AMERICAN INTERNATIONAL UNIVERSITY – BANGLADESH
Faculty of Engineering

Course/Lab Name: Data Communication

Semester: Spring 2023-24   **Term**: Final   **Quiz**: 02   **Total Marks**: 20   **Time**: 30 Minutes

Question Mapping with Course Outcomes:

Item	COs	POIs	K	P	A	Marks	Obtained Marks
All Problems	**CO1**	**P.a.1.C3**	**K3**	**.**	**.**	**20**	
					Total:	**20**	

Student Information:

Student Name:	**Student ID:**
Section: H	**Department:**

Answer the following Questions:

Problem 01: Three sources each creating 150 characters/second and each character size is 1 byte. If the interleaved unit is a character and one synchronizing bit is added to each frame, **compute** followings: (*i*) data rate for each source, (*ii*) frame size, (*iii*) frame rate, (*iv*) frame duration, (*v*) data rate of the link. [**5x2=10**]

Problem 02: Two input channels, one with a bit rate of 200 kbps and another with a bit rate of 400 kbps, are to be multiplexed using synchronous TDM. Considering data rate miss match problem, **compute** followings: (*i*) frame size, (*ii*) the frame rate, (*iii*) frame duration, (*iv*) bit rate. [**4+2+2+2=10**]