

YEAR/ SEM : III/II B.TECH (R-15)
LAB CODE/LAB NAME : A60290 CONTROL SYSTEMS & SIMULATION LAB
INCHARGE (TEACHER/LAB STAFF) : SAMPATH PATEL /K ANJILAI AH

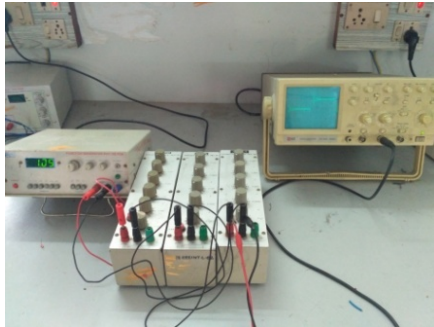
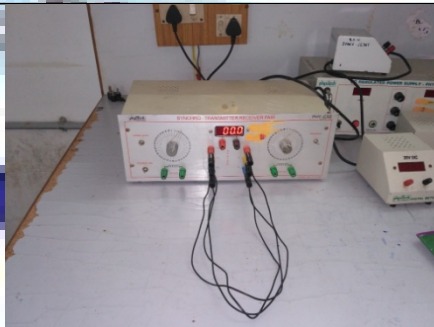
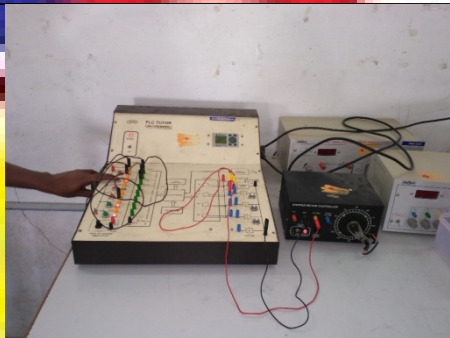

LIST OF EXPERIMENTS

CYCLE – I

1. TIME RESPONSE OF SECOND ORDER SYSTEM
2. CHARACTERISTICS OF SYNCHROS
3. PROGRAMMABLE LOGIC CONTROLLER – STUDY AND VERIFICATION OF TRUTH TABLES OF LOGIC GATES, SIMPLE BOOLEAN EXPRESSION AND APPLICATION OF SPEED CONTROL OF MOTOR
4. EFFECT OF FEEDBACK ON DC SERVO MOTOR
5. TRANSFER FUNCTION OF A DC MOTOR
6. TEMPERATURE CONTROLLER USING PID

CYCLE – II

7. CHARACTERISTIC OF MAGNETIC AMPLIFIER
8. TRANSFER FUNCTION OF A DC GENERATOR
9. CHARACTERISTICS OF AC SERVO MOTOR
10. EFFECT OF P, PD, PI, PID CONTROLLER ON A SECOND ORDER SYSTEMS
11. LAG AND LEAD COMPENSATION – MAGNITUDE AND PHASE PLOT
12. A) SIMULATION OF P, PI, PID CONTROLLER,
B) LINEAR SYSTEM ANALYSIS (TIME DOMAIN ANALYSIS) USING SUITABLE SOFTWARE
13. STABILITY ANALYSIS (BODE PLOT, ROOT LOCUS, NYQUIST) OF LINEAR TIME INVARIANT SYSTEM USING SUITABLE SOFTWARE
14. STATE SPACE MODEL FOR CLASSICAL TRANSFER FUNCTION USING SCILAB VERIFICATION
15. DESIGN OF LEAD-LAG COMPENSATOR FOR THE GIVEN SYSTEM AND WITH SPECIFICATION USING SUITABLE SOFTWARE
16. LTSPICE OF SIMULATION OF OP – AMP BASED INTEGRATOR AND DIFFERENTIATOR CIRCUITS
17. LINEAR SYSTEM ANALYSIS (TIME DOMAIN ANALYSIS, ERROR ANALYSIS) USING SCILAB
18. STABILITY ANALYSIS (BODE PLOT, ROOT LOCUS, NYQUIST) OF LINEAR TIME INVARIANT SYSTEM USING SCILAB

S.No	Equipment	Quantity	Specifications	Image
1	Time response system a)DRB b)FUNCTION GENERATOR c)CRO(0-20MHZ)	06 02 02	0-100MΩ 0-1MHZ 0-20MHZ	
2	SYNCHROUS	1	KIT	
3	PLC	1	KIT	
4	DC SERVO MOTOR	1	DC SERVO MOTOR	

5	TRASFOR FUNCTION	1	DC MOTOR	
6	TRANSEER FUNCTION	1	DC GENERATOR	
7	SERVO MOTOR	1	AC MOTOR	
8	LAG AND LEAD COMPENSATI ON	1	MAGNITUD E PHASE PLOT	

9

TEMPERATURE
CONTROLLER

1

KIT



10

PSPICE
SYSTEM

40

OPEN
SOURCE

