2020
COMPUTER SCIENCE
[GENERAL]
Paper : IV
Group–A
[NEW 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 (any **six**): 1×6=6

   a) What are cookies?

   b) What do you mean by S/N ratio?

   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) What do you mean by Bandwidth of a channel?

   h) What does the frequency of a signal measure?

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

   a) What are IP classes and how can you identify the IP class of given a IP address?

   b) What is ARP?

   c) Write down the difference between LAN, MAN and WAN.

   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 is the difference between even parity and odd parity?

   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 the difference between Internet, Intranet, and Extranet?

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

   a) What is the number of bits in an IPv6 address? Explain any one of the congestion control algorithm. 1+4=5

b) Explain TCP/IP Model with a neat diagram. 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? What is NAT? Briefly define Subnetting and Supernetting. 1+1+3=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) What is the difference between Hub, Switch and Router? 5

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

i) Explain about TDM and FDM. 5

4. Answer the following question (any **one**): 10×1=10

a) Explain about Non-return to Zero(NRZ) encoding with example. What do you mean by Encryption and Decryption? 6+4=10

b) Write short notes on any two of the following: 5+5=10

i) VSAT

ii) ISDN

iii) DNS

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