T(3rd Sm.)-Computer Sc.-G/SEC-A-1/CBCS

2020

COMPUTER SCIENCE — GENERAL

Paper : SEC-A-1

(Communication, Computer Network and Internet)

Full Marks : 80

The figures in the margin indicate full marks. Candidates are required to give their answers in their own words as far as practicable.

Answer question nos. 1 & 2 and any four questions from the rest.

1. Answer *any ten* questions :

- (a) What is gateway?
- (b) State the importance of OSI reference model.
- (c) Write the advantages of co-axial communication media over twisted pair.
- (d) Mention the functionality of firewall.
- (e) Write the differences between Intranet and Internet.
- (f) What is a Geostationary satellite?
- (g) What do you mean by throughput of a network?
- (h) Differentiate between Bridge and Router.
- (i) Name the different components of URL.
- (j) What is the maximum bit rate of a noiseless channel having bandwidth of 5000 Hz and transmitting a signal with four signal levels?
- (k) State the responsibilities of Transport layer.
- (l) Write the difference between FDM and WDM.
- (m) Mention the main problem of NRZ encoding.
- (n) State the advantages of using Optical fibre.
- (o) Write two applications of SMTP.
- 2. Write short notes on any four :
 - (a) WAN
 - (b) Star topology
 - (c) Physical layer of OSI model

Please Turn Over

 2×10

5×4

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- (d) MODEM
- (e) TDM
- (f) E-mail.
- 3. (a) Compare radiowave and microwave.
 - (b) What is noise? Discuss different types of noise that can affect signal transmission. 5+(2+3)

(2)

- 4. (a) What is latency?
 - (b) Distinguish between a low pass channel and a band pass channel.
 - (c) How do guided media differ from unguided media?

5. (a) Explain the steps of Pulse Code Modulation (PCM).

(d) Mention some appl	lications of infrared	communicat	ion.	2+3+2+3

- (b) State the difference between LAN and WAN.(c) Write down the properties of ASK. 5+2+3
- 6. (a) Compare and Contrast between PCM and DM.
 (b) Discuss briefly about ISP (Internet Service Provider).
 (c) Explain the concept of VSAT.
- 7. (a) Describe the structure of twisted pair cable with proper diagram.(b) Why is https now preferred over http?
 - (c) Write the functionalities of ASDL modem. 5+2+3

8. (a) Explain about token ring.

- (b) Discuss about voice and video conferencing. 5+5
- **9.** (a) Why do we need a DNS system when we can directly use an IP address? What is the difference between a primary server and a secondary server?
 - (b) In electronic mail, what is MIME? Why do we need POP3 and IMAP4 for electronic mail?

(3+3)+(2+2)