

**Bangladesh University of Engineering and Technology**  
Department of Computer Science and Engineering

**Course: CSE 206** (Digital Logic Design Sessional)

**Experiment No. 7**

**Topic:** Flip-Flops and Registers

**Implement the following problems:**

1. Design and implement a **master-slave JK** flip-flop using only **NAND** gates.
2. Design and implement a 4-bit universal shift register.

**Report:**

For each of the problems above, the report should cover the following items:

1. Excitation Table.
2. Truth table and function minimization (if required)
3. Circuit diagram.

**Submission Instruction:**

1. Put all the items in a folder that is named as Roll\_Number.
2. Zip the above folder, name it as Roll\_Number.zip
3. Submit the zip file.
4. The submission deadline is 11:55pm, January 28, 2022.