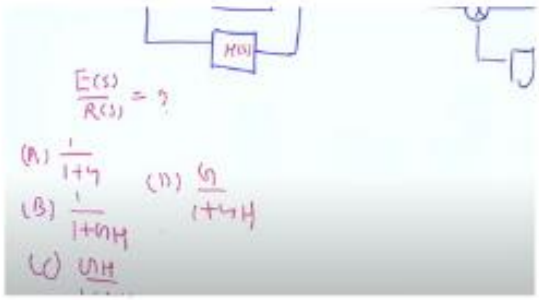
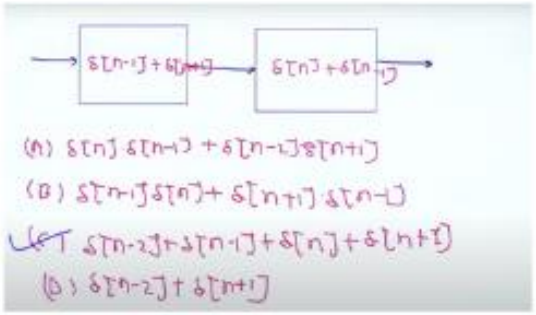
GATE EE 2021 Memory-Based Question & Answer – Version 2 (GradeUp)





Q. The power input to a 500V, 50 Hz, 6-pole 3 phase induction motor running at 975 RPM is 40 kW. The total stator losses are 1 kW. If the total friction and windage losses are 2.025 kW. Then the efficiency is _____ %.

Q. W_1 = 2500 W, T/F: 440V, 50 Hz
W_2 = 850 W 220, 25 Hz
W_3 = 440Vm 50 Hz

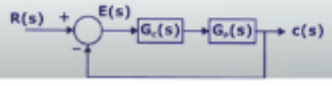
Q. Belt driven D.C. shunt Gen. Supplying 100 kW D.C Bus Bar But suddenly Belt broken & stator takes 10 kW from Bus Bar V_{BUS} = 200V Ra = 0.025 Ω. R_f = 50Ω. V_{drop} = 2V. Ng = 300 r.p.m. N_m = ?

Answer 275.18 RPM

Q. 3φ SRIM which has 8D, 50 Hz supply. R_{rotor} = 0.08 Ω, N_{max} = 650 rpm.
The R_{ex} ? to get @ starting.

Answer - 0.52

Q. $G_{p(s)} = \frac{14.4}{s(1+0.1s)}$ is plant T.F.
$G_c(s)$ = 1 is compensator
For unit step input, the output response has damped oscillations. The damped natural frequency is _____ Rad/sec.



Q. The Bode magnitude plot for transfe function $V_o(s)/V_i(s)$ of the circuit is as shown. The value of R is _____Ω.