WEST BENGAL STATE UNIVERSITY

B.Sc. Programme 6th Semester Examination, 2023

CMSGDSE04T-COMPUTER SCIENCE (DSE2)

COMPUTER NETWORK

Time Allotted: 2 Hours

Full Marks: 50

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

GROUP-A

1. Answer any *five* questions from the following:

2×5 = 10

(a) How half-duplex transmission mode works?

(b) Differentiate between point-to-point and multipoint connection.

(c) What do you mean by physical address?

(d) What do you mean by MAN?

(e) Differentiate between single-bit error and burst error.

(f) What is bandwidth?

(g) Explain Modem.

(h) What is channel capacity?

GROUP-B

Answer any *five* questions from the following

8×5 = 40

2. (a) What are the three criteria necessary for an effective and efficient network?

3+5

(b) What are the five components of a data communications system? Briefly explain with diagram.

3. (a) How do the layers of the Internet model correlate to the layers of the OSI model?

2+4+2

(b) What are the responsibilities of the Network Layer and Session Layer in the OSI model?

(c) What is a peer-to-peer process?

4. (a) What do you mean by Guided Media? Briefly explain Twisted-pair cable. (1+3)+2+2

   (b) How does sky propagation differ from line-of-sight propagation?

   (c) What is the difference between omnidirectional waves and unidirectional waves?

5. (a) Differentiate between Fixed-Size Framing and Variable-Size Framing. 2+2+4

   (b) What do you mean by Error Control?

   (c) Briefly describe Slotted ALOHA with an example.

6. (a) What is the difference between bit rate and baud rate? 3+3+2

   (b) What are the differences between bridge and gateway?

   (c) What are the differences between error correcting and error detecting code?

7. (a) Why is flow control needed? 2+(3+3)

   (b) Describe the two methods that control the flow of data across communication links.

8. Write short notes on any *two* of the following: 4+4

   (a) DNS

   (b) Firewall

   (c) Router.

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