

International Islamic University Chittagong (IIUC)

Department of Electronic and Telecommunication Engineering

Midterm Examination

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

Semester: Spring 2023
 Course Title: Computer Networks
 Time: 1 Hour 30 Minutes

- (i) Answer the following questions. The figures in the right-hand margin indicate full marks.
 (ii) Course Outcomes (COs) and Bloom's Levels are mentioned in additional Columns.

Course Outcomes (COs) of the Questions

CLO1	Have the basic knowledge of computer networks and its applications in telecommunication engineering.
CLO2	Have the knowledge of data sharing and their protocols.

Bloom's Levels of the Questions

Letter Symbols	R	U	Ap	An	E	C
Meaning	Remember	Understand	Apply	Analyze	Evaluate	Create

Q1.	a)	Show the structure of a national ISP. Also show the interconnection of national ISPs.	CLO1/ CLO2	R/ U	2
	b)	Design a heterogeneous network made of four WANs and two LANs. Indicate everything in the figure elaborately and clearly.	CLO1/ CLO2	R/ U	2
	c)	Write about the four fundamental characteristics on which the effectiveness of a data communication system depends.	CLO1/ CLO2	R/ U	3
	d)	Write about the five components of a data communication system with figure (elaborately and clearly).	CLO1/ CLO2	R/ U	3
OR					
Q1.	a)	Show with figure (elaborately and clearly): i) A Switched WAN ii) A point to point WAN	CLO1/ CLO2	R/ U/ An	2
	b)	What are different types of network topologies? Describe them with figures (elaborately and clearly).	CLO1/ CLO2	R/ U/ An	8
Q2.	a)	What is the taxonomy of switched networks? Show an example of a switched network using figure (elaborately and clearly).	CLO1/ CLO2	R/ U/ An	2
	b)	What is the OSI model? Explain the advantages and disadvantages of the seven layers of the OSI model.	CLO1/ CLO2	R/ U/ An	8
Q3.	a)	Write down the characteristics of the virtual circuit networks.	CLO1/ CLO2	U/ A/ E	2
	b)	Explain the three phases of the virtual circuit networks with all detailed and necessary figures (elaborately and clearly).	CLO1/ CLO2		8