University of Engineering & Management, Kolkata

Even Semester Term- II Examination, May, 2021

Course: B.Tech(CS)   **Semester:4th**

Paper Name: Computer Networks

Paper Code: PCC-CS404

Full Marks: 70   **Time: 2 hours**

Answer all questions. Each question is of 10 marks.

1 A) What do you understand by 3-Way Handshake in TCP? State the differences between TCP and UDP.

OR

B) Consider the following message M = 1010001101. Find out the cyclic redundancy check (CRC) for this message using the divisor polynomial $x^5 + x^4 + x^2 + 1$.

2   A) Describe in detail about UDP header format with neat sketch.

OR

B) What is framing in data link layer? Explain the different methods of framing in data link layer.

3   A) i) Explain Go-Back N.
 ii) We have sampled a low-pass signal with a bandwidth of 100 KHz using 256 levels of quantization. Calculate the bit rate of the digitized signal.

OR

B) Explain stop-and-wait and selective repeat with diagram.

4 A) Explain about the Carrier Sense Multiple Access Protocols.

<div align="center">**OR**</div>

B) State the differences between IPV4 and IPv6.

5 5. A) A signal with 100milliwatts power passes through 5 devices, each with an average noise of 2 microwatts. Calculate the SNR in dB.
ii) Write a short note on HDB3 encoding with suitable example.

<div align="center">**OR**</div>

B) Explain the segment format for TCP with suitable diagram.

6 A) Draw the graph of the Polar NRZ-L, Polar NRZ-I, Manchester, Bipolar encoding scheme using each of the following data stream 100100.

<div align="center">**OR**</div>

B) Describe I-frame HDLC, S-frame HDLC.

7 A) Describe TDM and FDM using suitable diagram.

<div align="center">**OR**</div>

B) i) Given the CIDR representation 20.10.30.35 / 27. Find the range of IP Addresses in the CIDR block.

ii) Write short notes on Symmetric key cryptography.