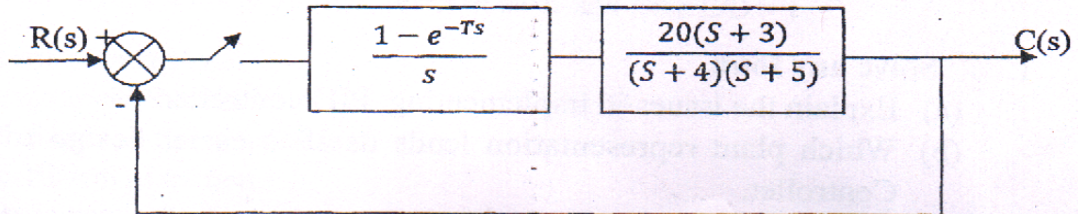


5.

- (a) For a step, ramp & parabolic inputs, find the steady state error for the feedback control system shown in figure. Let $T = 0.1$ sec. 10



- (b) Explain the AC input module of PLC. 10

6.

- (a) Draw & Explain the PLC ladder diagram for manufacturing of 5 mH & 10 mH inductor coils. When 5 mH inductor is produced the machine makes 400 revolutions to wind the coil and to produce 10 mH inductor it must make 800 revolutions. 15

- (b) Compare Timer ON delay & Retentive Timer ON delay. 5

7. Write a short note on Any TWO. 20

- (a) Explain Data manipulation instruction and Arithmetic instruction of PLC.
(b) Data files in PLC.
(c) Implementation of Digital controller.