

AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH
Faculty of Science & Information Technology
Department of Computer Science
CSC 3117: Computer Science Mathematics (A)

Summer 2020-2021

Total Marks: 30

Faculty: Dr. Afroza Nahar

Time: 50 min.

Instructions: Answer on a paper, take the picture, rename the pdf file with ID_mid_P2, and Hand-in/Turn-in

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Answer the following questions

1. Find the shortest sequence of moves that transfers a tower of n disks from the left peg A to the right peg B if direct moves between A and B are disallowed. Also find the closed form of it. Then prove the closed form by using mathematical induction.
2. Solve the following linear Diophantine Equation using Euclidian Algorithm
$$213x + 117y = 3$$
3. Use the Miller-Rabin Primality Test to determine that 197 is composite or prime