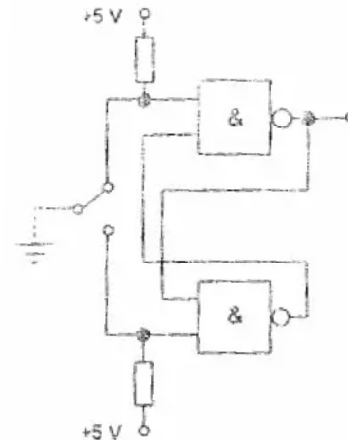


EMTR-2019  
Assignment #3  
Due: TBA

Q 9.1

Explain how the circuit shown in Figure 7.48 can be used to debounce a switch.



Q 9.2

Explain how a thyristor can be used to control the level of a d.c. voltage by chopping the output from a constant voltage supply

Q 9.3

A d.c. motor is required to have (a) a high torque at low speeds for the movement of large loads, (b) a torque which is almost constant regardless of speed. Suggest suitable forms of motor.

Q 9.5

Explain the principle of the brushless d.c. permanent magnet motor.

Q 9.9

A permanent magnet DC motor has an armature resistance of  $0.5 \Omega$ , and when a voltage of 120 V is applied to the motor, it reaches a steady-state speed of rotation of 20 rev/s and draws 40 A. What will be: (a) the power input to the motor, (b) the power loss in the armature, (c) the torque generated at that speed?