

**Nepal College of Information Technology**  
**Balkumari Lalitpur**  
Assessment 2014

Programme: IT  
Course: Computer Networks  
Semester: VI

FM: 70  
Time: 2 hrs.

*Candidates are required to give their answers in their own words as far as practicable.  
The figure in the margin indicates full marks.*

1. (a) Define Computer Networks and its applications. Discuss the ISDN protocol with its architectures [8]  
  
(b) Discuss various Network Topologies and network models [7]
2. (a) Why protocol is required in communication system? Discuss the design issues of protocol with a suitable example. [7]  
  
(b) Discuss the TCP/IP protocol stack with a suitable example. [8]
3. (a) Discuss various techniques to provide error and flow control with a suitable example. [7]  
  
(b) Differentiate Persistent and Non Persistent carrier sense strategies. Design an algorithm for CSMA/CA. [8]
4. (a) Discuss the role of Layer 3 device, what Is ATM ? Discuss about Switching techniques in Computer Network. [7]  
  
(b) Encode the data 1101101 using Hamming code techniques, If 10101110101 is the received code word at receiver end, check whether the error has occurred or not using hamming code method [10]
5. Discuss about Ethernet frame format [4]
6. Write Short Notes (ANY Two) [2 x 2]
  - a) 802.15
  - b) 802.2
  - c) 802.4
  - d) 802.5
  - e) 802.11 b/g/n/a
  - f) UTP, STP,
  - g) Baseband and broadband Co axial cable
  - h) MAC address

THE END