**MORADABAD INSTITUTE OF TECHNOLOGY, MORADABAD**

**Electrical Engineering Department**

Subject:-**Control System (REE-503)** Branch: **EE (5th G)**

**Question Bank**

**Q1.** Sketch the Polar Plot for unity feedback system,

**Q2.** Sketch the Polar Plot for the system,

**Q3.** Draw Nyquist plot for the system,

**Q4.** What do you understand by “Compensation” in control system? What are different types of compensators?

**Q5.** Draw the bode plot for the system,

Comment on its stability.

**Q6.** Check weather the given system is Observable and Controllable or not:

Q7. Draw the Nyquist plot for the unity feedback system whose open loop transfer function is

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Q8. Define: (i) State (ii) State Variables (iii) State Vector (iv) State Space (v) State Equation (vi) STM and its properties

Q9. For the given transfer function draw bode plot,

Determine phase margin. Gain cross over frequency,m phase crossover frequency and gain margin.

Q10. What is the effect of adding pole and zero to a system?

Q11. Write short note on:

1. Lead Compensator
2. Lag Compensator
3. Lead-Lag Compensator
4. Phase Margin & Gain Margin

Q12. Check controllability for system,



Q13. The forward path transfer function of unity feedback control system is G(s)=100/s(s+6.45)

Find Resonant Peak Mo, Resonant Frequency w0 and Bandwidth?

Q14. Establish the correlation between time response and frequency response analysis and suitably explain with diagrams.