2020
COMPUTER SCIENCE
[GENERAL]
Paper : IV
Group-A
[OLD SYLLABUS]

Full Marks : 60   Time : 3 Hours

The figures in the right-hand margin indicate marks.

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

1. Answer the following questions (any **six**): 1×6=6

   a) What is MAC address?

   b) What do you mean by RARP?

   c) What is a peer to peer process?

   d) What is meant by topology? Name some popular topologies.

   e) What is Shanon Chanel capacity?

   f) What do you mean by Digital signal and Analog signal?

   g) Which protocol support E-mail?

   h) What is DNS?

[Turn over]

2. Answer the following questions (any **seven**):
                                        2×7=14

   a) Differentiate between analog and digital communication.

   b) What is piggybacking?

   c) Name the different classes IP address and their ranges.

   d) What is protocol? What is the difference between Simplex and Half duplex transmission mode?

   e) Why transport layer protocols like TCP and UDP are called end-to-end protocols?

   f) What do you mean by guided and unguided media?

   g) What is Data Encapsulation?

   h) What is TCP-IP protocol suite? How many layers are available in TCP-IP protocol suite?

   i) What is modulation and demodulation?

3. Answer the following questions (any **six**):
                                        5×6=30

   a) Discuss about LAN, MAN and WAN.   5

   b) Explain bit and byte stuffing.   5

c) Name the different types of network topologies and brief its advantages. 5

d) What are the two approaches to packet-switching? Compare and contrast a circuit-switched network and a packet-switched network. 1+4=5

e) What is network security? Explain the CSMA/CD protocol. 1+4=5

f) What is period and frequency in a signal? What are the relation between period and signal? What is transmission impairment? Write down their classification. 2+1+1+1=5

g) Distinguish between public key and private key encryption. What is the use of domain name? 4+1=5

h) Explain twisted pair cable and compare it with a Coaxial cable. 5

i) Explain about TCP-IP protocol. 5

4. Answer the following question (any **one**):

10×1=10

a) Explain about Baseband and Broadband coaxial cable. What is the difference between Bridge and Router? 6+4=10

b) Write short notes on any **two** of the following:

5+5=10

i) ATM

ii) TDM and FDM

iii) DNS

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