



Engineering Labs

Grand Asian University Sialkot



Mechanical Engineering Labs

Thermodynamics Lab		
Sr.	Equipment Name	Quantity (No.)
1	Dead weight tester (Displaced to FM)	1
2	Temperature measuring bench	1
3	Pressure measuring bench	1
4	Change of state of gases apparatus	1
5	4-stroke petrol engine cut model	1
6	4-stroke diesel engine cut model	1
7	2-stroke petrol engine cut model	1
8	Rotary Wankel engine cut model	1
9	Nozzle performance test unit	1
10	Pressure measuring bench	1
11	Engine test bed	1
12	4-stroke Petrol Engine	1
13	4-stroke Diesel Engine	1
14	Nozzle performance test unit	1
15	Different automobile parts	1
16	Mini steam power plant	1
17	Small reciprocating type compressor with single cylinder	1
18	Medium reciprocating type compressor with two cylinders	1

Mechanical Workshop Lab		
Sr.	Equipment Name	Quantity (No.)
1	Lathe Machines	5
2	Milling Machine	1
3	Shaper Machine	1
4	Surface Grinding Machine	1
5	Tool Grinding Machine	1
6	Power Hacksaw Machine	1
7	Vertical Drilling Machine	1
8	Band Saw	1
9	Circular Saw	1
10	Thickness Planer	1
11	Surface Planer	1
12	Welding Plant	1

Engineering Mechanics Lab		
Sr.	Equipment Name	Quantity (No.)
1	Fundamentals of statics	1
2	Jib crane apparatus	1
3	Simple bar structure (roof truss)	1
4	Friction on an Inclined Plane	1
5	Belt friction apparatus	1
6	Toggle joint apparatus	1
7	Center of gravity apparatus	1
8	Flywheel	1
9	Reaction of beam	1
10	Winch apparatus	1
11	Wheel and Differential Axle Apparatus	1
12	Rolling Disc on Inclined Plane Apparatus	1
13	Screw Jack Apparatus	1
14	Inertia in Rotational Motion Apparatus	1
15	Wheel and Axle Apparatus	1
16	Bifillar/ Trifillar Suspension Apparatus	1
17	Compound Pendulum Apparatus	1
18	Rack and Pinion	1
19	Bevel Gear	1
20	Bevel Helical Gear	1
21	Cam and Follower	1
22	Worm and Wheel Apparatus	1
23	Balancing Apparatus	1
24	Gyroscope Apparatus	1
25	Governor Apparatus	1
26	Worm and Wheel Apparatus	1
27	Gear Train Apparatus	1
28	Epicyclic Gear	1

Mechanics Drawing Hall		
Sr	Name	Quantity (No.)
1	Drawing Tables	45

Fluid Mechanics Lab		
Sr.	Equipment Name	Quantity (No.)
1	Hydraulic Bench	1
2	Hydrostatic Pressure Apparatus	1
3	Metacentric Height Apparatus	1
4	Pipe Friction Apparatus	1
5	Energy losses in pipes, bends and fittings apparatus	1
6	Osborne Reynolds Number Apparatus	1
7	Flow over weir Apparatus	1
8	Orifice Discharge Apparatus	1
9	Bernoulli theorem apparatus	1
10	2-Stage centrifugal compressor apparatus	1
11	Series and parallel pump apparatus	1
12	Fluid friction apparatus	1
13	Free and forced vortex apparatus	1
14	Impact of jet apparatus	1
15	Drag coefficient apparatus	1
16	Hydraulic ram apparatus	1
17	Pelton wheel demonstration apparatus	1
18	Francis turbine demonstration apparatus	1
19	Axial flow reaction turbine demonstration apparatus	1

Mechanics of Materials Lab		
Sr.	Equipment Name	Quantity (No.)
1	Hooke's Law Apparatus	1
2	Torsion Test Apparatus	1
3	Compression of Springs Apparatus	1
4	Universal Testing Machine	1
5	Shear Force and Bending Moment Diagram Apparatus	1
6	Rubber Shear Apparatus	1
7	Fatigue Testing Apparatus	1
8	Deflection of Beam Apparatus	1
9	Spring Apparatus	1
10	Simply Supported Beam Apparatus	1
11	Circular Ring Apparatus	1
12	Cantilever Beam Apparatus	1
13	UTM (Universal Testing Machine)	1
14	Torsion of Bars Apparatus	1
15	Rockwell Hardness Test Apparatus	1

Refrigeration, AC & Heat Transfer Lab		
Sr.	Equipment Name	Quantity (No.)
1	Refrigeration Laboratory Unit	1
2	Mechanical Heat Pump	1
3	Heating, Ventilation & Air Conditioning Fault Simulator	1
4	Water Cooling Tower	1
5	Steam Condenser of Mini Steam Power Plant	1
6	Heat Conduction Study Unit	1
7	Free and Forced Heat Convection Apparatus	1
8	Radiation Heat Transfer Apparatus with Light meter and data logger	1

Metrology and Quality Assurance Lab		
Sr.	Equipment Name	Quantity (No.)
1	Vernier calipers	11
2	Micrometer screw gauges	6
3	Vernier depth/height gauges	6
4	Bevel protectors	8
5	Dial gauges	5
6	Magnet bases	3
7	Radius and pitch gauges	4
8	Angle gauge	10
9	Go/no go gauge sets	4
10	Sine bar	2
11	Level measuring device	1
12	Surface plate	1
13	Gauge block set	1



Electrical Engineering Labs

Power System Lab			
Sr No.	Name of Equipment	Quantity	Model No.
	Trainer -1		
1	Over / Under Voltage / Frequency & Earthing Fault Relay	1	IT-6031
2	Transmission Line Model	1	IT-6002
3	Double Bus Bar with Four Disconnectors	1	IT-6020/4
4	Power Circuit Breaker	1	IT-6019
5	Double Bus Bar with Two Disconnectors	1	IT-6020/2
6	Moving Iron Ammeter	2	IT-6036
7	Moving Coil Ammeter	4	IT-6034
8	Moving Coil Ammeter	2	IT-6035
9	Moving Iron Voltmeter	3	IT-6038
10	Line Capacitor	2	IT-6021
11	Under / Over Voltage Time Relay	1	IT-6025
12	Three-Phase Current Transformers	1	IT-6044
13	Petersen Coil	1	IT-6022
14	Power Meter	1	IT-6048
15	Inductive Load	1	IT-6005
16	Resistive Load	1	IT-6004
17	Capacitive Load	1	IT-6006
18	Variable Three-Phase Power Supply	1	IT-6000
	Trainer -2		
1	Transmission Line Model	1	IT-6002
2	Three-Phase Voltage Transformer	1	IT-6046
3	Moving Iron Voltmeter	2	IT-6037
4	Moving Iron Voltmeter	1	IT-6038
5	Moving Coil Ammeter	1	IT-6035
6	Power Factor	1	IT-6049
7	Three-Phase Power Supply	1	IT-6017
8	Definite Time Overcurrent Relay	1	IT-6027
9	Double Bus Bar with Two Disconnectors	1	IT-6020/2

10	Summation Current Transformer	1	IT-6047
11	Power Circuit Breaker	3	IT-6019
12	VT Load	1	IT-6024
13	CT Load	1	IT-6023
14	LC Load	1	IT-6030
15	Single Phase Voltage Transformer	1	IT-6045
16	IDMT / DMT Overcurrent Relay	1	IT-6026
17	Single Phase Current Transformer	1	IT-6043
	Trainer - 3		
1	Power Circuit Breaker	4	DL-2108T02
2	Transmission Line Capacitor	1	DL-2108T03
3	Power Meter	1	DL-2109T27
4	Power Meter	2	DL-2109T26
5	Petersen Coil	1	DL-2108T04
6	Ammeter 1000mA	1	DL-2109T1A
7	Voltmeter 125-250-500V	1	DL-2109T3PV
	Trainer - 4		
1	Overhead Line Model	2	DL-7901TT
2	Transmission Line Capacitor	1	DL-2108T03
3	Voltmeter 125-250-500V	1	DL-2109T3PV
5	Voltmeter 600V	2	DL-2109T1PV
6	Ammeter 2.5A	3	DL-2109T2A5
7	Bouble Bus Bar with Two Disconnectors	1	DL-2108T02/
8	Bouble Bus Bar with Four Disconnectors	1	DL-2108T02/4
9	Inductive Load	1	DL-1017L
10	Resistive Load	1	DL-1017R
11	Capacitive Load	1	DL-1017C
12	Variable Three-Phase Power Supply	1	DL-1013T1
13	Transmission Line Model	1	DL-1080TT
	Other Accessories		
1	GW-INSTEK-GPS	5	
2	CPU	3	

3	Stepper Motor Control Trainer	5	IT-5170
4	Control Application Training System	1	IT-4412
5	Sensor Module	16	KL-6401-16
6	Microcontroller Sensing Control System	1	KL-61001B
7	Programmable Logic Control Trainer	1	IT-224xp
8	Light Intensity Box	2	LIB-01/2
9	Analog Galvanometer	3	J0409
10	Analog Ammeter	1	J0407
11	DC Power Supply	1	PS-001
12	Phase Indicator with Open Phase Checker	1	8031

Digital Logic Design (DLD) Lab			
Sr No.	Name of Equipment	Quantity	Model No.
1	Analog Electronics Trainer with 16 Code	2	ISO-9001
2	Basic Electronics Trainer	8	IPC-102
3	Breadboard Trainer	3	PC 001-003
4	DC Power Supply	6	PS-3050DD
5	Digital Electronics Trainer	2	IPC-185AD
6	Function Generator	4	FG-001
7	Industrial / Power Electronics Trainer	1	IT-9000
8	Oscilloscope	2	GDS-1052-U
9	Power Electronics Trainer	1	IPC-550-PE
10	Work Bench	20	WB-20
11	1-phase Half /Full Wave Controlled Rectifier	2	IT910C
12	3-phase Half/Full Wave Phased Controlled Rectifier	2	IT-901D
13	Square Wave Voltage Inverter	2	IT-901H
14	Multi Meter	7	DT9205A
15	Combine RLC Series / Parallel Circuit	3	RLC-003
16	Neon Flash Lamp Apparatus	1	NFL-110
17	Megaohm Resistance	1	
18	Current VS Capacity Apparatus	1	
19	Variable Resistance	2	

Electric Workshop Practice and Basic Linear Circuit Lab			
Sr No.	Name of Equipment	Quantity	Model No.
1	Domestic Wiring Panel	8	IPC-2200-DW
2	Basic Electronic Lab Trainer	8	IPC-222-BET
3	DC Power Supply	2	PS-3030DD
4	Oscilloscope	4	GDS-1052-U
5	Function Generator	3	GFG-8020H
6	Power Supply Breadboard	9	PS-001--009
7	Work Bench	10	WP001-010
8	Digital Multimeter	5	DMM-01/05
9	Clamp Meter	2	CM-01/02
10	Electric Blower	1	PB-002
11	PCB Drilling Machine	2	EB-001
12	AC Voltage Detector	1	ING-CO
13	Electric Heat Gun	1	AG-1800
14	Three-Phase Clamp Meter	4	CMT-01

Microprocessor Lab			
Sr No.	Name of Equipment	Quantity	Model No.
1	DC Power Supply	8	PS-3030DD
2	Digital Logic Trainer	2	IPC-180-DL
3	8051 Microcontroller-Based Trainer	2	IPC-8605
4	Microcontroller Training System 8051	1	IT-4310
5	PC	8	DELL
6	MDA-ASIC-2	1	MDA-ASIC
7	Function Generator	2	GFG-8020H
8	Work Bench	16	
9	Service Programmer Tester	2	G540
10	NEXSYS 2	2	DIGILENT
11	Digital Multimeter	6	Unit-T

Communication Lab			
Sr No.	Name of Equipment	Quantity	Model No.
1	Transmission Line Trainer	1	IT-4411B
2	8-bit DATA/PIN Sequence Generator	1	IT-4210
3	Digital Modulation Techniques Transmitter Trainer	1	IT-4206
3	Digital Modulation Techniques Receiver Trainer	5	IT-4207
4	AM DSB / SSB Transmitter Trainer	5	IT-4101
5	AM DSB / SSB Receiver Trainer	5	IT-4102

6	AM / FM Radio Trainer	1	IT-4107
7	Signal Sampling & Reconstruction Trainer	5	IT-4201
8	Filter & Oscillator	1	IT-4110
9	Elementary Fiber Optic Communication Trainer	1	IT-4409
10	DATA Acquisition Trainer	1	IT-5178
11	DATA Encoding / Decoding Techniques	1	IT-4212
12	Oscilloscope	6	GDS-1052-U
13	Microstrip Trainer	1	IPC-MS-3000
14	Antenna & Transmission Line Model	1	IPC-AT-5000
15	Control Application Training System		IT-4412
16	Work Bench	15	

Electric Machine Lab			
Sr No.	Name of Equipment	Quantity	Model No.
1	DC Motor / Generator Set	1	DCMG-01
2	Synchronous Generator Set	1	SGS-01
3	Star Delta Stator Trainer	2	IPC-68-SDST
4	AC Motor Generator Set	1	IPC-2300-MG
5	DC Motor Generator Set	1	IPC-2300-MG
6	Transformer Trainer	2	IPC-314-T
7	AC Servo Motor Control Demonstration Board	1	IPC-SCM-6100
8	Power Factor Controller Trainer	2	IPC-7500-PFCT
9	Work Bench	3	WB-03
10	DC Compound Motor	1	IPC-06-DC
11	Induction Motor	1	IPC-08
12	Three Phase Synchronous Generator	1	IPC-09-SG
13	DC Shunt Motor	1	IPC-05-DC
14	DC Servo Trainer	1	HCE-6200
15	Digital Multimeter	2	DMM-02
16	Inductive Load Bank	1	IPC-CLB-45
17	Capacitive Load Bank	1	IPC-CLB-50
18	Resistive Load Bank	1	IPC-RLB-40
19	RPM	1	RPM-01
20	DC Power Supply		PS-3030-D

Civil Engineering Labs

Concrete Lab		
Sr. No.	Name of Items	Quantity of Instrument
1	Aluminum staring edge Rod	4
2	Electric oven medium	1
3	Electric oven large	1
4	Wooden hammer small	2
5	Wooden hammers big	2
6	Compression testing machine manual	1
7	Compression testing machine Auto	1
8	Concrete Mixer manual	1
9	Vicat apparatus	5
10	Rebound hammer	1
11	Compacting factor apparatus	1
12	Slump cone app	7
13	Air intant meter	1
14	Vibrating table	1
15	Manual compactor	1
16	Capping stand	2
17	Beam mold	1
18	Specific gravity apparatus	1
19	Sieve 12-inch dia iron 3 inch	4
20	Sieve 12-inch dia iron 2.5 inch	4
21	Sieve 12-inch dia iron 2 inch	4
22	Sieve 12-inch dia iron 1.5 inch	4
23	Sieve 12-inch dia iron 1 inch	4
24	Sieve 12-inch dia iron 3/4 inch	4
25	Sieve 12-inch dia iron 1/2 inch	4
26	Sieve 12-inch dia iron 1/2 inch # 04	4
27	UTM having capacity of 1000 kN	1
28	Flakiness Apparatus	1
29	Weight balance large	1
30	Marshall Hammer	1
31	Flow Table Apparatus	1
32	Concrete Flow Apparatus	1
33	J-Ring Apparatus	1
34	V-Funnel Apparatus	1
35	L-Box Apparatus	1
36	Concrete Test Hammer	1
37	Blaine Permeability Apparatus	1

38	Vacuum Desiccator	1
39	Le-Chatelier Apparatus	1
40	Cube Size 2x2x2" (3 units)	1
41	Wire Mesh Basket 9" Dia, 10" Height	1
42	Vebe Tester	1
43	Cube 6x6x6" (4 units)	1
44	Cylinder 6" Dia, 10" Height (3 units)	1

Geotechnical Engineering Lab		
Sr. No.	Name of Items	Quantity of Instrument
1	Direct shear Strength Apparatus	1
2	Electric oven medium	1
3	Electric oven large	1
4	Sand Equivalent test	1
5	Dynamic cone penetrometer	3
6	FDT Core Cutter and sand replacement Apparatus	3
7	Unconfined compression test	1
8	Density plate	1
9	Soil Core cutter with color 04-inch dia	2
10	Wire brush	5
11	Calibrator cylinder 06-inch dia	2
12	Casagrande apparatus	3
13	Speedy moisture	2
14	Pycno meter	2
15	Cbr Mould	1
16	Hydro meter Analysis	1
17	Earth auger	1
18	Tray iron 1x1	2
19	Tray iron 1.5 x 1.5 fit	2
20	Scoop aluminum medium	1
21	Scoop aluminum small	1
22	Density plastic bottle	3
23	Chisel iron	1
24	Rubber hammer	4
25	Trover iron	1
26	Aluminum mc container small	1
27	Aluminum mc container big	1
28	Rammer 10 lbs.	4
29	Sieve 12-inch dia iron 1/2 inch # 04	3
30	Sieve s/s 8-inch dia # 04	3
31	Sieve s/s 8-inch dia # 40	3

32	Sieve s/s 8-inch dia # 08	3
33	Sieve s/s 8-inch dia # 10	3
34	Sieve s/s 8-inch dia # 16	3
35	Sieve s/s 8-inch dia # 50	3
36	Sieve s/s 8-inch dia # 100	3
37	Sieve s/s 8-inch dia # 200	3
38	Sieve s/s 8-inch dia # 200 wet washing	3
39	Proctor test Hammer	13
40	Proctor test mould	9
41	Triple beam balance	1
42	Hydraulic Jack (6 tons)	2
43	Vernier caliper (0-150mm)	3
44	Screw Gauge(0-25mm)	2
45	Weight balance small	3
46	Weight balance medium	2
47	Electric Stirrer	1
48	Scale 100 cm	3
49	Scale 30cm	3
50	Odeometer	1
51	Triaxial shear apparatus	1
52	Sieve shaker	1
53	Standard Penetration Test System (SPT)	1
54	California Bearing Ratio Machine (CBR)	1
55	Marshal Hand Compactor for 4" Mold	1

Structural Engineering Lab		
Sr. No.	Name of Items	Quantity of Instrument
1	Plate Girder Apparatus	1
2	Two Hinged Arch	1
3	Three Hinged Arch	1
4	Simple Suspension Bridge	1
5	Combined Bending & Torsion Apparatus	3
6	Z-Section Apparatus	3
7	Channel Section Apparatus	1
8	Truss System	1
9	Strut Testing Apparatus	2

Surveying Lab		
Sr. No.	Name of Items	Quantity of Instrument
1	Total Station	2
2	Theodolite	3
3	Auto Level	4
4	Staff rod	10
5	Ranging rod	32
6	Tripod	8
7	Prismatic Compass	7
8	Tripod (prismatic compass)	7
9	Fiber tape(30m)	8
10	Steel tape(30m)	1
11	Steel tape(100m)	3
12	Cloth tape(30m)	7
13	Chain	9
14	Wooden peg	21
15	Prism with stand	3 rod, 3prism
16	Level	2
17	Alidade	5
18	Laser distance meter(40m)	4
19	Wooden hammer small	5
20	Wooden hammer medium	9
21	Wooden hammer large	1
22	Wooden fork	10
23	Compass	5
24	GPS	1
25	Plane Table	4
26	French cross rod	10
27	French cross rod Board	9
28	Ranging Pole	6

Sr. No.	Name of Items	Quantity of Instrument
1	Basic Hydrology System	1
2	Fluid Friction Apparatus	1
3	Extraction Machine	1
4	Filter Paper for Extraction	1
5	Mathelene Chloride (10 kg)	1

Transportation Engineering Lab		
Sr. No.	Name of Items	Quantity of Instrument
1	Aggregate Crushing Value Apparatus	1
2	Standard Penetrometer	1
3	Cleveland Flash Tester	1
4	Specific Gravity Bottles with Stoppers	1
5	Ductilometer	3
6	Bar Sieves (Set)	3
7	Los Angeles Machine	1
8	Multi Core Drill	1
9	Viscometer (Used)	2
10	Digital Marshal Compression Tester	5
11	Marshal Waterbath	2
12	Skid Resistance Tester	3
13	Automatic Ring and Ball Apparatus	2
14	Marshall Mold 4" (3 units)	2
15	Filter Paper for Marshall Mold 4" Dia (Packet)	1
16	CBR Mold (3 units)	1
17	Spacer Disk	1
18	Surcharge Weight Slotted (3 units)	2
19	Surcharge Weight Hollow (3 units)	2
20	Swell Plate (3 units)	1
21	Tripod (3 units)	1
22	CBR Filter Paper (Packet)	3
23	Sample Ejector	1

Environmental Lab		
Sr. No.	Name of Items	Quantity of Instrument
1	pH Meter	1
2	Turbidity Meter	1
3	COD Digestor	1
4	Spectrophotometer	1
5	Filtration Assembly with Vacuum Pump	3

