TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT
Office of the Dean
2009

Full Marks: 40
Time: 2 hrs.

BIM/ Second Semester/ITC 214: Data Communication and Computer Network

Candidates are required to answer the questions in their own words as far as practicable

Group 'A'

1. Brief Answer Questions: **[10×1=10]**

a. Differentiate between bridge & switch.

b. Define socket address with suitable example.

c. Define Synchronous transmission.

d. Why is ARP and RARP protocol used?

e. In what case UDP protocol is preferred than TCP protocol?

f. Why BGP is used?

g. What do you mean by protocol stack?

h. Is there any difference in addressing issues of data link layer and network layer?

i. Port address is of …… bits in length whereas IPV6 is of ……. bits in length.

j. Define routing protocol.

Group 'B'

Attempt any FIVE questions: **[5×6=30]**

2. a. What is transmission impairments? Explain the major types of transmission impairments. **[3]**
b. Define the following terms with their respective measurement unit. **[3]**
i) Bandwidth **ii)** Bit rate **iii)** Amplitude

3. **a.** Write down the major purpose of following protocols with their default port no. **[3]**
i. FTP **ii)** SMTP **iii)** DNS
iv) Telnet **v)** HTTP **vi)** HTTPS
b. Explain the functions of each layer of OSI model**.** **[3]**

4. **a.** Describe the working mechanism of sliding window flow control protocol. **[3]**
b. Describe how CSMA/CD works. How it is differed from CSMA/CA**.** **[3]**

5. **a.** Compare distance vector routing protocol with shortest path routing protocol**.** **[3]**
b. Suppose you are given the IP address as 192.168.0.12/26. Answer the following questions. **[3]**
i. Which class does this IP belongs to?
ii. How many valid hosts are available per subnet?
iii. Calculate the subnet mark of given IP.

6. **a.** Explain how datagram packet switching works. Differentiate with virtual circuit approach. **[4]**
b. Write down the major difference between TCP and IP protocol. **[2]**

7. Write down the major difference between : **(Any three)** **[6]**
i) IPV4 versus IPV6 **ii)** WDM versus FDM
iii) Internet versus WWW **iv)** 802.3 Ethernet versus 802.5 Token Rings.