

International Islamic University Chittagong
Department of Electronic and Telecommunications Engineering
Midterm Examination

Program: B.Sc. (Engg.)
Course Code: ETE 4749
Full Marks: 30

Session: Spring 2022
Course Title: Computer Networks
Time: 1 Hour 30 Minutes

Answer any three of the following questions

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| Q1.a) | Show and Explain the various types of physical topologies for computer networks with advantages and disadvantages. | 5 | CO1+CO2 |
| b) | Explain the responsibilities of the layers of the TCP/IP protocol suite. | 5 | CO1+CO2 |
| Q2. a) | Explain the datagram network with figure. Why datagram networks are sometimes referred to as connectionless networks? | 5 | CO1+CO2 |
| b) | Show the taxonomy of switched networks. Explain how switching occurs at several layers of the TCP/IP protocol suite. | 5 | CO1+CO2 |
| Q3.a) | Explain the procedure for pure ALOHA protocol with the flowchart. | 5 | CO1+CO2 |
| b) | How slotted ALOHA performs better than pure ALOHA? A slotted ALOHA network transmits 200-bit frames using a shared channel with a 200-kbps bandwidth.
Find the throughput if the system (all stations together) produces
a. 1000 frames per second.
b. 500 frames per second.
c. 250 frames per second. | 5 | CO1+CO2 |
| Q4. | Explain (with all necessary figures and diagrams) the three phases that the source and destination need to go through in a virtual-circuit network. | 10 | CO1+CO2 |