DEROZIO MEMORIAL COLLEGE LIBRARY

WEST BENGAL STATE UNIVERSITY

B.Sc. Honours 3rd Semester Examination, 2019

CMSACOR07T-COMPUTER SCIENCE (CC7)

Time Allotted: 2 Hours | Full Marks: 40

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 ***four*** questions from the following: 2×4 = 8

   (a) What is the difference between half-duplex and full-duplex transmission modes?

   (b) What are port address and logical address?

   (c) Is the frequency domain plot of an alarm system discrete or continuous? Give reason.

   (d) What is DNS?

   (e) What kind of error is undetectable by the Checksum?

   (f) What are the disadvantages of STOP and WAIT protocol?

   (g) Why is HTTPS considered to be more secure than HTTP?

GROUP-B

Answer any *four* questions from the following 8×4 = 32

2. (a) A signal travels from point A to point B. At point A, the signal power is 200W. At point B, the power is 170W. What is the attenuation in decibels? 2+(3+3)=8

   (b) Discuss the AMI and pseudoternary Bipolar Line coding schemes.

3. (a) Describe the functions of data Link Layer and Transport Layer. 2+6=8

   (b) Describe PAM and PCM with suitable example.

4. (a) Explain CSMA/CD and its use. 3+5=8

   (b) What do you mean by vulnerable time?

5. (a) If signal to noise ratio is 7 dB and bandwidth is 10 kHz. Find the capacity of the channel. 3+3+2=8

   (b) Explain Quadrature Amplitude Modulation (QAM).

   (c) Draw the constellation diagram from 8 PSK.

6. (a) Define Piggybacking and its usefulness. 4+4=8

   (b) Compare and construct byte stuffing and bit-stuffing.

7. Write short notes on (any *two*): 4+4=8

   (i) WWW

   (ii) Dijkstra's Algorithm

   (iii) CRC Algorithm.

8. (a) How does FDM combine multiple signals into one? 4+(1+1)+2=8

   (b) What is framing? Why framing is required?

   (c) Write down the difference between Hub and Switch.

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