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|  | **AMERICAN INTERNATIONAL UNIVERSITY – BANGLADESH (AIUB)**  **Faculty of Engineering** |
| **Course Name**: Data Communication **Section**: D **Term**: Final  **Quiz**: 06 **Total Marks**: 10 Marks **Time**: 30 Minutes | |

**Write your Name, ID, and answers inside the boxes. This question paper has two (2) pages.**

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| **Name** | Nafinur Leo |
| **ID** | 20-42195-1 |

**Instructions:**

* This paper must be submitted online as a **PDF** file on **VUES** under the component named ‘**QUIZ 6 SUBMISSION**’.
* The file name must be ‘**Quiz 6 D ID.pdf**’, where **ID** is your ID. For example, the file name can be **Quiz 6 D 19-34567-2.pdf**.
* **Deadline: 08/12/2021 (Wednesday) 2:40 PM.**

1. Assume your ID is AB-CDEFG-H. '**(E+F+5)**' digital channels are trying to send digital data across a communication link simultaneously with a data rate of '**(D+G+10)\*100**' bps, where an interleaved unit is a character. Answer the following questions. **Each answer with correct unit will result into one mark.**

1. What is the value of frame rate?

212.58 Fps

1. How long it takes to transmit 16 bits for one of the input channels before multiplexing?

9.508\*10^-3 s

1. What is the value of link rate?

25500 bps

1. What is the size of an output unit?

8 bits

1. What is required time to transmit a bit after multiplexing?

3.136\*10^-4 s

2. Assume your ID is AB-CDEFG-H. '**(F+G+2)**' digital channels are trying to send digital data across a communication link simultaneously with a data rate of '**(D+E+20)\*100**' bps, where size of a unit is **ten** (**10**) bits. **Two** (**2**) synchronizing bits are added to each frame. Answer the following questions. **Each answer with correct unit will result into one mark.**

1. What is the frame duration?

172 bits

1. What is the value of efficiency?

98.837%

1. What is the output unit duration?

2.55\*10^-4 s

1. What is the input bit duration?

4.35\*10^-5 s

1. What is the data rate?

3970.79 bps

\*\*\*END\*\*\*