Maharaja Ranjit Singh Punjab Technical University, Bathinda

Name of Work:	Purchase of Equipments for Control Systems Lab at PIT GTB Garh				
Name of Agency					

Sr. No.	Description of Item	Qty.	Unit			
1	To study the characteristics of potentiometers and to use 2-potentiometers as an error detector in a control system.	1	No.			
2	To study the synchro Transmitter-Receiver set and to use it as an error detector	1	No.			
3	To study the Speed – Torque characteristics of an AC Servo Motor and to explore its applications.	1	No.			
4	To study the Speed – Torque characteristics of an DC Servo Motor and explore its applications.	1	No.			
5	To study various electro-mechanical transducers i.e. resistive, capacitive and inductive transducers	1	No.			
6	To study input and Output characteristics, Determination of Linear Range, Calibration as displacement meter and to determine senstivity of the instruments, Phase shift on C.R.O.	1	No.			
	Linear variable differential transform with ± 10mm displacement. On Board Digital Panel Meter with displacement Signal.					
7	To study the characteristics of a thermocouple, a thermistor and a RTD	1	No.			
8	To study photo-conductive cell, semi-conductor photodiode and a silicon photo voltaic cell	1	No.			
9	To study a silicon phototransistor and obtain response of photo conductive cell.	1	No.			
10	To study the variations of time lag by changing the time constant using control engineering trainer	1	No.			
11	To simulate a third order differential equations using an analog computer and calculate time response specifications	1	No.			
12	To obtain the transfer function of a D.C. motor – D.C. Generator set using Transfer Function Trainer	1	No.			
13	To study the speed control of an A.C. Servo Motor using a closed loop and an open loop systems.	1	No.			
14	(i) To study the operation of a position sensor and study the conversion of position in to corresponding voltage	1	No.			
	(ii) To study an PI control action and show its usefulness for minimizing steady state error of time response.	1	No.			
15	Strain Gauge Trainer Kit (with Cantilever Beam)	1	No.			
16	To design a Lag compensator and test its performance characteristics and to design lead compensator and test its performance characteristics. & To design a Lead-Lag compensator and test its performance characteristics.	1	No.			
17	Instruments Required for above Lab					
	CRO 20MHz, Dual Channel, 2 Trace	1	No.			
	DSO 25MHz Sampling Rate 250MS/s (Color LCD Display)	1	No.			