

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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