2020

COMPUTER SCIENCE — GENERAL

Fourth Paper

(Group - A)

Full Marks : 50

The figures in the margin indicate full marks.

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

SET - 2

Answer **question no**. **1** and **any five** questions from the rest.

1. Answer **any five** questions : 2×5

   (a) What is bandwidth?

   (b) What is the role of an ISP?

   (c) How does half-duplex mode differ from full-duplex mode?

   (d) What is network topology?

   (e) Why is modulation/demodulation necessary?

   (f) What is baud rate?

   (g) Write the functionality of MODEM.

   (h) Why is URL used?

2. (a) Discuss the characteristics of LAN, MAN and WAN.

   (b) Why is multiplexing necessary? 6+2

3. (a) Explain the working principle of DNS.

   (b) Write down two disadvantages of mesh topology. 6+2

4. (a) Write about the different classes of IP addresses, under classful addressing.

   (b) What are satellites and why do we need them? 5+(1+2)

5. (a) Briefly discuss the different components of an e-mail system.

   (b) State the functions of Hub. 6+2

6. (a) Describe the working of a twisted-pair cable and explicitly state the reason for it to be 'twisted'.

   (b) What is SNR? How is SNR_{dB} calculated? 5+(2+1)

Please Turn Over

7. (a) Compare data communication over microwave, vis-à-vis radiowave.

   (b) Why is network security needed?   5+3

8. (a) What is the purpose of HTTP? How is HTTPS different from it?

   (b) How does geosynchronous satellite work?   (2+2)+4

9. Write short notes on *any two* of the following :   4×2

   (a) FDM

   (b) ISDN

   (c) Bus topology

   (d) MAC/Physical address.

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