

# INDEX

1. Preamble	1
2. Objective, Relevance and Outcome	2
3. List of Experiments	3
4. Text and Reference Books	4
5. Session Plan	5
6. Experimental Write-Up	6
6.1 Time Response of Second order system	6
6.2 Study of characteristics of Synchros	11
6.3 Effect of feedback on DC servo motor	15
6.4 Transfer function of DC motor	19
6.5 Effect of P, PD, PI, PID controller on a second order systems	24
6.6 Simulation of OP – AMP based integrator and differentiator	28
6.7 Study of Lag leg compensation	33
6.8 Characteristics of magnetic amplifier	43
6.9 Root locus plot, Bode plot from MATLAB	47
6.10 State space model for classical transfer function using MATLAB Verification	49
6.11 Characteristics of AC servo motor	52
6.12 Programmable logic controller	56
7. Content Beyond Syllabus	59

8. Sample Viva Voce Questions	60
9. Sample External Laboratory Question Paper	64
10. Applications of the Laboratory	65
11. Precautions	66
12. Code of Conduct	67
13. Graphs ,if any	68