TUTORIAL – 6

Module – 3: Chapter – 6:- CLOSED LOOP FREQUENCY RESPONSE & CONTROLLERS

(From this chapter, only theory questions will come as short questions or short notes)

SHORT QUESTIONS

1. What do you mean by closed loop frequency response? Name the graphical plots available for drawing the closed loop frequency response.
2. What are constant M-circle and constant N-circle?
3. What is Nichol's chart and why it is used for?
4. What is the function of a controller in a control system?
5. What are the classifications of the controllers?
6. What are the effects of Derivative and Integral controller on the response?
7. What are composite controllers? Which controller is responsible for improvement of transient response and which controllers are responsible for improvement of steady state response?
8. Why PID controller is best suitable for applications?
9. What do you mean by tuning of controllers and name a tuning method?

SHORT NOTES

Write a short note on:

1. PI Controller
2. PD Controller
3. PID Controller
   (Hint: In all above, write time domain equation, s-domain equations, block diagram, properties, etc...)
4. Constant M-circle
5. Constant N-circle
6. Nichol's chart
   (Hint: In all above three, Derivation is must, then plot…)
7. Zeigler – Nichols method of tuning of PID

**********ALL THE BEST**********