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Department of Software Engineering

Course Code: SE 213

Course Title: Digital Electronics and Logic Design

Time: 40 min **Total marks: 15**

Q1. A digital circuit is required to toggle a valve switch whenever a triggering signal is applied. Select a suitable flip-flop for this application. 10

a. Draw the circuit diagram of the selected flip-flop.
b. Write the truth table and characteristic table of the selected flip-flop.
c. Based on the truth table and characteristic table, explain why the selected flip-flop is suitable for the valve-switching application.

Q2. a. Explain the general procedure for converting one type of flip-flop into another type of flip-flop. 05

b. Describe how the conversion table is constructed.