Roll No. ☐☐☐☐☐☐☐☐☐☐☐     Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech. (IT/CSE) (Sem.–4th) (2011 Batch)**
# COMPUTER NETWORKS-I
### Subject Code : BTCS-403
### Paper ID : [A1185]

Time : 3 Hrs.                  Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**
1.  SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2.  SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3.  SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

### SECTION-A

**1. Write short notes on :**

a.  What is the difference between http and https?

b.  What is the difference between LAN, WAN and MAN?

c.  What are the different types of cryptography?

d.  What is the difference between simplex & half duplex?

e.  Give some examples of serial devices.

f.  On which layer do switches and routers work?

g.  What is the need of modems?

h.  IP defines how many bits for representing an IP and MAC address?

i.  How are VLANs useful?

j.  How many bits are consumed by IPv4 and IPv6 addresses respectively?

## SECTION–B

2. Which of the following address does not belong to the same network(no subnetting)? Explain why?

    1. 130.31.23.31

    2. 130.31.24.22

    3. 130.32.23.21

    4. 130.31.21.23

3. What are the two reasons for using layered protocols? What do you mean by link to link layers of OSI reference model? Explain their functions briefly.

4. Identify the address class of the following IP addresses: 200.58.20.165; 128.167.23.20; 16.196.128.50; 50.156.10.10; 250.10.24.96.

5. Explain the physical and logical structure of Internet. Explain how the DNS allows a large number of DNS lookups to be processed?

6. Contrast link state and distance vector routing protocols, giving an example of each. What is count to infinity problem?

## SECTION–C

7. a) What is packet switching ? Explain two different approaches of packet switching.

    b) Discuss the different factors affecting congestion control algorithms.

8. a) Suppose a machine is attached to several physical networks. Why does it need a different IP address for each attachment?

    b) Suppose a computer is moved from CSE Department to Electrical Department in same engineering college. Does the physical address need to change? Does the IP address need to change? Does it make a difference that the machine is a desktop or a laptop?

9. Explain pure-ALOHA and slotted- ALOHA systems. Give the expression for throughout for each, clearly explaining the various terms. Explain 1-persistent, p-persistent and 0- persistent CSMA giving strong and weak points of each.