2023

COMPUTER SCIENCE — HONOURS

Paper : CC-8

(Data Communication Networking and Internet Technology)

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.

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

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

(a) State difference between Simplex and Full duplex connections.

(b) Name the different layers of TCP/IP.

(c) What is MAC?

(d) What do you mean by Shannon's channel capacity?

(e) Define Hamming distance.

(f) Highlight the main functions of Application Layer.

(g) What is Frequency Division Multiplexing (FDM)?

(h) What are the main advantages of Optical fiber?

2. (a) What is OSI Model? Write briefly about all the layers of OSI model.

(b) What is baud rate? 8+2

3. (a) What are the different Transmission impairments? Explain in brief with proper illustrations.

(b) Differentiate between Circuit switching and Packet switching. 5+5

4. (a) What is Channelization? Explain FDMA with example.

(b) Write the difference between Connection-oriented service and Connectionless oriented service. 5+5

5. (a) State the differences between pure ALOHA and slotted ALOHA.

(b) What is Logical address and Port address?

(c) What is DNS? Explain its importance. 4+3+3

6. (a) What is CRC? Explain with proper illustration.

(b) Briefly describe Delta Modulation. Provide a schematic diagram for the process. 5+5

Please Turn Over

7. (a) Explain ASK and FSK with proper illustration.

   (b) What are the different data rate limits associated with data communication channels? 5+5

8. Write short notes on (*any two*) : 5×2

   (a) TELNET

   (b) QAM

   (c) FTP

   (d) SMTP.
