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| AIUB | **American International University- Bangladesh (AIUB) Faculty of Engineering** | | |
| **Course Name:** | **Data Communication** | **Course Code:** | **COE 3201** |
| **Semester:** | **Spring 2023-24** | **Term:** | **Mid** |
| **Total Marks:** | **30** | **Submission Date:** | **7-03-2024** |
|  |  |  |  |

# Course Outcome Mapping with Questions

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| **Item** | **COs** | **POIs** | **K** | **P** | **A** | **Marks** | **Obtained Marks** |
| **Q1** | **CO4** | **P.a.1.C3** | **K5** | **P1** |  | **15** |  |
| **Q2** | **CO4** | **P.a.1.C3** | **K5** | **P2** |  | **15** |  |
| **Total:** | | | | | | **30** |  |

Student Information:

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| **Section: F** | **Department: CSE** |

1. Your ID = AB-CDEFG-H. Convert the letters C and G into 8-bit ASCII code using ASCII chart, where the 8-th bit can be considered as as zero. Draw the graph of the digital bit steam for the following scheme:
   1. Unipolar NRZ and Unipolar RZ
   2. Polar RZ, Polar NRZ-L, Polar NRZ-I (Last Signal level Positive)
   3. Bipolar Manchester (‘0’ is low to high & ‘1’ is high to low) and Bipolar Differential Manchester (Last Signal level Negative)
   4. Bipolar AMI and Bipolar Pseudoternary (Last non-zero signal Level is Positive for both schemes)
   5. Multiline Transmission (MLT-3), given that the last voltage level is zero and last non-zero level is positive.

# Find the 8-bit data stream for each case depicted in figure 1. Assume, that the last signal level was negative.

Figure: 1









