

LIST OF LABORATORY EQUIPMENT'S

Faculty of Life Sciences and Informatics (FLS&I)

Department of Biotechnology

1. GENERAL LAB:

S. No	Name of Equipment	Make/ Model
1	Spectrophotometer	Germany Model 6300 and 6305
2	PH Meter	-
3	Microscope	Germany
4.	Hot air electric oven	Germany
5	Incubator	Germany
6	Autoclave	Local, Pakistan
7	Water Bath	China
8	Distilled Water plant	China
9	Electric Weight Balance	Jenway, UK
10	Conductivity Meter	Jenway, UK
11	Hot plate stirrer	USA

2. PLANT BIOTECHNOLOGY LAB

S. No	Name of Equipment	Make/ Model
1	Plant Growth Chamber	USA
2	Laminar Hood	Germany
3	Autoclave	Pakistan
5	Microscope	Japan
6	Incubator	Japan
7	Water Bath	China
9	Physical Balance	Japan
10	Distilled Water Plant	Japan
11	Hydroponics	Japan

3. ADVANCE MOLECULAR BIOLOGY LAB

S. No	Name of Equipment	Make/ Model
1	PCR	Japan
2	Vertical/Horizontal Gel Electrophoresis	Japan
3	UV Transmitter	Japan
4.	Centrifuge Machine	EBA-8S Germany
5	PAGE	Japan
6	Laminar Hood	Japan
8	Water Bath	China
10	Refrigerator	Pakistan
11	Electrical Balance	Japan

4. PLANT MOLECULAR GENETICS LAB

S.No	Name of Equipment	Make/ Model
1	Thermocycler (96 Well)	Japan
2	Shaking Incubator	Japan
3	Refrigerated Centrifuge	Pakistan
4.	Laminar flow cabinet	Japan
5	Gel Documentation System	Pakistan
6	pH meter	Japan
7	Gel Electrophoresis	Pakistan
8	SDS PAGE	
9	Photo spectrometer	Japan
10	HPLC	Japan
11	Flame Photometer	Japan
14	UV Spectrophotometer	Japan

5. PLANT STRESS PHYSIOLOGY LAB, DEPARTMENT OF OTECHNOLOGY

S. No	Name of Equipment	Make/ Model
1	Atomic Absorption Spectrophotometer For Flame Mode	AA 7000F Shimadzu-Japan
2	Portable Photosynthesis System (Infra-Red Gas Analyzer)	CI-340 Photosynthesis System CID-USA

Department of Micro Biology

6. MICROBIOLOGY LAB

S. No	Name of Equipment	Make/ Model
1	Clinical Analyzer	Spinrec, Japan
2	Phase Contrast Microscope	E-200 Nikon, USA
3	Hematological Analyzer	Nihon Coden, Germany
4	ELISA	USA, Biorad
5	Centrifuge Machine	Germany
6	Micro pipette set	Germany

Faculty of Arts and Basic Sciences (FABS)

Department of Chemistry

7. GENERAL LAB

S. No	Name of Equipment	Make/ Model
1	Spectrophotometer	Japan
2	Magnetic Stirrer hot plate	Japan
3	Conductivity meter	Japan
4	Distillation Plant	Japan
5	Flame Photometer	Japan

Faculty of Engineering and Architecture (FOE&A)

Department of Chemical Engineering

8. FLUID MECHANICS LAB

S. No	Name of Equipment	Make/ Model
2	BHI Hydraulic Bench Bernoulli Apparatus	Edibon / FME 00
3	Metacentric Height	Edibon / FME 11
4.	Series-Parallel Pumps	Edibon / FME 12
5	Flow Meters Demonstration Unit	Edibon / FM DU
6	Piping Loss Test Set, Small	ESSOM / HF125
7	Hydraulic Bench Bernoulli Apparatus	Arm filed F1-10
8	Compact Series and Parallel Pump Test, fixed Speed	ESSON / HP 305
9	Dead Weight Calibrator	Edibon / FME 305

10	Flanged Three way Valve	KITZ
11	Centrifugal pump	KITZ
12	Compact Gear Pump Test Set Fixed	Essom
13	Multi Pump Test Set	Essom /HP 135
14	Electric Balance	Tanita/ KD-200

9. PARTICLE TECHNOLOGY LAB

S. No	Name of Equipment	Make/ Model
1.	Hammer Mill	Local Manufacture
2.	Ball Mill	Local Manufacture
3.	Smooth roll Crusher	Local Manufacture
4.	Screw Mixer	PFT HM24
5.	Filter Media	Local Manufacture
6.	Trickling Filter System (ZTE)	Local Manufacture
7.	Jaw Crusher	Local Manufacture
8.	Ultra-Fine Grinder	Local Manufacture

10. FUEL & COMBUSTION LAB

S. No	Name of Equipment	Present status
1.	Digital Automatic Cleveland flash point Tester	Functional
2.	Automatic digital control viscosity bath	Functional

11. THERMODYNAMICS LAB

S. No	Name of Equipment	Make/ Model
1.	Mechanical Heat Pump (P.A. Hilton Ltd)	R514
2.	Air conditioning Laboratory Unit (P.A Hilton Ltd)	A660/14399
3.	Mini Steam Turbine Power Plant (ESSOM)	TH130
4.	Mechanical Heat Pump	IPC-2002-RH
5.	Refrigeration Cycle Demonstration Unit (P.A Hilton Ltd)	R634

12. HEAT TRANSFER LAB

S. No	Name of Equipment	Make/ Model
1.	Film & Drop wise Condensation Unit (SOLTEQ)	HE 163
2.	Water cooling Tower (SOLTEQ)	HE 152
3.	Free & Forced Convection Heat Exchanger(SOLTEQ)	HE 106
4.	Pool Boiling Heat Transfer Unit(SOLTEQ)	HE 154
5	Heat Conduction Unit (ESSOM)	TH 310
6	Fluidization and Fluid Bed Heat Transfer (SOLTEQ)	HE 162
7	Radiation Heat Transfer Rig (SOLTEQ)	HE 155
8	Photovoltaic Solar Trainer	H-PVIT-1
9	Double Pipe Heat Exchanger	Local
10	Shell and Tube Heat Exchanger	Local

13. MASS TRANSFER LAB

S. No	Name of Equipment	Make/ Model
1	Solid Liquid Extraction Unit	BP-04
2	Ion-Exchange Unit	Local Manufacture
3	Batch Distillation Column	Local Manufacture
4	Liquid-liquid Extraction Unit	Local Manufacture

14. INSTRUMENTATION AND PROCESS CONTROL LAB

S. No	Name of Equipment	Make/ Model
1	Level Control Demonstration Unit	Local Manufacture
2	Pressure Control Rig (Pneumatic Control System)	Local Manufacture

15. CHEMICAL REACTION ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1	Liquid Phase Chemical Reactor	CPY7-A1
2	Batch Activated Sludge System	Local Manufacture
3	Batch Feed Digester	Local Manufacture
4	Dynamic Behavior of Stirred Tank	Local Manufacture

16. SIMULTANEOUS HEAT & MASS TRANSFER LAB

S. No	Name of Equipment	Make/ Model
1	Air conditioning Laboratory Unit (P.A Hilton Ltd)	A660-14299
2	Water cooling Tower (SOLTEQ)	HE 152
3	Refrigeration Cycle Demonstration Unit (P.A Hilton Ltd)	R634

DEPARTMENT OF PETROLEUM AND GAS ENGINEERING

17. DRILLING ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1.	Electromagnetic viscometer NDJ-5S	PX
2.	Kitchen Aid Oven	
3.	Brunsted Electro-Thermal	FM110/BI
4.	Mixer HB with container	5SKPM50 Kitchen Aid
5.	Mud Balance	140 Fann
6.	Sample Resistivity Meter	88c/Fann
7.	Rheometer variable speed	286/Fann
8.	Tricone Rotary Drill Bits	Model by student
9.	Drag Bits	Model by student
10.	Viscometer	C60003/FUNGILAB
11.	Kick Indicator (MODEL)	Model by student
12.	Marsh Funnel (MODEL)	Model by student
13.	Drill bit with Sandblast gun Model (MODEL)	Model by student
14.	Drill Ship Model (MODEL)	Model by student
15.	Directional Drilling Model (MODEL)	Model by student
16.	Mud Tank Model (MODEL)	Model by student
17.	Shale Shaker (MODEL)	Model by student
18.	Drilling Platform (MODEL)	Model by student
19.	Corrosion Prevention Model (MODEL)	Model by student
20.	Fluid Circulation System with Lost Circulation Indicator (MODEL)	Model by student

18. RESERVOIR ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1.	API gravity hydrometer	Unlong Density Terter
2.	Automatic Kinematic Viscosity AKV 201	(TANAKA)

3.	Helium Porosimeter	G-POR-100A(PMI)
4.	Ultra Pycnometer	1000 (Quanta Charome)
5.	High Pressure Core Saturation	SA-2000 A(PMI)
6.	Poremaster	(Quajnta Charome)
7.	Bomb Calorimeter	1341 (parr Wxygen Bomb, Calorimeter)
8.	Mercury Barometer	SA-2000 A (Quantachrome)
9.	Core Holder	APM-7 pensly-Martiv Closed Cup Test Unit
10.	Flash point Tester	(TANAKA)
11.	API gravity hydrometer	-
12.	Automatic Kinematic Viscosity AKV 201	-
13.	Helium Porosimeter	-
14.	Aniline point Tester	AAP-5 Aniline Point Tester (TANAKA)
15.	Reservoir Model (MODEL)	-
16.	High Pressure Gas Derive (MODEL)	-

19. PRODUCTION AND WELL TESTING LAB

S.No	Name of Equipment	Make/ Model
1.	Centrifugal Machine 90000-3P	90000-3P
2.	Vapor pressure tester SYD-8017	SYD-8017
3.	Pressure Control Valve	(Aqurists)
4.	Distillation Unit	A4000
5.	Back Pressure Regulator	-
6.	Reducers/flow valves	-
7.	Tee	No Model
8.	Elbow	No Model
9.	Flanges	No Model
10.	Pressure gauges of christmas tree	-
11.	Cut piece of 4.5 - 5 shot per foot Perforation Gun sample	No Model
12.	Fluid Separator (MODEL)	Student Model

13.	Separation and Reinjection of Produced Water (MODEL)	-
14.	Well Casing Model (MODEL)	-
15.	Sucker Road Pump (MODEL)	-

20. GAS ENGINEERING AND PVT LAB

S. No	Name of Equipment	Make/ Model
1	Model processing plant zarghoon gas field	-
2.	Gas Condensate meter	(DM3C ZE7963C)
3.	Gas cylinder	-
4.	Dew point tester DP 500	DP500/600 Part No# 05600500
5.	Sweetening Gas Process (MODEL)	-
6.	Gas Dehydration (MODEL)	-
7.	Gas Sweetening by Amine Process (MODEL)	-
8.	Automatic Gas Heater (MODEL)	-

21. PETROLEUM GEOLOGY AND EXPLORATION LAB

S. No	Name of Equipment	Make/ Model
1	Magnetometer(G856)	G 856
2	Seismograph – 24 channel (GEODE)	24-ES
3	Digital Terameter with logging option (DZD-6A ERS Meter)	D20-6A ERs Meter
4	Planimeter 313E	313 E
5	X-ray Diffraction machine	D2-Phaser (Broker)
6	Foundry Shop Model (MODEL)	-

DEPARTMENT OF CIVIL ENGINEERING

22. SIMULATION LAB

S. No	Name of Equipment	Make/ Model
1	Drilling Simulator (Physical Model)	-
2	HP Proliant Base Processor ML 350P	-
3	HP port display LED display P221 (for 3D)	-

23. STRENGTH OF MATERIAL LAB

S. No	Name of Equipment	Make/ Model
1.	Buckling & Strut Apparatus	
2.	Fatigue Testing	
3.	Modulus of Elasticity	
4.	3 Point Bend Test	
5.	Universal Testing Machine	
6.	Rebound Hammar Testing	
7.	Creep Testing Apparatus	
8.	Strain Gauge Kits	
9.	Vector Mechanics	
10.	Universal Testing Machine Manual Chinese Version 100 kN Capacity, Static	
11.	Vector Mechanics	
12.	Torsion Testing Apparatus	
13.	Gyroscope	

24. TRANSPORTATION ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1.	Cleveland Apparatus	
2.	Core cutter	
3.	Penetrometer	
4.	Centrifuge Extractor	
5.	Concrete Air Entrainment Measuring Instrument	
6.	Asphalt GMM Apparatus	
7.	Sieve Shaker	
8.	Specific Gravity and water absorption apparatus	
9.	Penetrometer	
10.	Marshall Stability Machine	
11.	Slump Test Apparatus	

12.	Los Angelos Abrasion Apparatus	
13.	Flakeness & Elongation Index Apparatus	

25. SOIL MECHANIC SLAB

S. No	Name of Equipment	Make/ Model
1.	Sieve Analysis	
2.	Digital Weight Balance	
3.	Hydrometer Test Shaker	
4.	Consolidation Apparatus	
6.	Speedy Moisture Test	
7.	Shirinkage Limit Test	
8.	Plastic Limit Test	
9.	Liquid Limit	
10.	Sand Equivalent Shaker	
11.	Shear Test of Soil	
12.	Unconfined compressive Machine	

26. Surveying Lab

S. No	Name of Equipment	Make/ Model
1	Manual Leveling Machine	
2	Digital GPS	
3	Tripod	
4	Prismatic Compass	
5	Surveying Compass	
6	Total Station	
7	Measuring Wheel, or Odo Meter	
8	EDMI (Electronic Distance Measuring Instrument)	

DEPARTMENT OF ENVIRONMENTAL SCIENCES

27. ENVIRONMENTAL LAB

S. No	Name of Equipment	Make/ Model
1.	Hardness Test Kit	
2.	Free and Total Chlorine Meter	
3.	Saline Meter	
4.	Water Level Indicator	
5.	Boiler	
6.	Flame Photometer	
7.	Wireless Rain gauge	
8.	Rain Gauge	
9.	Flame Photometer	

DEPARTMENT: TEXTILE ENGINEERING

28. GARMENTS LAB

S. No	Name of Equipment	Make/ Model
1.	Inter lock sewing machine,	
2.	Chain stitch sewing machine,	
3.	Safety stitch sewing machine	
4.	Blind stitch sewing machine	
5.	Lock stitch sewing machine,	
6.	Cloth cutting machine	
7.	Pattern Digitizing system	
8.	Over lock sewing machine,	
9.	Over lock sewing machine,	
10.	Industrial Steam iron	
11.	Vacuumed ironing table	
12.	Electric power UPS	
13.	Electric power UPS	
14.	Lock Stitch	
15.	Automatic Chain Stitch	

29. WEAVING, KNITTING TEXTILE ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1.	Knitting machine	
2.	with attachments	
3.	Weaver Beams: additional beams	
4.	Air jet loom with Compressor	
5.	Inspection Table	
6.	With motor operated winder and pedal control	
7.	Hand looms	
8.	Jacquard Loom	
9.	Manual Rapier Loom	
10.	Shuttle loom	

30. PRE-TREATMENT & DYEING TEXTILE WET PROCESSING

S. No	Name of Equipment	Make/ Model
1.	Winch	
2.	For processing of 100kg fabric	
3.	Tumble Dryer	
4.	For processing of 100kg fabric	
5.	Boiler or steam generator	
6.	Steaming chamber Lab scale (dyeing)	
7.	Curing Chamber Lab scale (dyeing)	
8.	Oven	
9.	Jig Dyeing	
10.	Flammability tester	
11.	Dry heat Oven	

31. QUALITY ASSURANCE/PHYSICAL TESTING, TEXTILE ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1.	Uster tester I	
2.	Digital Balance 5 decimal	

3.	Tachometer	
4.	Air permeability tester fully automatic	
5.	Automatic crease recovery tester	
6.	Humidifier	
7.	Hygrometer	
8.	Spectrophotometer (handy)	
9.	Multimedia projector	
10.	Optical Microscope	
11.	Wash o meter (washing fastness tester)	
12.	Pilot Ring Spinning	
13.	Universal Testing Machine(CRE based)	
14.	Crocking/Rubbing tester(To and Fro)	
15.	Martindale, Abrasion & pilling tester	
16.	Fiber Fines Tester	
17.	Manual microscope	
18.	Lea Making Machine	
19.	Lea Tester	
20.	Manual Weighing Balance	
21.	Perisperometer	
22.	Fibro graph(Length testing)	
23.	Elemendorf Tearing Tester	

32. YARN PLANNING/ MANUFACTURING, TEXTILE ENGINEERING LAB

S. No	Name of Equipment	Make/ Model
1.	Yarn Examining Tester	
2.	Electro-spinning machine	
3.	Auto cone 1 unit set with compressor	
4.	Ring Spinning Machine	
5.	Draw frame Machine	
6.	Roving Machine	
7.	Carding machine	
8.	Shirley Cleaning Analyzer	

FACULTY OF INFORMATICS AND COMMUNICATION TECHNOLOGY
DEPARTMENT OF TELECOMMUNICATION

33. ENGINEERING COMMUNICATION LAB

S. No	Name of Equipment	Make/ Model
1.	Analog oscilloscope	CS-4125A
2.	Function Generator	FG-2162AD
3.	Logic analyzer	
4.	Variable DC power supplies	EES-D786
5.	Digital oscilloscope	GDS-840S
6.	FM stereo signal generator	SG-8150
7.	XUP virtex 2	FPGA
8.	Signal generator	8150
9.	Communication trainer Fiber optics	KL-9500
10.	Trainer system accesiores fiber optic trainer	KL-900D
11.	FM communication trainer	ST2204
12.	DPCM trainer	ST2113
13.	DSB/SSB AM transmitter trainer	ST2201
14.	DSB/SSB AM reciver trainer	ST2202
15.	FM transmitter and reciver trainer	ST2203
16.	8-bit variable data generator	ST2111
17.	Data formatting and carrier modulation / Transmitter trainer	ST2106
18.	Data reformatting and carrier demodulation / Reciver trainer	ST2107
19.	PAM-PPM-PWM Modulation and demodulation trainer	ST2110
20.	QAM trainer	ST2112
21.	Delta adaptive delta and delta sigma modulation and demodulation trainer	ST2105
22.	Digital storage oscilloscope	GDS-8405
23.	DLL frequency synthesizer	KL-93005
24.	AM modulator	KL-93002

25.	FM modulator	KL-93004
26.	DSB-SC& SSB modulation	KL-93003
27.	PSK / QPSK modulator	KL-94006
28.	PSK / QPSK demodulator	KL-94007
29.	ASK modulator and demodulator	KL-94005
30.	PWM modulator	KL-94002
31.	Audio generator	KL-92001
32.	FSK modulator	KL-94003
33.	CVSD modulation & demodulation Encode & Decode	KL-94004
34.	Analog to digital communication	KL-94001

34. ADVANCE ELECOMMUNICATION LAB

S. No	Name of Equipment	Make/ Model
1.	Bluetooth Telecom Trainer	BT-2001
2.	Adaptor 9V	300 mA
3.	Cellular telephone system	CMT-5000
4.	Data communication training system	IT-500
5.	Digital Oscilloscope	GDS-1042
6.	GSM/GPRS/CDMA Training system	YL-232
7.	Microwave communication trainer	MW-2000
8.	9kHz – 3GHz spectrum analyzer	GSP 830
9.	Wireless mobile telecom training system	MT-2000
10.	Wireless embedded Training system	BT-3000
11.	Wave and antenna system	WATS-2002