BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY

Department of Computer Science and Engineering

January 2021 CSE 206 Online Assignment on

Basics of Counters (Section: A2 & B2)

Implement a 2-bit synchronous counter using flip-flops of your choice that will count in the sequence mentioned below.

$$S_1 = 2, 1, 0, 3, 2, 1, 0, 3 \cdots$$
$$S_2 = 1, 3, 2, 0, 1, 3, 2, 0 \cdots$$
$$S_3 = 3, 0, 2, 1, 3, 0, 2, 1 \cdots$$
$$S_4 = 0, 2, 3, 1, 0, 2, 3, 1 \cdots$$
$$S_5 = 2, 3, 0, 1, 2, 3, 0, 1 \cdots$$

Divide your roll number by 5. The remainder is your assigned sequence if it is non-zero, otherwise 5 is.

Create a PDF document containing a hand-written circuit diagram along with the truth table. Submit the PDF file and the .circ file simulated in Logisim in a single zip file named by your student ID.