example. How is it different from PAN?
6. Define routing table. Differentiate static routing table with dynamic routing table.
7. What is switching? Compare and contrast a circuit-switched network and packet-switched network.
8. Why do we need wireless LAN? Explain the architecture of IEEE 802.11 in detail.
9. What is NAT? How does it work? What are its benefits?
10. In a block of addresses, we know the IP Address of one host is 192.34.12.56/28. What are the first address (network address) and the last address (Limited broadcast address) in this block?
11. Why do we need a DNS system when we can directly use an IP address? What is domain name space?
12. Write short notes on (any two)
  - a. Connection-oriented service
  - b. Bridge
  - c. Hamming distance