B.TECH. SEM -VII ELECTRONICS 2014 COURSE (CBCS) : SUMMER - 2018

SUBJECT: COMPUTER NETWORKS

Day : **Monday** | **S-2018-2499** | Time : **02.30 PM TO 05.30 PM**

Date : **21/05/2018** | Max Marks : 60

N.B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labelled diagram **WHEREVER** necessary.
4) Assume suitable data, if necessary.

Q. 1 **a)** Draw and explain ISO-OSI reference model. Comment on data link control protocols. **(06)**

b) What are the drawbacks of token ring topology? **(04)**

OR

a) Explain briefly: **(06)**

i) Broadcast network **ii)** Point to point network

b) State advantages and disadvantages of TCP/IP **(04)**

Q. 2 Describe following network hardware components **(10)**

i) Hubs **ii)** Switches **iii)** Bridges
iv) NIC **iv)** Routers

OR

a) Explain radio waves, infrared and microwave. **(06)**

b) Describe EIA 232 D interface standard. **(04)**

Q. 3 **a)** Draw and explain HDLC frame format. **(05)**

b) Explain IEEE 802 standards for LANs and WANs. **(05)**

OR

a) Explain sliding window protocol. **(05)**

b) Write a short note on channel allocation problem. **(05)**

Q. 4 **a)** Explain link state routing algorithm in detail. **(06)**

b) What are design issues of network layer? **(04)**

OR

a) Discuss the drawbacks of flooding and distance vector routing algorithms. **(06)**

b) Explain leaky bucket algorithm and how traffic congestion can be reduced? **(04)**

Q. 5 **a)** Describe the IP addressing formats. What is subnet masking? **(06)**

b) Write a short note on Email. **(04)**

OR

a) What are the various resource records associated with the DNS? With the help of an example explain it. **(06)**

b) Explain RARP and ICMP protocols. **(04)**

Q. 6 **a)** What is the necessity of firewall? **(04)**

b) Explain RSA algorithm in detail with an example. **(06)**

OR

a) What are the two best known general attacks against block ciphers? **(04)**

b) Explain the key generation process in data encryption stand (DES) algorithm. **(06)**

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