



# **NANDHA ENGINEERING COLLEGE**

**(AUTONOMOUS)**

**(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)**

**Perundurai, Erode - 638052, Tamil Nadu, India. Email:**

**[principal@nandhaengg.org](mailto:principal@nandhaengg.org)**

**Website:[www.nandhaengg.org](http://www.nandhaengg.org) Phone: 04294-225585**

## **Equipments**



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## LABORATORY EQUIPMENT DETAILS

S.NO	Name of the Department	Page No
1.	Department of Agricultural Engineering	1
2.	Department of Biomedical Engineering	6
3.	Department of Civil Engineering	12
4.	Department of Chemical Engineering	22
5.	Department of Computer Science Engineering	26
6.	Department of Electronics and Communication Engineering	28
7.	Department of Electrical and Electronics Engineering	39
8.	Department of Master of Business Administration	56
9.	Department of Information Technology	57
10.	Department of Mechanical Engineering	59
11.	Department of Science and Humanities	70



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## LIST OF EQUIPMENT

### DEPARTMENT OF AGRICULTURE ENGINEERING

#### CROP PRODUCTION AND HUSBANDRY LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Mould Board Plough	1
2.	Disc Plough Two Furrow	1
3.	Disc Harrow 12 Disc	1
4.	Cultivator	1
5.	Chisel Plough	1

#### CROP PROCESS ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Paddy Parboiling Unit	1
2.	Tray Dryer	1
3.	Spiral Separator	1
4.	Coefficient Of Friction Apparatus	1
5.	Angle Of Repose Round Type	1
6.	Angle Of Repose L Type	1
7.	Screw Conveyer	1
8.	Rubber Roll Sheller	1
9.	Inclined Belt Separator	1
10.	Porosity Apparatus	1
11.	Dhal Mill	1
12.	Bucket Elevator	1
13.	Cleaner Cum Grader	1
14.	Thin Layer Dryer	1



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## CROP PROCESS ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Paddy Parboiling Unit	1
2.	Tray Dryer	1
3.	Spiral Separator	1
4.	Coefficient Of Friction Apparatus	1
5.	Angle Of Repose Round Type	1
6.	Angle Of Repose L Type	1
7.	Screw Conveyer	1
8.	Rubber Roll Sheller	1
9.	Inclined Belt Separator	1
10.	Porosity Apparatus	1
11.	Dhal Mill	1
12.	Bucket Elevator	1
13.	Cleaner Cum Grader	1
14.	Thin Layer Dryer	1

## FARM TRACTORS AND ENGINE LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Cut Section Model of Tractor Engine	1
2.	Cut Section Model of Actual Single Cylinder Two Stroke Petrol Engine to Do Port Tuning Diagram Suzuki Engine	1
3.	Cut Section Model of Actual Single Cylinder Four Stroke Diesel Engine To Valve Timing Diagram Kirloskar Type Engine	1
4.	Tractor Cooling System	1
5.	Tractor Air Cleaner Assemble	1
6.	Tractor Gear Transmission System	1
7.	Tractor Differential and Final Drive	1
8.	Tractor Steering Mechanism	1
9.	Tractor Clutch System	1
10.	Tractor Front and Rear Tyre and Disc Single Wheel Each	1



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11.	Engine Components Consists of Oil Pump Piston with Rings and Valve Are Mounted on A Sturdy Iron	1
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## UNIT OPERATIONS IN AGRICULTURAL PROCESSING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Centrifugal Separator	1
2.	Hot Air Oven	1
3.	Cyclone Separator	1
4.	Sieve Shaker	1
5.	Ball Mill	1
6.	Pin Mill	1
7.	Burr Mill	1
8.	Hammer Mill	1
9.	Grain Moisture Meter Probe Type	1
10.	Grain Moisture Meter Digital Type	1
11.	Specific Gravity Separator	1

## IRRIGATION AND DRAINAGE ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Soil Tensiometer 30cm Depth	1
2.	Drip Irrigation Accessories	1
3.	Sprinkler Irrigation Accessories	1
4.	Open Pan Evaporimeter	1
5.	Weir Notch Flow Measurement 1	1
6.	Weir Notch Flow Apparatus	1



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## FARM IMPLEMENT AND EQUIPMENT EMBEDDED LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Bund Maker	1
2.	Land Leveler 9 Tyne	1
3.	Ridge Plough Three Furrows	1
4.	Rocker Arm Sprayer	1
5.	Knapsack Sprayer	1
6.	Rotary Duster	1
7.	Hand Sprayer	1

## FOOD AND DAIRY ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Laminar Air Flow Chamber	1
2.	Water Activity Meter	1
3.	Drum Dryer	1
4.	Microwave Oven	1
5.	Cream Separator	1
6.	Fluidized Bed Dryer	1
7.	Spray Dryer	1
8.	Butter Churner	1
9.	Homogenizer	1
10.	Rotational Viscometer	1
11.	Refractometer 0 To 50 Brix	1
12.	Pasteurizer	1

## SURVEYING AND LEVELLING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Tape	5



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2.	Cross Staff	5
3.	Compass	10
4.	Theodolite	10
5.	Total Station	1

## FLUID MECHANICS AND HYDRAULICS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Bernoullis Apparatus	1
2.	Venturimeter	1
3.	Orificemeter	1
4.	Rotameter	1
5.	Notch	1
6.	Pitot Tube	1
7.	Metacentre	1
8.	Reciprocating Pump	1
9.	Centrifugal Pump	1
10.	Notch Apparatus	1



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## DEPARTMENT OF BIOMEDICAL ENGINEERING

### HUMAN PHYSIOLOGY LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Almicro Medical Microscope(Bm-5) (Led)	2
2.	Revolutionary General Purpose- Centrifuge	1
3.	Clinical Centrifuge	1
4.	Wintrobe's Tube	2
5.	PCV Tube	6
6.	Neubauer Chamber	2
7.	Heparinized Syringe	1
8.	Haemoglobinometer	1
9.	Blood Grouping Kit	1 PACK
10.	Capillary Tube	1
11.	Ophthalmoscope	1
12.	Tuning Fork 256hz	5
13.	Tuning Fork 512hz	5
14.	Microslide	2
15.	Lancets	5
16.	Fire Extinguisher	1
17.	Digital Timer	2
18.	Haemocytometer	1





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19.	Binocular Microscope	1
20.	ESR Stand	1
21.	Haier Refrigerator	1
22.	Anti A'lectine	1
23.	Disposable Gloves	1 BOX
24.	Cotton Roll	1 ROLL
25.	Surgical Spirte	4
26.	K3 Edta Tube	1 BOX
27.	Disposable Esr Pipette	1 BOX
28.	Clot Activator	1 BOX
29.	Syringe	1 BOX
30.	Torniquit	4
31.	Cover Glass	1 BOX
32.	Tooth Pick Wood	1 BOX
33.	Wash Bottle	2
34.	Test Tube Rack	1
35.	Test Tube	10
36.	HB Pipette	1
37.	Polytube	1 PACK
38.	Tissue Paper	3
39.	Hansa Plast	1 BOX



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40.	Forceps	2
41.	RBC Diluting Fluid	2
42.	WBC Diluting Fluid	2
43.	Leishman's Stain	1
44.	HCL Acid	1
45.	Dm Water	1
46.	Human Blood Groups(Char)	1
47.	Human Blood WBC (Chart)	1
48.	Human Anatomy (Bio- Visual Chart)	1
49.	Laboratory Safety (Chart)	1
50.	Electron Microscope (Chart)	1
51.	Human Blood RBC (Chart)	1
52.	Human Eye Model	1
53.	Human Skeleton Model	1
54.	Respiratory System Model	1
55.	Human Tarso Model	1
56.	HB Sticks	2
57.	Lock	1



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## BIOMEDICAL INSTRUMENTATION LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Digital PH meter	1
2.	Sphygmomanometer	1
3.	Digital PH Meter	1
4.	Stethoscope	1
5.	Ultrasound Doppler Blood Flow Monitor	1
6.	GSR Measurement System	1
7.	Shortwave Diathermy Unit	1
8.	Ultrasound Diathermy Unit	1
9.	Multiparameter Biotelemetry System	1
10.	Digital Spirometry	1
11.	Electrosurgical Diathermy Unit	1
12.	Audiometer	1
13.	Data Recording System For Physiology With ECG And EEG Amplifier	1
14.	Data Recording System For Physiology With EMG Amplifier	1
15.	Medical Stimulator	1
16.	Design Of ECG Amplifier –Instrumentation Amplifier Set	25
17.	ECG Heart Rate Alarm System	1
18.	Right Leg Driven ECG Amplifier	1
19.	ECG Amplifier Electrical Isolation	1



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20.	Multiplexor And Demultiplexor	1
21.	Pulse Rate Measurement Kit	1
22.	Digital Conductivity Meter With Cell	1
23.	Multiparameter (ECG, EMG, EEG)	2
24.	2mhz Signal Generator	8
25.	Dc Regulated Power Supply	8
26.	Bread Boards	8
27.	IC Lm324	20
28.	IC Ad620	20
29.	IC Ina126	20
30.	IC Ina128	20
31.	Ic 555	20
32.	IC Mct2e	1
33.	Multioutput Power Supply	2

## SENSORS AND SIGNAL CONDITIONING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	DC Regulated Single Variable Power Supply	8
2.	Potentiometer - LVDT Kit	1
3.	Strain Measurement Trainer/Load Cell Trainer	1
4.	Photoconductive Trainer Kit	1



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5.	Thermistor Trainer Kit	1
6.	Thermocouple Trainer Kit	1
7.	Step Response of Thermocouple & RTD Trainer Kit	1
8.	Wheatstone Bridge Kit	1
9.	Kelvins Double Bridge Kit	1
10.	Schering Bridge Kit	1
11.	Anderson Bridge Kit	1
12.	Calibration Of Series and Shunt Type Ohmmeter	1
13.	Calibration Of Ammeter and Voltmeter	1
14.	Digital Multimeter	5
15.	Hall Effect Transducer Kit	1
16.	Speed Measurement and Closed Loop Control of Dc Motor	1
17.	Calibration Of Single-Phase Energy Meter	1
18.	Calibration Of Wattmeter by Direct Loading	1
19.	Decade Resistance Box	2
20.	Decade Capacitance Box	1
21.	Decade Inductance Box	1
22.	LVDT Trainer Kit	1



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## DEPARTMENT OF CIVIL ENGINEERING

### BUILDING MATERIAL

S.NO	DESCRIPTION	QUANTITY
1.	Zod Impact Testing Machine	1
2.	Dial Guages	10
3.	Beam Deflection Test Apparatus	1
4.	Spring Testing Machine	1
5.	Extensometer	1
6.	Compress meter	1
7.	Vicats Apparatus	4
8.	Mortar Cube Moulds	10
9.	UTM OF MINIMUM 400 KN CAPACITY	1
10.	Le Chateliers Apparatus	2
11.	Le Chatelier Apparatus	1
12.	Torsion Testing Machine for Steel Rods	1
13.	Hardness Testing Machine Rockwell Vickers Brinner	2

### SOIL MECHANICS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Proctor Compaction Apparatus	2



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2.	Sieves	2
3.	Trial Shear Apparatus	1
4.	Three Gang Consolidation Test	1
5.	Direct Shear Apparatus	1
6.	Field Density Measuring Device	2
7.	Shrinkage Limit Apparatus	3
8.	Hydrometer	2

## ENVIRONMENTAL ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	PH Meter	1
2.	Kjeldane Apparatus	1
3.	Furniture	1
4.	Calorimeter	1
5.	Chemicals	1
6.	Furniture Work Table	10
7.	Water Bath	1
8.	Refrigerator	1
9.	Desicator	1
10.	Crucible	15
11.	Filtration Assembly	1



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12.	Heating Mantles	5
13.	Turbidity Meter	1
14.	Conductivity Meter	1
15.	Jar Test Apparatus	1
16.	B O D Incubator	1
17.	C O D Apparatus	1
18.	Muffle Furnace	1
19.	Hot Air Oven	1
20.	Glass Waves Crucibles	1
21.	Chlorine Comparator	1
22.	Standard Flask	30
23.	Burette With Stand	15
24.	Pipette	15
25.	Neaker	30
26.	Magnetic Stirrer with Hot Platte	5
27.	Calorimeter	1

## BUILDING DRAWING - I

S.NO	DESCRIPTION	QUANTITY
1.	Computer system of pentium or equivalent	72





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## SURVEY LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Surveying Chain 30 Meter	6
2.	Prismatic Compass with Tripod	10
3.	Raining Rod	30
4.	Pocket Stereoscope	5
5.	Cross Staff	15
6.	Surveying Chain 20 Meter	15
7.	Metallic Tape 30 Meter	11
8.	GPS Map 76	1
9.	Surveyors Compass with Tripod	10
10.	Aluminium Leveling Staff 5 Meter	15
11.	Arrows	50
12.	Aluminium Levelling Staff 4	6
13.	Dumpy Level with Tripod	10
14.	Transit Vernier Theodilite with Tripod	10
15.	Total Station with Accessories NTS 662r 8e616	3



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## BUILDING DRAWING - II

S.NO	DESCRIPTION	QUANTITY
1.	Computer Pentium IV	30
2.	Auto CAD Software Multi User License	1

## HYDRAULICS ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Calibration Of Flow Through Mouth Piece Tank with Provision for Fixing with Mouth Pieces Via External Mouth Pieces and Internal Mouth Piece	1
2.	Flow Measurement Open Channel Flow Channel with Provision for Fixing Notches Rectangular and Triangular and Trapezoidal Forms	1
3.	Losses Pipes Major Loss Friction Loss Pipe Lengths of Different Diameters with Vales and Pressure Rapping and Collecting Tank Minor Losses	1
4.	Pipe Line Assembly with Provisions for Having Sudden Contractions in Diameter Expansions Bends Elbow Fitting	1
5.	Flow Measurement in Pipes Venturimeter U Tube Manometer Fixtures Like Valves Collection Tank	1
6.	Officer Meter with All Necessary Fittings in Pipes Lines of Different Diameters	1
7.	Calculation Of Metacentric Height Water Tank Ship Model with Accessories	1
8.	Calibration Of Flow Through Orifice Tank with Collecting Bank	1
9.	Centrifugal Pump Assembly with Accessories Multi Stage	1
10.	Turbine Impulse Turbine Assembly with Fitting with Accessories	1
11.	Francis Turbine Assembly with Fittings and Accessories	1



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12.	Kalpan Turbine Assembly with Fittings and Accessories	1
13.	Ship Model with Accessories	1
14.	Pumps centrifugal pump assembly with accessories	1
15.	Reciprocating pump assembly with accessories	1
16.	Measurement of velocity pitot tube assembly	1

## CONCRETE AND HIGHWAY ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Concrete Prism Moulds	15
2.	Concrete Cube Moulds	30
3.	Sieves	1
4.	Marshall Stability Apparatus	1
5.	UTM 400 KN Capacity	1
6.	Aggregate Impact Testing Machine	1
7.	Flakiness And Elongation Index	1
8.	Slump Cone	3
9.	Ductility Test	1
10.	VEE BEE Consistometer	1
11.	Concrete Cylinder Moulds	15
12.	Flow Table	1
13.	VEE BEE Consistometer	1



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14.	Le Chatelier Apparatus	1
15.	Concrete Mixer	1
16.	Vibrator	1
17.	Trovels And Planers	1
18.	CBR Apparatus	1
19.	Blains Apparatus	1
20.	Pycometer	1
21.	Attrition Test Apparatus	1
22.	Compaction Factor Apparatus	1

## DESIGN AND DRAFTING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Computer Pentium Iv	30
2.	Auto Cad Software Multi User License	1
3.	Analysis Design Software Minimum 5 User License	1
4.	Computer Pentium Iv	30
5.	Auto Cad Software Multi User License	1
6.	Analysis Design Software Minimum 5 User License	1



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## SURVEY CAMP

S.NO	DESCRIPTION	QUANTITY
1.	Ranging Rods Leveling Staff Cross Staff Chain Tapes and Arrows 1 For A Set Of 5 Students	30
2.	Theodolites at least 1 For Every 10 Students	10
3.	Dempty Level at least 1 For Every Student	10
4.	Compass at least 1 For Every 10 Students	10
5.	Pocket Stereoscope	5
6.	GPS	1

## PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Python Freeware	30
2.	Standalone Desktop	30
3.	Raptor	30
4.	Microsoft Office Suit	30
5.	Standalone Desktop Raptor Python Freeware	30



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## M.E STRUCTURAL ENGINEERING

### ADVANCED STRUCTURAL ENGINEERING LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Hydraulic Jack	1
2.	Load Cell	3
3.	Proving Ring	3
4.	Demec Guage	1
5.	Rebound Hammer	2
6.	Ultrasonic Pulse Velocity Tester	1
7.	Clinmeter	1
8.	Vibration Exciter	1
9.	Vibration Meter	1
10.	Strong Floor	1
11.	Loading Frame	1
12.	Electrical Strain Guage with Indicator	1
13.	Dial Guages	3

### STRUCTURAL ANALYSIS AND DESIGN LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Auto Cad Software Multi User License	1



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2.	Computer Pentium Iv Nos	25
3.	Analysis Design Software Minimum 5 User License	1



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## DEPARTMENT OF CHEMICAL ENGINEERING

### PROCESS DYNAMIC AND CONTROL LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Interacting & non-interacting level systems	1
2.	Flow controller	1
3.	Level controller	1
4.	Temperature controller	1
5.	Pressure controller	1
6.	characteristics of various control valves	1
7.	MultiProcess Controller	1

### CHEMICAL TECHNOLOGY & CHEMICAL ANALYSIS LAB

S.NO	DESCRIPTION	QUANTITY
1.	Weighing Balance	1
2.	Stop watch	2
3.	Melting point apparatus	1
4.	Aniline Point apparatus	1
5.	Viscometer	1
6.	Conductivity meter	1
7.	UV Visible Spectrometer	1
8.	Digital Flame Photometer	1
9.	Polarimeter with sodium vapour lamp	1
10.	Digital Nephelometer	1
11.	COD	1
12.	Muffle furnace	1
13.	Hot air oven	1
14.	Vaccum pump	1
15.	Cleveland Open cup apparatus	1





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16.	Pensky Martens Closed cup apparatus	1
17.	Cloud and pour point apparatus	1
18.	Saybolt Viscometer	1
19.	Redwood viscometer	1
20.	Bomb Calorimeter	1
21.	Orsat apparatus	1
22.	Kinematic viscometer	1
23.	Electronic balance	1
24.	Kjeldeahal Apparatus	1
25.	Abbe refractometer	1
26.	Heating mantle	1
27.	Electric bunsen burner	1

## PROCESS HEAT TRANSFER LABORATORY

S.NO.	DESCRIPTION	QUANTITY
1.	Packed bed Column Apparatus	1
2.	Stefan Boltzmann Apparatus	1
3.	Critical Heat Flux Apparatus	1
4.	Radiation Apparatus	1
5.	Shell and Tube type Heat Exchanger	1
6.	Open Pan Evaporator	1
7.	Pool boiling Apparatus	1
8.	Horizontal and Vertical Condenser Apparatus	1
9.	Jacketed Vessel Apparatus	1

## MASS TRANSFER LABORATORY (EMBEDDED)

S.NO.	DESCRIPTION	QUANTITY
1.	Vapor In Air Diffusivity Measurement	1
2.	Wetted Wall Column	1



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3.	Tray Dryer	1
4.	Simple Batch Distillation Setup	1
5.	Vapor Liquid Equilibrium (VLE) Setup	1
6.	Steam Distillation Setup	1
7.	Rotating Disc Contactor	1
8.	Surface Evaporation Setup	1
9.	Vacuum Dryer	1
10.	Double Distillation Column	1
11.	Packed Bed Distillation Setup	1

## MECHANICAL OPERATION LABORATORY

S.NO.	DESCRIPTION	QUANTITY
1.	Ball Mill	1
2.	Roll Crusher	1
3.	Jaw Crusher	1
4.	Sieve Shaker	1
5.	Rotary Vacuum Filter	1
6.	Leaf Filter	1
7.	Plate And Frame Filter Press	1
8.	Cyclone Separator	1
9.	Froth Flotation	1
10.	Mixing Apparatus	1
11.	Air Permeability Apparatus	1

## FLUID MECHANICS LABORATORY

S.NO.	DESCRIPTION	QUANTITY
1.	Packed Bed Column	1
2.	Fluidized Bed Column	1



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3.	Flow Through Spiral and Helical Coil	1
4.	Flow Through Straight Pipe	1
5.	Flow Through Annular Pipe	1

## CHEMICAL REACTION ENGINEERING LABORATORY

S.NO.	DESCRIPTION	QUANTITY
1.	Batch Reactor for a Irreversible Reaction	1
2.	Batch Reactor for a reversible Reaction	1
3.	RTD Studies in Plug Flow Reactor using Step input with SCADA Software	
4.	RTD Studies in Mixed Flow Reactor using Step input with SCADA Software	1
5.	Plug flow Reactor followed by Mixed flow Reactor	1
6.	Mixed Flow Reactor followed by Plug flow reactor	1
7.	Semi Batch Reactor for the Performance Study	1
8.	Mixed flow reactor for kinetic studies	1
9.	Plug Flow Reactor for the Kinetic Studies	1
10.	Solid – Liquid Non – Catalytic reactor for the determination of rate of dissociation using Solid	1
11.	Adiabatic Batch Reactor	1



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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### COMPUTING CENTER-2 LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	HP intel i3 3220 3.3GHZ Processor 2 GB DDR RAM,500 GB ,hard disk ,18.5 " LED Monitor	73
2.	HP laser jet Printer 1020 Plus	1
3.	Epson LCD Projector	1
4.	Network Switch	3
5.	Audio Systems	1
6.	20KVA Numeric online UPS+ 75AH batteries	1+20

### COMPUTING CENTER-3 LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	HP intel i3 7100 3.3GHZ Processor 4 GB DDR RAM,1 TB hard disk ,18.5 " LED monitor	66
2.	HP laser jet printer 1020	1
3.	LG LED projector	1
4.	Network switch	3
5.	Audio systems	1
6.	20KVA numeric online ups+ 75Ah batteries	1+20



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## PG -SOFTWARE APPLICATION LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	HP intel i3 7100 3.3GHZ Processor 4 GB DDR RAM,1 TB hard disk ,18.5 " LED monitor	73
2.	HP laser jet printer 1015	1
3.	LG LED projector	1
4.	Network switch	4
5.	20KVA Micro best online UPS+ 75AH batteries	1+30

## COMPUTING CENTER-5 LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	HP intel i3 7100 3.3GHZprocessor 2 GB DDR Ram,320 GB hard disk ,18.5 " LCD monitor	74
2.	HP laser jet printer 1020 plus	1
3.	LG led projector	1
4.	Network switch	3
5.	Audio systems	1
6.	20KVAnumeric online ups+ 75AH batteries	1+20



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## DEPARTMENT OF ELECTRONICS AND COMMUNICATION

### ENGINEERING

#### ELECTRON DEVICES AND CIRCUITS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Ammeter (0-500) MA	10
2.	Ammeter (0-100) MA	24
3.	Ammeter (0-50) MA	23
4.	Ammeter (0-25) MA	22
5.	Ammeter (0-10) MA	26
6.	Ammeter (0-500) $\mu$ A	19
7.	Ammeter (0-100) $\mu$ A	6
8.	Audio oscillator	8
9.	CRO 20mhz	6
10.	CRO 30mhz	24
11.	Digital Multimeter	15
12.	Dual Power Supply (0-30) v/2a	16
13.	Decade Inductance Box	13
14.	Decade Resistance Box	11
15.	Decade Capacitance Box	13
16.	Function Generator	24
17.	High Voltage Power Supply	2



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18.	Power Supply 5v/1a	5
19.	Rheostat 1050/.5a/1000	4
20.	Rheostat 2900/.2a	1
21.	Rheostat 100/.5a	1
22.	Rheostat 2100/.5a	2
23.	Single Power Supply (0-30) V/2a	30
24.	Transformer (9-0-9) V/2a	3
25.	Ac Voltmeter (0-30) V	1
26.	Dc Voltmeter (0-30) V	31
27.	Dc Voltmeter (0-10) V	25
28.	Dc Voltmeter (0-3) V	20
29.	DC Ammeter (0-1000) $\mu$ a	12
30.	Dc Voltmeter (0-50) V	2
31.	DC Power Supply (+/-)15v/1a	13
32.	Digital Signal Oscilloscope	4
33.	Single power supply (0-30)v/1a	5
34.	DC Ammeter (0-1) MA	4
35.	AC Ammeter (0-10) MA	7
36.	AC Ammeter (0-2) MA	2
37.	DC Voltmeter (0-1) V	4
38.	AC Voltmeter (0-50) V	5



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39.	AC Ammeter (0-20) MA	6
40.	Fixed power supply (+/-5v/2a)	12
41.	Fixed power supply (+/- 15v/2a)	10
42.	DC regulated single fixed power supply (0-50v/0-1a)	2
43.	DC Ammeter (0-30ma)	3
44.	DC Voltmeter (0-15v)	5
45.	DC Voltmeter (0-5 v)	5

## DIGITAL ELECTRONICS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Digital IC Tester	1
2.	Digital/Analog IC Trainer Kit	5
3.	Digital/Analog IC Trainer Kit	5
4.	Digital/Analog IC Trainer Kit	5
5.	Digital/Analog IC Trainer Kit	5
6.	Power Supply 5v/1a	10
7.	Power Supply 5v/1a	9
8.	Power Supply 5v/1a	10
9.	Power Supply 5v/1a	1
10.	Power Supply 5v/1a	5
11.	Digital IC Tester	1





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12.	Digital IC Tester	2
13.	Digital Multi Meter	10

## MICROPROCESSOR LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	ADC Board	6
2.	Dc Motor Controller	4
3.	Dac Board	6
4.	Interrupt Controller (8259)	5
5.	Key Board Display Controller(8279)	6
6.	8085 Kit	21
7.	8086 Kit	30
8.	8051 Kit	26
9.	Ppi ( 8255)	6
10.	Stepper Motor	5
11.	Timer & Communication I/O Card (8251&8253)	6
12.	Traffic Light Control	5
13.	Cro	5
14.	LCR Meter	1
15.	LCD Interfacing Kit	3
16.	PCI Add On Card	15



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17.	Digital Storage Oscilloscope	5
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## LINEAR INTEGRATED CIRCUIT LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Dual, (0-30v) variable power supply	1
2.	30mhz dual trace oscilloscope	1
3.	Digital multimeter	1
4.	Function generator 3 mhz	1
5.	IC tester (analog)	1
6.	Analog ic trainer	1
7.	Power supply +/- 15 v dc	1
8.	Digital storage oscilloscope	1

## MICROWAVE & OPTICAL COMMUNICATION LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Advanced Fiber Optic Trainer With Multiplexing & Demultiplexing Trainer- Model St2502-"Scientech"	2
2.	APD(Avalanche Photo Diode)	1
3.	"Scientech"-Digital Power Meter	1
4.	Digital Multimeter	3
5.	Plastic Fibers, Single/Multimode Glass Fibers With End Connectors	5



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6.	Gunn Oscillator, Pin Modulator, Detector Mount	2
7.	"Sciencetech"-St 2506, Laser Optic Trainer Kit	2
8.	Led Source 1300	2
9.	Laser Diode Source 1300/1500nm	4
10.	Multihole Directional Coupler(3,10,20 Db) E-Plane Tee, H-Plane Tee, Magic Tee	2
11.	Radiation Pattern Turn Table, Wave-Guide Bend 90 Degree, Standard Gain Horn (2 No's), Parabolic Dish With Feed	1
12.	Spare Crystal Diode	3
13.	"Sciencetech"-X Band Microwave Test Benches	8
14.	Antenna Trainer Kit With Motorized Unit	2
15.	Spectrum Analyser With Tracking Generator	1
16.	Single Channel Fiber Optic Trainer Kit	4
17.	Fiber Optic Splicing Connector Kit	2
18.	Cooling Fan	3
19.	Fiber Optic System(St2502)	1
20.	Eye Pattern (Digital Communication Trainer Kit)(St2103)	1
21.	Fibre Optic Power Meter	5
22.	Pin Diode	3
23.	Fixed Attenuator:3db,6db,10db	1
24.	Horn Antenna	1
25.	Microwave Power Meter	1
26.	Small Horn Antenna	1



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## COMMUNICATION LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Analog Signal Sampling	2
2.	AM Superheterodyne Receiver Trainer	1
3.	Cathode Ray Oscilloscope (30 Mhz)	10
4.	Digital Multimeter	2
5.	Decade Inductance Box	12
6.	Digital Communication Trainer Kit (TDM/PCM)	2
7.	Function Generator(1,3mhz)	14
8.	FSK Modulation and Demodulation Trainer Kit	1
9.	Fm Tranmitter And Receiver	5
10.	Frequency Counter	1
11.	Line Coding and Decodiing Kit	5
12.	PPM-PAM-PWM Modulation and Demodulation Kit	7
13.	Multiplexer &Demultiplexer	2
14.	ASK,FSK,PSK Kit	2
15.	DSO(Colour-7025 Ls) 50mhz	10
16.	QPSK Modulation &Demodulation Trainer Kit	2
17.	Delta Modulation &Demodulation Trainer	3
18.	Differential Pulse Code Modulation and Demodulation Trainer Kit	3
19.	Am Modulation &Demodulationkit(DSB-SC,SSB-SC)	4



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20.	Balanced Modulator Kit-Am Generator	2
21.	Preemphasis And Deemphasis Kit with Power Supply	2
22.	Fm Detector Using PII	4
23.	AGC Characteristic of Am Superhetrodyne Receiver	1
24.	Digital Modulation and Demodulation	4
25.	Dc Regulated Power Supply(0-30v/0-2a)	10

## ESD LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Dual Trace Oscilloscope	10
2.	DSP Processor Kit (Fixed/Floating)	23
3.	Cathode Ray Oscilloscope (CRO)	12
4.	Function Generator	23
5.	Photo Cell/Ldr	1
6.	Strain Gauge/Pressure Transducer	1
7.	Designing Of Ac/Dc Voltage	2
8.	LVDT	1
9.	Temp.Measurement Using RTD	1



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## PG VLSI LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Tanner Software Tool	1
2.	Keil Software	1
3.	Keil Software	1
4.	32 Bit-Microcontroller Trainer	5
5.	32 Bit-Microcontroller Trainer	4
6.	32 Bit-Microcontroller Trainer	1
7.	FPGA Multi Function Evaluation System Kit	5
8.	DSP Trainer	5
9.	8 Bit-Microcontroller Universal Trainer	5
10.	8 Bit-Microcontroller Trainer	5
11.	16 Bit-Microcontroller Trainer	3
12.	Embedded Trainer	1
13.	Debugger System	5
14.	Pic Microcontroller Trainer	5
15.	Analog To Digital Converter Kit	1
16.	Digital To Analog Converter Kit	1
17.	Seven Segment Display Interface Card	1
18.	Elevator Control Interface Card	1
19.	Audio Tone Generator Interface Card	1



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20.	Real Time Clock Interface Card	1
21.	Stepper Motor Interface Card	1
22.	Traffic Light Interface Card	1
23.	Dc Motor Interface Card	1
24.	Keyboard Interface Card	1
25.	Wireless Trans Receiver Card	5
26.	Logic Analyzer	2
27.	Personal Computer	20

## NETWORKS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	DCT-03 Data Communication Trainer	2
2.	LTS-01 Lan Training System	7
3.	Wireless Lan Accessories	2
4.	L-Sim-A Protocol Simulator And Analyzer	7 User
5.	N-Sim-A N/W Simulation Educational Software	15 User

## VLSI LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Xilinx Spartan 3e FPGA Kits	10



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2.	Xilinx Universal Kits	5
3.	Xilinx VLSI Design Software With Simulator, Synthesis And Implementation Tools	Multi User
4.	Spartan 6e FPGA Kits	5

## SIMULATION LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	System : Cpu HP Elite Desktop Intel Core I3 550 Processor, Monitor HP V 185e, HP Keyboard & HP Optical Mouse	29
2.	System: Cpu HP Compaq Desktop Intel Core 2 Duo, E7200 Processor, 1 Gb, Ddr-2 Ram, Intel G33 Chipset Mother Board, 160 Gb Sata Hdd, HP 15 " Tft LCD Monitor, HP Keyboard & HP Optical Mouse	32
3.	CPU Intel P4,2.26ghz,553mhz,512kb/256mb, Ddr 333 Sdram, 40gb Hdd(7200 Rpm)	6
4.	Switch	2
5.	Ups	2
6.	Battery	10
7.	LCD Projector	1
8.	LCD Projector Wall Mount	1
9.	Ac	3
10.	Screw Driver Set	1
11.	Printer Laser Jet 1020	2
12.	Printer Laser Jet 1505	1





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## DEPARTMENT OF ELECTRICAL AND ELECTRONICS

### ENGINEERING

#### CONTROL SYSTEMS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	1 HP AC Induction Motor with Dc Generator	1
2.	1 HP DC Motor	1
3.	Speed Measurement and Closed Loop Control of AC Servo Motor	1
4.	Thermocouple Module	1
5.	Ward Leonard Speed Control Systems Transfer Function	1
6.	IC Temperature Sensor Kit	1
7.	Lead Lag Network Simulator	1
8.	Process Control Simulator	2
9.	RTD Module	1
10.	Stepper Motor Controller Trainer	1
11.	Water Bath	1
12.	LCR Meter	2
13.	Transfer Function of Dc Servomotor	1
14.	Transfer Function of Ac Servomotor	1
15.	AC Position Control Trainer	1
16.	Analog Simulation of Type-0 And Type-1 System	1
17.	DSO-50mhz	2



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## MEASUREMENT AND INSTRUMENTATION ROL SYSTEMS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Anderson Bridge (Vab 04)	2
2.	8 Channel ADC Stand Alone Module (Vstm 003)	3
3.	DAC Stand Alone Module (Vstm 002)	3
4.	Displacement Measurement Trainer Using LVDT (Itb 012 Ce)	1
5.	Instrumentation Amplifier Module (Itb 009)	1
6.	Kelvin's Double Bridge Module (Vkb 02)	2
7.	Maxwell's Inductance Bridge (Vmib 03)	2
8.	Phase Angle And Power Factor Measurement Module	1
9.	Pressure Measurement Trainer (Itb 016 Ce)	1
10.	Torque Measurement Trainer (Itb 013 Ce)	1
11.	Wheatstone Bridge (Vwb 01)	2
12.	MP Based Signal Linearisation Thermistor Module	1
13.	ADC & Dac / Measurement And Control Module	1
14.	Angular Displacement Module (Itb 014)	1
15.	3 Phase Energy Meter	2
16.	1 Phase Energy Meter	2
17.	Schering Bridge (Vsb 07)	3
18.	Iron Ring Loss Measurement Kit	1



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19.	Calibration Of Current Transformer Kit	1
20.	Voltmeter (0-300v), Mi	1
21.	Voltmeter (0-600v), Mi	1
22.	Wattmeter, Upf,(150/300/600)V,5/10 A	2
23.	Ammeter (0-5a/10a) Mi	2
24.	Wattmeter, Lpf,(150/300/600)V,5/10 A	1
25.	Resistive Load, 3 Phase	1
26.	Resistive Load,1 Phase	1
27.	Multimeter	20
28.	Galvanometer	1
29.	Digital Ammeter	1
30.	Dc Trainer	2
31.	Three Phase Autotransformer (0-470v/0-4 A)	1
32.	Cathode Ray Oscilloscope	2
33.	Moving Coil Ammeter (0-10 Ma)	4
34.	Regulated Power Supply (0-30)V, 2a	4
35.	Moving Coil Voltmeter (0-10)V	4
36.	LVDT	1
37.	Instrumentation Amplifier Module	1
38.	Decade Capacitance Box	4
39.	Decade Resistance Box	4



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40.	Decade Inductance Box	4
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## SEMICONDUCTOR DEVICES AND CIRCUITS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	DC Ammeter (0-1a)	10
2.	DC Ammeter (0-100ma)	10
3.	DC Ammeter (0-50microamp)	10
4.	DC Ammeter (0-500ma)	10
5.	DC Ammeter (0-500microamp)	10
6.	DC Voltmeter (0-30) V	10
7.	DC Voltmeter (0-10) V	10
8.	DC Voltmeter (0-15) V	10
9.	DC Voltmeter (0-5) V	10
10.	AC/DC Voltmeter (0-10) V	10
11.	Dual 0-30v/2a Variable Power	10
12.	Digital Multimeter	10
13.	3MHZ Function Generator	10
14.	RPS(+5v,2a)	5
15.	DSO (50 MHZ)	10



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## EEE COMPUTER LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	IC2D E7500 2.93 GHZ Processor, 2gb Ddr3 Ram, 320 Gb SATA HDD, Dg41 Chipset Mother Board.	49
2.	Intel (R) Core (Tm) I3 CPU 550@ 3.20ghz 2 Gb Ddr3 Ram, 320 Gb HDD HP 18.5 Inch Monitor, TFT Lcd (Embedded Systems Lab)	25
3.	HP LaserJet 1020 Plus	3
4.	HP LaserJet M1005	1
5.	20 KVA Online Ups 3ph I/P 1ph O/P With 360v Dc With 120 AMS 60 Ah	1
6.	24 Port Switcher – 4 With Cable	4

## MICROPROCESSOR AND MICRO CONTROLLER LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	8085 Microprocessor Trainer With Power Supply	15
2.	8051 Micro Controller Trainer Kit With Power Supply	15
3.	8279 Interface Board	5
4.	8259 Interface Board	5
5.	8251&8253 Interface Board	5
6.	ADC Card	5
7.	DAC Card	5
8.	Stepper Motor With Controller	5



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9.	Traffic Light Controller	5
10.	DC Regulated Power Supply	5
11.	8255 Interface Board	5
12.	8 Digit Multiplexed Display Card	5
13.	Digital Multimeter	10
14.	Function Generator	4
15.	Digital Storage Oscilloscope	5
16.	8051 Trainer Kit With Flash Memory	2
17.	89c51 Microcontroller Trainer Kit	2

## ELECTRIC CIRUCIT LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Decade Inductance Box Dib 410 1mh To 9.9999 H, 4 Dial	2
2.	Decade Capacitance 1 $\mu$ f To 100 Pf	2
3.	Decade Resistance 1 $\omega$ To 100 K $\omega$ , 6 Dial	4
4.	Decade Inductance Box 5 Dial	2
5.	Decade Capacitance Box 5 Dial	2
6.	APLAB 1 Mhz Function Generator Model Fgim	2
7.	Scientech Model, St4060 1 Mhz Digital Function	3
8.	Dual Analog Power Supply (0-30 V), 2 A	1
9.	Regulated Power Supply (0-30 V), 2 A Digital	2



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10.	DC Regulated Single Output Power Supply (0-30 V)	12
11.	Multimeter	2
12.	Digital Multimeter	2
13.	Digital Multimeter	8
14.	EDM DC Ammeter (0 - 50 Ma)	2
15.	Moving Coil Ammeter (0 - 100 Ma)	1
16.	EDM DC Ammeter (0 - 100 Ma)	12
17.	Moving Coil Ammeter (0 - 10 Ma)	2
18.	EDM Type DC Ammeter (0 - 10 Ma)	2
19.	Moving Coil Ammeter (0 -1 Ma)	7
20.	EDM Type DC Ammeter (0 - 1 Ma)	4
21.	EDM Type DC Ammeter (0 - 1 Ma)	5
22.	Moving Coil Ammeter (0 - 500 Ma)/(0 - 300 Ma)	2
23.	EDM DC Ammeter (0 - 500 Ma)	4
24.	Moving Coil Ammeter (0 - 10 Ma)	2
25.	EDM DC Ammeter (0 - 10 Ma)	2
26.	EDM DC Ammeter (0 - 10 Ma)	6
27.	Moving Coil Voltmeter (0 - 1 V)	3
28.	EDM DC Voltmeter (0 -1 V)	4
29.	EDM DC Voltmeter (0 -1 V)	5
30.	Moving Coil Voltmeter (0 - 10 V)	10



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31.	EDM DC Voltmeter (0 -10 V)	6
32.	Bread Board	10
33.	Bread Board	13
34.	EDM DC Voltmeter (0 - 3 V)	1
35.	EDM DC Voltmeter (0 - 30 V)	15
36.	EDM DC Voltmeter (0 - 30 V)	10
37.	EDM DC Ammeter (0 - 20 Ma)	6
38.	EDM DC Ammeter (0 - 500 $\mu$ a)	4
39.	EDM DC Ammeter (0 - 10 Ma)	3
40.	Single Tuned Coupled Circuit	2
41.	Decade Capacitance Box 6 Dial	5
42.	Deacade Resistance Box	5
43.	Deacade Inductance Box 6 Dial	5
44.	LCR Meter	2

## LINEAR AND DIGITAL INTEGRATED CIRCUITS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Dual Trace Oscilloscope (30mhz)	10
2.	Function Generator (3 Mhz)	10
3.	DC Regulated Single Variable Power Supply (0-30 V/0-2 A)	25
4.	Digital Multimeter	10





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5.	DC Regulated Dual Variable Power Supply (0-30 V/0-2 A)	2
6.	A/D Converter	4
7.	D/A Converter	4
8.	PIC Trainer Kit	4
9.	Temperature Control Interface	4
10.	Stepper Motor Interface	4
11.	Digital IC Trainer Kit	15
12.	Analog IC Trainer Kit	4

## ELECTRICAL MACHINES LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Three Phase Induction Motor (Squirrel Cage) (440v, 5hp,1440 Rpm)	2
2.	Three Phase Alternator Coupled With Dc Shunt Motor (3.5kva, 1500rpm, 5hp)	2
3.	, Three Phase Alternator Coupled With Dc Shunt Motor (3.5kva 1500rpm, 5hp)	2
4.	Single Phase Capacitor Start And Capacitor Run Induction Motor (1hp,1440rpm)	1
5.	Slip Ring Induction Motor (5hp,1440rpm,Rotor Resistance Starter)	2
6.	Single Phase Induction Motor (1hp,1440rpm)	1
7.	Three Phase Synchronous Motor (5hp,1500rpm) EMC Make	1
8.	Three Phase Synchronous Motor (5hp,1500rpm) UEC Make	1
9.	Three Phase Two Speed Pole Changing Motor (3hp,1440/2880rpm)	1



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10.	Winding Study Motor (2hp,415v)	1
11.	MI Ammeter 10/20 A	10
12.	MI Ammeter 5/10 A	5
13.	MI Ammeter 1/2 A	3
14.	MC Ammeter 10/20 A	10
15.	MC Ammeter 1/2 A	3
16.	MC Ammeter (0-5) A	7
17.	MC Ammeter (0-2) A	4
18.	DC Series Motor (3hp,230v,11a,1500rpm)	1
19.	DC Shunt Motor (3hp,230v,11a,1500rpm)	4
20.	DC Compound Motor (3hp,230v,11a,1500rpm)	1
21.	DC Series Generator (2.2kw,220v,10a,1500rpm)	1
22.	DC Shunt Generator (2.2kw,220v,10a,1500rpm)	1
23.	DC Compound Generator (2.2kw,220v,10a,1500rpm)	1
24.	DC Shunt Generator Coupled With Dc Shunt Motor	1
25.	Three Phase Rheostatic Load 5 Kw	2
26.	Single Phase Rheostatic Load 3kw	1
27.	Single Phase Rheostatic Load,230 V,3kw	2
28.	Single Phase Rheostatic Load 230 V,5kw	1
29.	Three Phase Inductive Load 440v, 10a	1
30.	Three Phase Capacitive Load 440v,10a	1



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31.	Analog Tachometer (0-10000)Rpm	2
32.	Analog Tachometer	1
33.	Analog Tachometer (0-10000)Rpm	1
34.	Digital Contact Type Tachometer	5
35.	Indicating Pointer Type Frequency Meter (40-60 Hz)	1
36.	Frequency Meter - Digital	1
37.	Analog Frequency Meter	2
38.	Power Factor Meter (125/250/500)V,5/10a	4
39.	DC Panel	1
40.	AC Panel	1
41.	DC Rectifier Unit	1
42.	Synchronising Panel	1
43.	Rheostat 1000 Ohm/1 Amps	1
44.	Rheostat 500 Ohm / 1.8 Amps	4
45.	Rheostat 350 Ohm /1.5 Amps	5
46.	Rheostat 300 Ohm /1.5 Amps	2
47.	Rheostat 220 Ohm /2.3 Amps	2
48.	Rheostat 1000 Ohm/1 Amps	3
49.	RL Load	2
50.	3 Point Starter	14
51.	4 Point Starter	3



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52.	2 Point Starter	2
53.	Three Phase Star-Delta Starter Manual	2
54.	Star Delta Starter Automatic	2
55.	DOL Starter	1
56.	Single Phase Transformer 1kva 220/110 V	4
57.	Single Phase Transformer 1kva 230/115 V	4
58.	Three Phase Double Wound Transformer (400/220v, 3kva)	2
59.	Single Phase Closed Type Transformer 250/110 V, 1kva	4
60.	Three Phase Autotransformer 440/470 V, 15a	1
61.	Single Phase Autotransformer 230/270 V, 8a	2
62.	Single Phase Autotransformer (0-10) A	3
63.	Three Phase Autotransformer 440/470 V, 15a	3
64.	Scott Connection Transformer	1
65.	MC Voltmeter (0-150/300/600 V-10 No's) (0-75/150/300/600 V-02 No's)	12
66.	MC Voltmeter 0-15/30 V	2
67.	MC Voltmeter 0-30 V	8
68.	MC Voltmeter (0-10) V	5
69.	MC Voltmeter (0-30) V Portable Type	4
70.	MC Voltmeter (0-10) V Portable Type	4
71.	MI Voltmeter 0-150/300/600 V	14
72.	MI Voltmeter 0-15/30/60 V	2



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73.	UPF Wattmeter 0-150/300/600 V 10/20 A	28
74.	UPF Wattmeter Three Phase Double Element-Portable Type	3
75.	UPF Wattmeter Three Phase Three Element - Portable Type	1
76.	UPF Wattmeter 1phase 1 Element	1
77.	LPF Wattmeter 0-150/300/600 V 5/10 A	3
78.	LPF Wattmeter 0-150/300/600 V 2.5/5 A	4
79.	Spring Balance 50 Kgs(Set)	11
80.	Rheostat (50 $\Omega$ /5 A)	4
81.	Rheostat (700 $\omega$ /0.8 A)	4
82.	Rheostat (50 $\omega$ /2 A)	4
83.	Rheostat (100 $\omega$ /3 A)	4
84.	Rheostat (400 $\omega$ /1.1 A)	4
85.	Power Factor Meter (125/250/500)V, 5/10a	3
86.	Three Phase Power Factor Meter 5/10a	1
87.	LPF Wattmeter 0-75/150/300 V 5/10 A	4
88.	Rheostat(2200 $\omega$ /0.2a)	4
89.	Rheostat(200 $\omega$ /1.5a)	4
90.	Digital Non-Contact Type Tachometer	5
91.	MI Ammeter (0-10-20 A)	2
92.	MI Ammeter (0-5/10 A)	5
93.	Multimeter	5



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94.	Moving Coil Ammeter (0-2)A	10
95.	Rheostat (1200 $\omega$ /1.5a)	5

## ENGINEERING PRACTICES LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Megger 500v/100mohm	1
2.	Iron Box	1
3.	Emergency Lamp	1
4.	Metal Detector Dmf 10 Zoom(Bosch)	1
5.	Distance Measurement(Bosch Make)Dle 70	1
6.	Multi Detector Bosck Make Gms 120	1
7.	Distance Measurement(Bosch Make)Dle 50	1
8.	Single Phase Energy Meter	3
9.	Multimeter	2

## POWER ELECTRONICS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Ac Phase Control Using SCR, TRIAC & DIAC (ITB Pec 14m22)	2
2.	Chopper Control Circuitry Module (ITB Pec 16m5)	2
3.	Commutation (Chopper) Circuit Module (Pec 14m14ch#1)	2



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4.	IGBT Module (ITB Pec 16m3)	4
5.	PWM Inverter Control Module (ITB Pec 16m4#1)	2
6.	R,Rc & UJT Firing Module (ITB Pec 14m12)	2
7.	Single Phase Parallel Inverter (ITB Pec 14m7)	1
8.	Single Phase Series Inverter (ITB Pec 14m6)	2
9.	SCR, MOSFET, IGBT & TRIAC Static Characteristics Module (Pec 16m1a)	2
10.	Three Phase 1kva Isolation Transformer (0405007)	1
11.	Universal Motor (No:S3j95, 50w,230v)	1
12.	1 HP DC Motor (1500rpm) (M/C No: 0407:0976)	1
13.	Single Phase Bridge Converter With R,Rl Load (Pec 14m14fw)	2
14.	Single Phase Cycloconverter (Pec 14m14cy)	2
15.	Sciencetech Model -St224,20mhz Dual Trace Oscilloscope with Power Scope	5
16.	Sciencetech Model -St201,20mhz Dual Trace Oscilloscope	3
17.	Resistive Load (Itb Pec 13a Cc2)	4
18.	Three Phase Half and Fully Controlled Bridge Converter	1
19.	DC-DC Buck Boost Converter Trainer (Vsmmps-07a) (Step Doen & Step Up MOSFET Based Chopper)	2
20.	Transient Characteristics of SCR AND MOSFET (VPET 216)	2
21.	Series Resonant DC-DC Converter (VPET 315)	2
22.	IGBT Based Three Phase PWM Inverter Module	2
23.	Three Phase Ac Voltage Controller Trainer Kit	1
24.	Four Quadrant Chopper Trainer Kit	1



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25.	LCR Meter	3
26.	IGBT Based Dc Chopper	1
27.	SCR & TRIAC Based Ac Voltage Controller	2
28.	SCR Based Voltage and Current Commutated Chopper	2
29.	Single Phase Half and Fully Controlled Converter	2
30.	Multimeter	5
31.	Dual RPS With Common Ground	4
32.	Rheostat (50 $\Omega$ / 4 A)	4
33.	Rheostat (220 $\Omega$ / 1 A)	3
34.	Rheostat 220 $\Omega$ /2.3a	5
35.	Rheostat (56 $\Omega$ / 5 A)	5
36.	Rheostat 1500 $\Omega$ /1a	4
37.	DC Ammeter(0-3a)	10
38.	AC/DC Voltmeter(0-30v)	10
39.	Single Phase Autotransformer (8a, 240/270v)	3
40.	Chopper High Frequency Module	1

## INSTRUMENTATION SYSTEM DESIGN LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Monolithic Instrumentation Amplifier	1
2.	Filter Using Active Component	1





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3.	Regulated Power Supply Using Ic7805	1
4.	Current To Voltage Converter	1
5.	Voltage To Current Converter	1
6.	Thermocouple For Temperature Measurement	1
7.	RTD Trainer Module	1
8.	Pump And Reservoir Pipeline with Orifice Plate Collecting Tank	1
9.	Strain Measurement Trainer	1
10.	PID Controller Trainer with SCR Actuator Panel	
11.	Digital Storage Oscilloscope	2
12.	Dual Power Supply	3
13.	Function Generator	4
14.	Transformers	6



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## DEPARTMENT OF MASTER OF BUSINESS ADMINISTRATION

### DATA ANALYSIS AND BUSINESS MODELING

S.NO	DESCRIPTION	QUANTITY
1.	Intel Core I3() Processor 3.20 GHZ,2GB DDR3 Ram 320 GB HDD,18.5” LCD Monitor, Optical Keyboard Mouse	30
2.	Intel Dual Core Processor 1.60 Ghz, 2gb Ddr3 Ram 160 Gb HDD, 18.5” LCD Monitor, Optical Keyboard & Mouse	02
3.	Intel Core I3() Processor 3.20 GHZ, 2GB DDR3 Ram 320 GB HDD, 18.5” LCD Monitor, Optical Keyboard & Mouse	01

### IT-RESOURCES LIST OF SOFTWARE

S.NO	DESCRIPTION	QUANTITY
1.	Office Automation Package – Such as Microsoft Office	√
2.	Statistical Packages Such as Spss	√



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## DEPARTMENT OF INFORMATION TECHNOLOGY

### IT LAB

S.NO	DESCRIPTION	QUANTITY
1.	Computer-HP Pavilion P2-PC/CORE I3/, 4GB DDR3/500GB HDD. Intel H61 Chipset Motherboard. 4GB DDR3 RAM., (7200-Rpm) 500 GB SATA Hard Disk Drive.	74
2.	HP Lv1911 18.5-Inch Led Backlit LCD Monitor.	74
3.	HP USB Multimedia Key Board.	74
4.	HP USB Optical Mouse.	74
5.	Networking HP Ethernet Switch	3
6.	Net Gear 24 Port Switch	1
7.	IOT Experimenter Kit	36
8.	HP Proliant MI 150 G6 Server Intel Xenon Quad Core E55041 2.00ghz 8GB DDR3 RAM, 500 GB SATA HDD. HP 8.5 Wide TFT Colour Monitor Onboard Integrated	1
9.	20 KVA Numeric Digital Hp True Online, Ups System Using IGBT Technology, (DC 240V) Exide 6el Tubular Batteries With M.S.Rack	Ups(1) & Battery (40)
10.	LG Led Projector	2
11.	MI TV	2
12.	HP Laser Jet 1020 Plus Printer (2) HP Laser Jet M1005 (1)	3
13.	Epson LQ 1150 Ii Printer	5
14.	HP DVD Writer	1



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15.	Wireless Speaker Microphone	1
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## DEPARTMENT OF MECHANICAL ENGINEERING

### CAD/CAM LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	HCL CPU PD 915 2.8 GHZ 800 M 2x2 ML GEXDR 80GB 7200RPM SATA/300 HDD 2MB BUF 3.5" 512 MB DDR11 533 PC2-4200, 18.5" LCD Monitor	1 Nos.
2.	HP compaq commercial desktop intel core2 duo e7200 processor intel g33 chipset mbd 1 gb ddr-2ram 160 gb sata hdd, 18.5" lcd monitor	1 no.
3.	HP Pro 3330MT PC Intel core i3-2130 2nd GE, 3.4 GHZ, 3M Cache 2GB DDR3 RAM/ 500GB SATA HDD, 18.5" LCD Monitor	2 Nos.
4.	HP pavilion P2-PC Intel Core I3-32201, 280GHZ/ Processor, 4*4 GB=8 GB DDR3 RAM, SATA HDD 500 GB, 18.5" LCD Monitor, Optical Keyboard & Mouse	72 Nos.
5.	Acer CPU, PC-Power series, 1 GB DDR-2 RAM, 160 GB SATA HDD, 18.5" LCD Monitor, Logitech Optical Keyboard & Mouse	10 Nos.
6.	Laser printer	1 no.
7.	Plotter a3 size	1 no.
8.	Ups	1 no.
9.	Battery	30 nos.

### KINEMATICS & DYNAMICS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Vibrating Table	1 No.
2.	Single Universal Joint Model	1 No.



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3.	Double Universal Joint Model	1 No.
4.	Toothed Gears -Spur Gear	1 No.
5.	Helical Gear	1 No.
6.	Bevel Gear	1 No.
7.	Worm Wheel	1 No.
8.	Simple Gear Train Model	1 No.
9.	Compound Gear Train Model	1 No.
10.	Epi-Cyclic Gear Train Model	1 No.
11.	Turn Table Apparatus	1 No.
12.	Flywheel And Axle System	1 No.
13.	Bifilar Suspension System	1 No.
14.	Compound Pendulum	1 No.
15.	Motorized Gyroscope	1 No.
16.	Governors (Watt,Porter,Proell,Hartnell)	1 No.
17.	Cam & Follower Setup	1 No.
18.	SDF Set Up. Spring Mass System	1 No.
19.	Torsion Vibration Setup	1 No.
20.	Whirling Of Shaft Apparatus	1 No.
21.	Cantilever Vibration Setup	1 No.
22.	Transverse Vibration Setup - Free & Forced Vibration Setup	1 No.
23.	Balancing Of Rotating Masses Setup (Static And Dynamic Balancing Machine)	1 No.



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24.	Multi Degree Freedom System	1 No.
25.	Slider Crank Mechanism	1 No.
26.	Crank Rocker Mechansim	1 No.
27.	Differential Gear Train	1 No.
28.	Connecting Rod & Flywheel System	1 No.
29.	Dynamic Balancing Machine	1 No.
30.	FFT Analyzer	1 No.
31.	Shock/Vibration Measuring Setup	1 No.
32.	Stroboscope	1 No.

## METROLOGY AND MEASUREMENTS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Autocollimator	1 No.
2.	Bevel Protractor	1 No.
3.	Dial Gauge Calibration (Range: 0 - 25mm)	1 No.
4.	Digital Vernier Caliper	1 No.
5.	Digital Bore Gauge	1 No.
6.	Floating Carriage Micrometer	1 No.
7.	Force Measurement Trainer	1 No.
8.	Gear Tooth Vernier	1 No.
9.	LVDT Trainer	1 No.



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10.	Micrometer (Range: 0 - 25mm)	2 Nos.
11.	Micrometer (Range: 25 - 50mm)	2 Nos.
12.	Micrometer (Range: 50 - 75mm)	1 No.
13.	Profile Projector	1 No.
14.	Sine Bar (Range: 0 - 125mm)	1 No.
15.	Sine Bar (Range: 0 - 200mm)	1 No.
16.	Sine Center	1 No.
17.	Slip Gauge Set	1 No.
18.	Surface Roughness Tester	1 No.
19.	Temperature Measurement Trainer	1 No.
20.	Tool Makers Microscope	1 No.
21.	Torque Measuring Setup	1 No.
22.	Vernier Caliper (Range: 0 - 150mm)	2 Nos.
23.	Vernier Caliper (Range: 0 - 300mm)	3 Nos.
24.	Vernier Caliper (Digital)	1 No.
25.	Vernier Depth Gauge (Range: 0 - 300mm)	2 Nos.
26.	Vernier Height Gauge (Range: 0 - 300mm)	2 Nos.

## ENGINEERING PRACTICE LABORATORY

S.NO	DESCRIPTION	QUANTITY
<b>CIVIL</b>		





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1.	Assorted Components For Plumbing Consisting Of Metallic Pipes, Plastic Pipes, Flexible Pipes, Couplings, Unions, Elbows, Plugs And Other Fittings.	15 Sets
2.	Carpentry Vice (Fitted To Work Bench)	15 Nos.
3.	Standard Wood Working Tools	15 Sets
4.	Models Of Industrial Trusses, Door Joints, Furniture Joints	5 Each
5.	Power Tools: (a) Rotary Hammer (b) Demolition Hammer (c) Circular Saw (d) Planer (e) Hand Drilling Machine Jigsaw	Each 2 Nos 1 Nos
<b>MECHANICAL</b>		
1.	Arc Welding Transformer with Cables and Holders	5 Nos.
2.	Welding Booth with Exhaust Facility	5 Nos.
3.	Welding Accessories Like Welding Shield, Chipping Hammer, Wire Brush, Etc.	5 Sets
4.	Oxygen And Acetylene Gas Cylinders, Blow Pipe and Other Welding Outfit.	1 No.
5.	Centre Lathe	1No.
6.	Hearth Furnace, Anvil and Smithy Tools	2 Sets
7.	Moulding Table, Foundry Tools	2 Sets
8.	Power Tool: Angle Grinder	1 No.



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## SPECIAL MACHINES LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Vertical Milling Machine	1 No.
2.	Horizontal Milling Machine	2 Nos.
3.	Surface Grinding Machine	1 No.
4.	Slotting Machine	1 No.
5.	Cylindrical Grinding Machine	1 No.
6.	Shaping Machine	2 Nos.
7.	Gear Hobbing Machine	1 No.
8.	Radial Drilling Machine	1 No.

## THERMAL ENGINEERING - 1 LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Four Stroke Diesel Engine Cut Section Model	1 No.
2.	Four Stroke Petrol Engine Cut Section Model	1 No.
3.	Two Stroke Petrol Engine Cut Section Model	1 No.
4.	Four Stroke Single Cylinder Diesel Engine with Hydraulic Loading	1 No.
5.	Two Stroke Single Cylinder Petrol Engine with Electrical Loading	1 No.
6.	Four Stroke Single Cylinder Diesel Engine with Data Acquisition System	1 No.
7.	Four Stroke Multi cylinder Petrol Engine with Mechanical Loading	1 No.



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8.	Four Stroke Single Cylinder Diesel Engine with Mechanical Loading	1 No.
9.	Four Stroke Twin Cylinder Diesel Engine with Electrical Loading	1 No.
10.	Reciprocating Air Compressor	1 No.
11.	Centrifugal Air Blower	1 No.
12.	Wind Tunnel Apparatus	1 No.
13.	Saybolt Viscometer	2 Nos.
14.	Redwood Viscometer	2 Nos.
15.	Cleveland Open Cup Apparatus	2 Nos.
16.	Pensky Martens Closed Cup Apparatus	2 Nos.
17.	Bomb Calorimeter	1 No.
18.	Steam Boiler and Turbine set up	1 No.

## MECHATRONICS LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Pneumatic Trainer kit	1 No.
2.	Electro Pneumatic Trainer kit	1 No.
3.	Electro Pneumatic kit - PLC Based	1 No.
4.	Servo Controller Interfacing (Open loop)	1 No.
5.	Servo Controller Closed loop with USB DAQ card	1 No.
6.	PID Controller with Motor setup	1 No.
7.	8051 Micro Controller with Stepper Motor kit	2 Nos.



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8.	Fluid Power H4 (Software) CD	1 No.
9.	Fluid Power P4 (Software) CD	1 No.
10.	Data Logging System & Controller (Pressure, Flow & Temperature)	1 No.
11.	Hydraulic Trainer Kit	1 No.
12.	Image Processing Kit	1 No.

## LATHE SHOP LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Centre Lathe with Accessories	18 Nos.
2.	Bench Grinder	1 No.
3.	Lathe Tool Dynamometer	1 No.
4.	Moulding Table Slab	8 Nos.
5.	Sand Siever with Attachment	1 No.
6.	Moulding Boxes Tools and Patterns	10 Nos.

## THERMAL ENGINEERING -II LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Emissivity Measurement Apparatus	1 No.
2.	Pin-Fin Apparatus	1 No.



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3.	Lagged Pipe Apparatus	1 No.
4.	Guarded Plate Apparatus	1 No.
5.	Stefan - Boltzmann Apparatus	1 No.
6.	Parallel / Counter Flow Heat Exchanger Apparatus	1 No.
7.	Boiling And Condensation Apparatus	2 Nos.
8.	Natural Convection - Vertical Cylinder Apparatus	1 No.
9.	Forced Convection Inside Tube Apparatus	1 No.
10.	Refrigeration Test Rig	1 No.
11.	Air – Conditioning Test Rig	1 No.

## FLUID MECHANICS AND MACHINERY LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	Bernoulli's Theorem Apparatus	1 No.
2.	Orifice And Venturimeter Apparatus	1 No.
3.	Pipe Friction Apparatus	1 No.
4.	Mouth Piece Apparatus (Closed Circuit)	1 No.
5.	Centrifugal Pump Test Rig	2 Nos.
6.	Reciprocating Pump Test Rig	2 Nos.
7.	Rota Meter Apparatus	1 No.
8.	Orifice Meter Apparatus	1 No.
9.	Venturimeter Apparatus	1 No.



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10.	Gear Pump Test Rig	1 No.
11.	Pelton Turbine	1 No.
12.	Francis Turbine	1 No.
13.	Kaplan Turbine	1 No.
14.	Closed Circuit Impact Of Jet On Vane Apparatus	1 No.
15.	Closed Circuit Notches Tank Apparatus	1 No.
16.	Closed Circuit Pitot Tube Apparatus	1 No.
17.	Metacentric Height Apparatus	1 No.
18.	Closed Circuit Multi Stage Centrifugal Pump Apparatus	1 No.
19.	Closed Circuit Submersible Pump Apparatus	1 No.
20.	Closed Circuit Jet Pump Apparatus	1 No.

## PG CAD LABORATORY

S.NO	DESCRIPTION	QUANTITY
1.	System: HP WS Z400 XEON W3550 8 1TB NVIDIA M4000 2GB, HP Keyboard & HP Optical Mouse	15 Nos.
2.	HP 21.5'' LED Monitor 22KD	15 Nos.
3.	SWITCH (Net Gear)	1 No.
4.	UPS	1 No.
5.	BATTERY	16 Nos.
6.	AC	1 No.



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