Q.P. Code: 24637

Duration: 03 Hrs. **Total Marks: 80**

Note:

1) Q. No 1 is compulsory .
2) Attempt any THREE questions from Q No 2 to Q No 6.
3) Assume suitable Data wherever necessary.

Q.1) Attempt Any Four **20M**

a) Explain Selective Control Scheme.

b) Explain in brief PV, SV, CV, MV with reference to Process control.

c) Derive equation for Dead Time process.Give Pade' Approximation.

b) Explain need of Process control .

e) Explain Master Recipe, Control Recipe.

Q. No 2)

a) Explain with a neat sketch working of Hydraulic PD controller. **10M**

b) Explain working of Single Speed Floating Control Mode. **10M**

Q. No 3)

a) Explain Different Physical Ladder Diagram Elements. **10M**

b) What is the objective of Adaptive Control System. Explain Self Tuning Regulator Method of Adaptive Control . **10M**

Q. No 4)

a) Explain in Detail Partial Decoupling and Full Decoupling method with respect to MIMO systems. **10M**

b) Explain Feedback & FeedForward control system for Stirred Tank Heater system . **10M**

B87329C60B9BC06C8E5329E3EBD5F5B7

Q No 5)

a) Explain One quarter Decay ratio and its significance. Explain Ziegler- Nichol's and Cohen Coon Open Loop method for tuning. **10M**

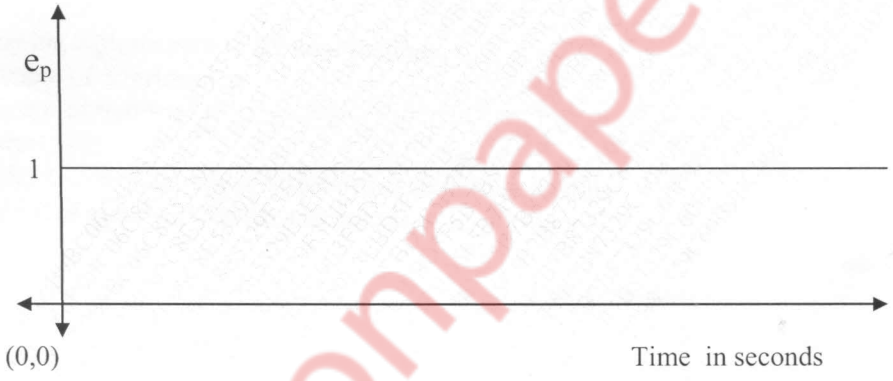
b)Prove Proportional control introduces offset in closed loop with first order process. (Assume $G_f = G_m = 1$). **10M**

Q. No 6

a) Explain Dynamic behavior of First and Second order system. **10M**

b) Plot response of P, PI, PD and PID for following error plot. **10M**

Kp=1%/%, Ki=1%/(%-seconds) & Kd=1%/(%/seconds).



----------X----------

B87329C60B9BC06C8E5329E3EBD5F5B7