

Information Technology University of the Punjab
SE201 Digital Logic Design – Fall 2024
Quiz 7

Name: _____

Roll No.: _____

Time allowed: 10 minutes

Maximum Marks: 10

1. A sequential circuit with two D flip-flops A and B, one input X, and one output Z is specified by the following input equations:

$$D_A = A + BX$$

$$D_B = (B \oplus X) + AB$$

$$Z = AB + AX$$

- (a) Draw the logic diagram of the circuit. [3]
- (b) Derive the state table. [3]
- (c) Draw the state diagram. [3]
- (d) Briefly describe the functionality of the circuit in your own words. [1]