



Electrical Engineering Department

Equipment Summary			
Sr. No.	Name of the Department	Total No. of Labs	Equipment Cost (Rs. in Lakhs)
1	Electrical Engineering	16	693.36

1. Computer Lab



Description of Article	Qty.	Cost (Rs.)
Dell Desktop PC with Linux, 1.86GHz 17" TFT monitor , 1GB DDR2+1GB DDR2	25	728500
HP DX2000 series Desktop Computers	1	33217
HP Z800 Dual Xn5620/32GB/FX-580 Workstation S.No.SGH039QCXW	1	191090
HP Workstation System with LG 18.5" LCD Moniator	27	1077300
Desktop PC-HP -pro B100 Elite free DOS	40	1069992
Desktop computer system HP-6300SFF	33	1108800
Desktop computer system HP-6300SFF	24	806400
Workstation Aser PIV	8	253077
HP Laser Jet Printer 3015	2	37000
HP Laser Jet Printer 3050 all in one	2	32760
HP Laser Jet Printer 3600 Color	1	33285
HP Laser Jet Mobile Printer HP 460ac	1	16000
HP Laserjet 1020 Printer	2	15092
HP Laser Printer 1020 (SPG)	1	11024
HP Laserjet 1020 Printer	1	6000
HP Printer 1020	1	7350
HP Laserjet 1018 Printer	2	12256
Canon MP180 Printer cum scanner	1	6497
HP Laserjet 1008 Printer (SVJ)	2	15850
Samsung CLP Color laserjet Printer	1	13365
HP Laserjet 1007 Printer PRL1009001(sn.SNNF8P10895) unde	1	5475
HP Laserjet 1007 Printer	5	27375
Canon Laser Printer LBP 2900	2	11800
Laser printer all in one B&W HP/M1213NF	2	27360



Printer HP Laserjet 1108	3	15714
Laser Printer Color HP-MFPM475D	1	57671
Label Printing Machine CPM100	1	172125
LCD Projector Sharp XR15	1	86538
DLP Projector Model Dell MP1800	3	201000
Optoma DLP Projector Model EX530	4	180000
Mitsubishi DLP Projector Model XD550u	1	47588
IR Dom camera, Box Camera, PTZ camera	31	500480
LED TV make Sony	2	285154
Xerox Machine Canon IR 24201	1	79870
Matlab 5.3 (Release 11.1) 05 hardware locks & one CD	5	140130
Simulink 3.0 (Prime Scientific Ltd)	5	140130
Control Sys. Tool Box Edu. (stand alone Hardwaere locked) Platform PC Compitable with Matlab Ver 5.3 (Release 11.1)	2	47120
Robust control & signal processing tool boxes educational licensed copies,P.C.platform compatible with matlab ver 5.3 release-2 simulink ver 3X as per order. However the tool box supplied is compatible with improved version (6.0,rel.12) of MATLAB	1	38572
Neural networks & monlinear control design blak set	1	38572
fuzzy logic tool box	1	19286
System identification tool box	1	19286
LMI control & My -Analysis & systhesis tool boxes	1	38572
power system block set	1	48213
Optimization tool box	1	19286
Extended symbolic math tool box (20a to 20h are included on CD 59040 product CD Nov.2000: REL 12)	1	48213
Route 99 Software CD with Educational Discount & Updating facility.	1	28000
PLD'99'SE (programmable logic design) PCB software design by protel international pvt.ltd,australia (M/S tradent -infosol Mumbai)	1	28000
SIM'99'SE(advanced mixed signal circuit simulation)PCB software design by protel intrenational pvt.ltd,australia,(M/S tradent infosol Mumbai)	1	29000
SCHEMATIC'99 SE (schematic capture) PCB software design by protel intrenational pvt.ltd,australia,(M/S tradent infosol Mumbai)	1	27000
PCB'99 SE (PCB layout including auto placement) PCB software design by protes intrenational pvt.ltd,australia,(M/S tradent infosol Mumbai)	1	37000



381 Edu ICAP/4 windows full pack (circuit simulation complete circuit design analysis package)(M/S tradent infosol, mumbai) Maintenance/upgradation of solution on 31.3.2004from instusoft inc usa ICAP/4 software with cd hardware lock & latest version (M/S tricent infosel pvt.ltd,New Delhi-8)	1	59000
Motorola controller based mixed circuit development software	1	46000
Proteus VSM software	1	45000
Virtual system modeling software for microcontroller based system design.	1	47000
PIC 16 Microcontroller based mixed circuit development software	1	46500
NI Cards (Recd from Instru.Dept.) (BNC)	18	877596
Spice based circuit simulation & analysing SOFTWARE MULTISIM	1	49500
Simulation SOFTWARE for Digital control,motor drive, simcoupler moduler having facility to interface with power electronics circuitry	1	44000
Simulation SOFTWARE for power electronics circuitry	1	49500
Electro Magnetic Simulation Package MAGNET 6 Make INFILYTICA CorporationCanada.	1	260000
ETAP Software powerstation Ver.4.7.6 (3 User Lan) Sr.No.PUNEJNSTIT, CD Key No.XOR-55G-GGA) Hardware Key No.1425PS-04-4897 1410-04-4897(Bi-Directional Key) User guide Vol.I,II ETAP 5.0Beta 7 update CD with key No.G/Zcxc cs+6724ZQ%hyVQa3QN	1	130000
PSCAD/EMTDC Software 5 User Licence PSCAD Hardware Lock No.SRBO9402 (V0351A006505) CD V4.1 Pro/EE&tech.Leaflet Licence floppy Sr.No.4277001 Upgradation of 5 user in to 25 User(MUL2) on 30.12.2010	1	236825
PSIM-A Simulator Software for power Electronics & Motor Control (5 User version	1	286000
Multisim education version 7 schematics capture and spice simulation software 25 station lab	2	603200
Electrical work bench for controls & instrumentation lab (labview for win/PCI-6024/CB-68LP starter kit (Academic use only) education use only	1	49734
Low cost data with accuisition station for laboratory	1	49734
High voltage,high current signal conditioning cord set (M/S NI systems.pvt.ltd,Bangalore-)	1	49734

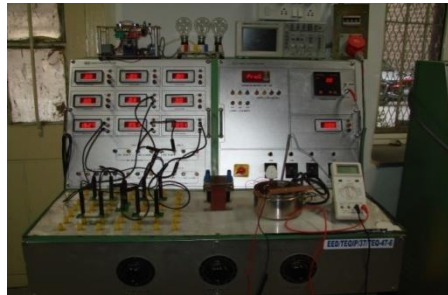


Maxwell 3DFS includes 2D/3DAC/DC magnetic 2D/3D transient electrostatic thermal Equ.Ckt generator, electromechanical simulator with RMXprt-SW for design of REM Ansoft CD ROMs 1) Maxwell v10.0 windows NT/2000/XP-12)Ansoft training Maxwell & ephysics13)RMxprt v5.0windowa NT/2000/XP-14)Updates for maxwell 3DFS & RMXPRT-1	1	463320
NI software solution(lab view)	1	517092
Perpetual License of Gate Exam practice papers on server unlimited users with Athentication module	1	18000
Digsilent Power factory Education License (PF4E) 25 users software	1	168400
Total		12015520/-



Electrical Engineering Department

2. Basic Electrical Engineering Lab



Description of Article	Qty.	Cost (Rs.)
Trolley Mounted Experimental Set-up	6	776250
Gaussmeter DG 930	3	64800
Electromagnetic set up (3 limb Transformer)	10	95000
Lab Bench	4	608000
Multimeter HTC Make Dyna 97	10	12500

Total **1556550/-**

3. Control Systems Lab



Description of Article	Qty.	Cost (Rs)
PM DC Motor with Tacho gen.	1	7904
Rotary Optical Encoder	1	7200
DC speed CS 1 HP DC Motor	4	314000
Study of Temp. CS	4	59400
Stepper Motor CS	4	74000
Relay Control Sys.	4	59400
Linear Simu. Sys.	4	59400
Poten. Error Dectector	4	67400
PID Traing. Sys.	4	45704



Rotary incremental Encoder	4	186000
DC position Sys.	4	114000
DC servo sys.	4	106000
Compensation Sys.	4	59400
Study of DC motor	4	50160
DSO 60MHz 2 Ch. Tektronix	1	50960
CRO 20MHz 2 Ch.	2	42042
Multi OP DC Power Supply LQ 6324	1	6228
Single OP DC Power Supply	2	11602
Test Measurement Station	1	25350
PLC Trainer Inteface	2	589500
Rotary Control Model	1	1398124
Digital Control Sys. DC-01	3	58500
Temp. Control Sys. TCS-01	3	40500
Stepper Motor Module SM-03	3	54000
Relay Control Sys. RCS-01	3	36300
Linear Sys. Simulator LSS-01	3	36600
AC Servo Motor study Model ACS-01	3	55500
AC Position Control Model ACP01	3	61800
PID Controller PID-01	3	48600
Compensation Design CD-02	3	40500
Poten. Error Dectector PED 01	3	30900
Function Generator	2	19000
2 channel DSO (Scientech)	2	58853
12Bit AD-DA convertor Card	3	49889
48Bit Isolated DIO Counter card	2	49920
4 Chanel DA OP Card PCI1720	2	47840
Screw Terminal Board PCLD8710	5	46800
Screw Terminal Board PCLD880	2	13445
64 Ch. IO card PCI 1756	2	49816
Invac AC Inverter Drive	1	42900
Motor Gen. Set	1	17004
DSP Controler Board TMS320C50	1	40300
Analog digital Motor Cont.Sys.	1	48880
Fast AD DA Module /SW	1	46280
Potentiometer Module, PS	1	40040
DC Position Control Sys	1	41541
Compen. Error DetectorSys.	1	25850
Potentiometric Error Detector	1	14355
Contract Type tachometer Sys,	1	2306
Digital multimeter(VAR tech)	4	2000
dSPACE 1104 ACE	1	1389000
Magnetic levitation system	1	362000
Coupled/quadruple tank model	1	355000



dSPACE education kit	1	490000
Industrial plant emulator	1	704000
Coupled pendulum model	1	663000
Total		8416993/-

4. Microcontroller, DSP and Embeded Systems Lab



Description of Article	Qty.	Cost (Rs.)
DSO 50/60MHz TDS1002 SNC037378,79	2	99980
8039/8051 Trainer kit PS (logsun)	5	40560
89C51/52 Trainer kit PS (logsun)	5	41600
89C51/52 Proj. Dev. Board (logsun)	10	33280
Isolated 16 Chanel IP/OP card	1	21837
PCID -11	1	21837
Low cost 100Ks/s IP Card	1	23050
PCI-1711	1	23050
AVR Trainer kit ANT	3	5569
89C2051 Trainer Kit BEE	3	5738
CRO 40MHz 2 Ch.	1	28470
Multi OP DC Power Supply LQ6324	2	12456
Single OP DC Power Supply	2	11602
Test Measurement Station	1	25350
89C51 Micro Trainer Kit	12	78240
TMS320F2407 DSP Trainer Kit	10	390860
DAC Interface Board	5	4805
ADC Interface Board	5	5285
8251/8253 Interface Board	2	2114
Stepper Motor Controller	5	9135
Time calender Board	5	5770
LCD Interface Card	5	8655
Temp. Measurement Cont. Module	5	16825
Hexa Decimal Keyboard	5	2885



L & T make WG-1230 logic analyser	1	345000
ACE-MLBX dSPACE Adv.control Edu.Kit	1	1371000
Total		2634953/-

5. Electrical Machines Lab



Description of Article	Qty.	Cost (Rs.)
Eddy Current Dynamo with Proseller shaft joint	1	79048
Load Bank 30A 400V	2	16200
5HP Induction Motor set	3	17297
All in one Testbed for rotating M/c.	3	1738125
15HP AC Drive with VFD Control panel EL-295	1	90000
Laboratory Test Bench	4	4672628
Yokogawa 16 Cahannel RECORDER DST-11	1	1017461
Rotating Machine Test Bed	1	830375
Jumping Ring Model, Spining Ball Model	2	15500
1KVA 1PH. Transformer	3	11250
2KVA 1PH. Transformer	3	16500
3Ph. Inductive Load	2	52000
3Ph Capacitive Load	2	44000
3Ph Auto Transformer	4	108000
1Ph Ato Transformer	4	24000
Panel for 3Ph DC Gen.set	1	75000
Panel for DC motor DC Gen.set	1	72116
Stroboscope 100-10000 Lutron	2	17000
DSO TPS2014B tektronix	1	189574
Yokogawa Clamp on Tester CL235	3	78738
Insulationj Tester MY 40	2	67804
Yokogawa Clamp on Tester CL255	2	61242
4.1/2 Digit Multimeter TY 710	1	22747
Multy Fun. Tachometer TX-10-03	1	13233



Leakage Clamp On Tester 30032A	1	28980
Digital Power Meter WT-230	4	918624
Gaussmeter DG-930	2	43200
Fluxmeter DF-900	1	18900
10HP DC Drive Set	1	20900
Single Ph. Auto Transformer	1	3800
AC Parameter Module	5	218500
3 Ph. Rectifier Unit	1	30000
3 Ph. Auto Transformer 25Amp 440/470V	6	136800
Single Ph. Auto Transformer 20A 240/270V	6	28200
Analog Portable Power factor Meter single Ph.150/300/600V, 5/10Amp	2	5200
3 Ph. Inductive Load bank 4KW, 16A, p/ph	2	50000
Digital phototype Tachometer/Speedometer 359-986	2	40000
Chauvin Arnoux non contact type Tachometer CA-1725	1	61848
Phase Shifter 3Ph.,(Suvidhi Indst.)	1	55688
Digital Meger	1	1500
Digital Earth Tester	1	32250
Analog Meger	1	1650
Analog Earth Tester	1	3350
Digital Tachometer 2.5 to 99.999rpm make Lutron DT- 2236C	2	3700
Power converter module	4	788000
P.M.Gen. P.M.Motor test bench	1	417000
0.75 KW Wind Turbine	4	451000
FHP dynamometer	1	471000
Total		13159928/-



6. Power Electronics Lab



Description of Article	Qty.	Cost (Rs.)
Dual Power Supply 30V,5A	1	9250
DSO 60MHz 2 Ch.Tektronix	3	152880
DSO 100MHz 2 Ch.Tektronix	1	82160
CRO 20MHz 2 Ch.	2	42042
Multi OP DC Power Supply	3	18684
Single OP DC Power Supply	2	11602
Test Measurement Station	1	25350
LCR-Q-Sort Tester	1	10237
2 MHz Fun. Gen.	2	9750
DSP cont. IPM(PEC-16DSM01)	4	563960
IGBT PM 3Ph.Inv. PEC16DSMO10	1	109500
SCR PM (PEC14HV5B)	2	34900
Mosfet PM (VPET-105)	2	34900
IGBT PM (VPET-106)PEC16HV2-A	2	34900
Micro Pulser Gen.(VPET-103A)	6	132600
Programmable DC Power Supply HMP2020	1	59800
Programmable DC Power Supply HMP4040	1	93500
Arbitrary Power Supply HMP8143	1	61500
DSO TDS2002C Tektronix 70MHz	5	217500
Arbitrary Function Gen.AFG3022B 25MHz	1	135585
DSO TPS2014B Tektronix 100MHz	1	189574
Mixed Signal Osci. MSO2024 200MHz	1	217728
DC Power Supply H-1010	2	50400
3.5 digit Multimeter	6	19224
3.1/2 Digit Multimeter	10	5000
Power multifunction meter Satec	2	54169
Power Scope Tektronix TPS2024B	1	410000
Isolation transformer	1	100000
Power analyser WT230	1	460000
Total		3346695/-



7. High Voltage Engineering Lab



Description of Article	Qty.	Cost (Rs.)
Multichanel Volt/curr.source (JAP-4a,b)	2	476000
Digital Powermeter 253323 (JAP-6)	1	906000
Impluse Generator VHIG-500K (JAP-29A)	1	3650000
Loading capacittor 140KV with loading capacitor, electrode, support insulator, connecting rods, cup, space bar, and corona cage (16-5)	1	489424
Dual Power Supply 30V,5A (2/33/67)	1	9250
Electronic Trivector Meter SN AQ82917/18	2	74880
Clamp on PoweMeter yokogawa(teq-30/1,2)	2	692230
Single Ph. Power meter WT210 (Teq-31/1.2)	2	349600
3Ph Power meter WT230 (Teq-32)	1	398300
6 Ch. Power analyser WT1600 (Teq-33)	1	1486000
Oil Test Kit 100KV (Teq-36/1)	1	575000
DIG Clamp Meter DCM1000 (Teq-36/2)	1	32000
Chawin Non Cont.Tachometer CA1725	1	24124
Chawin Ewarth Tester CA6471	1	168375
Chawin Lux meter CA 813	1	25415
Digital Motor Prote.Relay	2	143520
AC HV Test Set (DCA-1) (HVT-1)	1	115000
DC HV Test Set (DCA-2) (HVT-2)	1	85000
Control Panel (DCA-1/1) (HVT-1/1)	1	180000
Control Panel (DCA-2/1) (HVT-2/1)	1	14250
Interactive Panel Globus G Panel 17L, Min. Diagonal size 430mm, resolution 5XGA aspect ratio 5:4 linux compatability	1	102960
Total		9997328/-

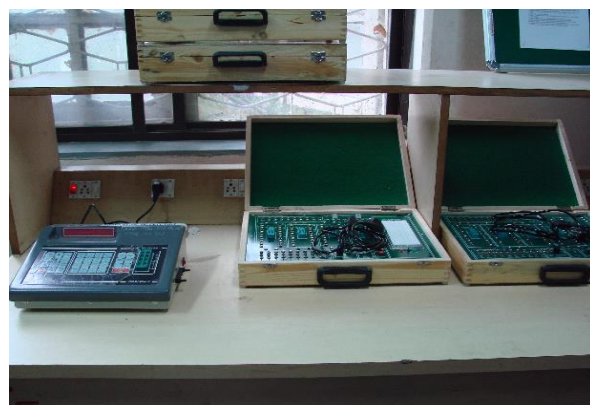


8. Power Systems and Protection Lab



Description of Article	Qty.	Cost (Rs)
TMS320C6711 DSP kit DPL-xiii	1	34736
TMS320C6713 DSP kit DPL-xiv	1	34736
TMS320C6416 DSP kit DPL-xv	1	34736
CRO 20MHz 2 Ch. (Teq-11/5)	1	21021
Multi OP DC Power Supply	1	6228
Test Measurement Station (Teq-16/1)	1	25350
Signal Conditioning cards (Teq-34/1-10)	10	147500
Relay testing Kit (Teq-37/1,2)	2	1631250
Power Transmission Line Sys. Teq-50	1	339850
Trolley Protective Relay unit (90)	1	382163
3 Ph.Rectifier Unit REC-1	1	36000
LCD Projector Sharp PG-B 105	1	63200
Relay trainer	1	1748000
Synchrophasor based distance relay	2	1757000
Opal-RT	3	3360000
Total		9621770/-

9. Analog and Digital Electronics Lab






Description of Article	Qty.	Cost (Rs.)
Power Scope 20MHz SN0604287	1	23379
CRO 20 MHz SN080419129	1	19500
CRO 20 MHz	1	19700
CRO 25 MHz	1	17129
CRO 20 MHz Trigger B/W 40Mhz	2	36527
1 MHz Fun. Generator	2	18744
CRO 0-20MHz SN020417540,42	2	43000
Digital IC Tester (teq-24/i)	1	34296
Linear IC Tester (teq-24/ii)	1	45728
DSO 60MHz 2 Ch. Tektronix	1	50960
CRO 20MHz 2 Ch. 4 trace	5	105105
CRO 40MHz 2 Ch.	1	28470
2MHz Fun. Gen. Model FG2M	5	22425
Multi OP DC Power Supply	3	18684
Single OP DC Power Supply	2	11602
Test Measurement Station	1	25350
LCR-Q-Sort Tester	1	10237
10MHz Signalsal fun.Gen.Scintec	6	96720
Stepper motor Panel P-25	1	9500
Digital Trainer	6	57600
Analog Lab Scientek	5	67500
DMM Mastech M-3900	6	8100
DSO 40MHz TDS1001B	1	42912
3.5 digit Multimeter	6	19224
Tru RMS D.Multimeter	4	34532
Analog multimeters	10	6675
Analog Kits	12	130296
Digital Training Kit (ADC-23)	10	87220
Multi OP DC Power Supply LQ6324	6	57750
LCR Q Meter 4912	2	31680
CRO 0-20MHz 3305-S	6	84180
DSO 0-60MHz D36060CA	5	147000
Signal Fun. Generator SG1602 C	8	163200
Portable Ammeter 0-500mA AC	5	4500
DC Micro Ammeter 0-250	8	7480
DC Micro Ammeter 0-500	8	7480
DC Micro Ammeter 0-1000	8	7480
AC-DC miliammeter 0-500	8	7480
AC-DC miliammeter 0-750	8	7480
AC-DC miliammeter 0-1000	8	7480
AC-DC Voltmeter 0-32V	8	7480
Texas Instruments-Analog Systems Lab Starter Kit	6	70809



Evaluation Board stamp	1	25540
Experement kit 2 Nos.		25320
starter kit	1	35000
Electrical Bridge Demo board	5	48100
4.1/2digit TRMS Pro.Multimeter(ADC7,8)	2	40950
Power &Harmonic Analy. PHT4545 ADC9	1	23601
Thy.Actuator panel Anshuman(ADC10)1	1	20000
XPO-MIT Unit (ADC-11/abcde)	5	85000
Speed saving Transducer MIT3(ADC-12)	1	12500
Temp. Sensing Transdu MIT-6(ADC-13)	1	9500
Component Devp. Board (MM32-ABCDE)	5	49400
Integrated Bread Board (MS-13/a to e)	5	48620
Total		2126125/-

10. Power System Computational Lab		
		
Description	Qty.	Cost (Rs.)
PSCAD software	26 licenses	236000
ETAP software	1	835000
Open source softwares (Scilab, ATP/EMTP, WebDNA)		-----
Total		1071000/-




11. Electromagnetic Computational Lab




Description	Qty.	Cost (Rs.)
Maxwell 12	1	463000
Magnet	1	260000
Total		723000/-



Electrical Engineering Department

12. Control System Simulation Lab		
		
Description	Qty.	Cost (Rs.)
PSIM	1	286000
d SPACE	1	941000
Open source softwares (Scilab)		-----
Total		1227000/-

13. Industrial Electrical Systems (Electrical Workshop)		
		
Description	Qty.	Cost (Rs.)
15 HP AC drive with panel	1	90000
10 hp DC drive	1	20000
Insulation tester	1	67000
Leakage clamp on tester	1	28000
Digital power meter WT 230	2	460000
DL 750 Scope corder	1	1017000
DSO TPS 2014 S	1	189000



Three phase auto transformer	4	108000
Clamp on testers	1	78000
Total		2057000/-


14. Electrical Measurement lab




Description	Qty.	Cost (Rs.)
Multimeter HTC Make DM- 97	1	1250
LVDT Trainer unit	1	7200
Strain gauge Trainer	1	7200
Schering Bridges	1	3200
Kelvin Bridges	1	3200
Maxwell Bridges	1	3200
De-sauty Bridge	1	3200
Pressure measurement Unit	1	8900
Wattmeter 150-300-600V, 5/10A	8	13200
Voltmeter 150-300-600V	20	20000
Portable Ammeter 0-5-10A	20	19000
Portable Ammeter 0-10-20A	10	9500
Synchro. Trainer	1	18000
1 ph. Energy meter	2	1400
Photoelectric Pick-up	1	9100
RTD thermister & Thermocouple	1	9100
Rotameter	1	11800
Lamp Bank 3ph , 3 KW, 15V,30A	6	70800
Lamp Bank 1ph , 2 KW, 230V,15A	3	17400
Digital Taco meter	2	3700
Digital Stop Watch	2	1350
Analog Stop Watch	2	1900
AC parameter measurement units	5	218000
Luxmeter	1	26000



Trivector meter	1	15000
Power analyser	1	220000
Total		722600/-

15. Departmental Library		
		
Description	Qty.	Cost (Rs.)
Books	600	250000
e-journals		-----
Total		250000/-

16. Project Lab		
		
Description	Qty.	Cost (Rs.)
Equipments like, Solder guns, Oscilloscope, Ammeters, voltmeters, Wattmeters, power supplies etc.	---	410000
Total		410000/-
Grand Total		69336462/-

