**PCSIR LABORATORIES COMPLEX KARACHI**

**THE CORE COMPETENCE OF PCSIR LABS. COMPLEX, KARACHI.**

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| **S#.** | **Features** | **Description** |
|  | **Products**  | 1. **Engineering Services Centre**
2. **Machining**

CNC Lathe Machines, CNC Machining Centre, CNC Lathe Cum Milling, Grinding Facilities as well as we have Conventional Machining Facilities.1. **Pilot Plant**

Pharmaceutical, Chemical, Food, Fish Protein Concentrate Plant, Pesticide Plant, General. 1. **Applied Physics Computer & Instrumentation Centre**
2. **Training Aid Systems**

Training aid systems for science and engineering institutes and universities to expertise students in various control schemes like PID, DCS, SCADA. Various control parameters like, flow, level, temperature, pressure and pH can be demonstrated.1. **Intelligent pH meter**
* Resolution 0.001
* Accuracy 0.001
* Range 1 to 14
1. **Potentio-metric Ion Analyzer**

It is a bench-top instrument for ion-analysis in liquid samples.* Supports various ion-selective electrodes like Na, K, Ca etc
* PC-interface with software
1. **Flue Gas Analyzer**

It is a portable instrument for field. It analyzes flue/exhaust gases in the air. It supports up to 06 no’s of gases (co, co2, no, no2, so2, o2) and ambient temperature |
|  | **Facilities**  | 1. **Engineering Services Centre**
* CNC Machine Shop, Conventional Machine Shop, Grinding Section, Fitting & Fabrication Shop, Welding Shop, A/c & Refrigeration Shop, Electrical/Electronic Equipments Reclamation Shop, Carpentry Shop.
1. **Applied Physics Computer & Instrumentation Centre**
* R&D in the field of instrumentation and industrial automation
* Repair & Maintenance of Scientific Instruments
* Calibration
* Test & Analysis
1. X-ray Cryptography
2. Emission Spectroscopy
3. Optical Properties
 |
|  | **Major Strengths**  | 1. **Engineering Services Centre**
* Design, Fitting & Fabrication, Production Facilities, Software Training for Computer Aided Designing and CNC Machining
1. **Applied Physics Computer & Instrumentation Centre**
* **R&D / Design Development Utilizing:**
* Microcontroller e.g. AVR, Ardino
* Microprocessor e.g. Raspberry Pi and IBM–PC
* PLC System e.g. Delta, Fatech
* HMI Human Machine Interface e.g. Wintech / Easyview Delta
* Software Development in: Lab view, C# Dotnet
* **Repair & Maintenance of Scientific Instruments**
* **Calibration** (17025, ISO-9001/2)
* **Test & Analysis**
 |
|  | **Designing**  | 1. **Engineering Services Centre**
* Computer Aided Designing facility supported by Pro-Engineering Software
1. **Applied Physics Computer & Instrumentation Centre**
2. **R&D / Design Development Utilizing:**
* Microcontroller e.g. AVR, Ardino
* Microprocessor e.g. Raspberry Pi and IBM–PC
* PLC System e.g. Delta, Fatech
* HMI Human Machine Interface e.g. Wintech / Easyview Delta
* Software Development in: Labview, C# Dotnet
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|  | **Quality Assurance**  | 1. **Calibration /certification**

 17025, ISO-9001/2 |

PCSIR Laboratories Complex, Karachi

**1. Applied Chemistry Research Centre**

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| **1.1 Analytical Section**  |
| **A** | **List of Major Equipment** | **No.** |
|
| 1) | Flame Photometer Made by JENWAY | 1 |
| 2) | Atomic Absorption Spectrometer  | 1 |
| 3) | UV Spectrometer  | 1 |
| **B** | **List of Experts**  | **Designation** | **Major Field** |
|  | Dr. Sofia K. Alvi | SSO | Chemistry |
|  | Mr. Sheraz Shafique | SO | Chemistry |
| **1.2 Oil And Fats Section**  |
| **A** | **List of Major Equipment** | **No.** |
|  |
| **1)** | Gas Chromatograph (Perkin Elmer’s Clarus 500)**(In sharing with CES** | 1 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| **1)** | Ms. Rubina Saleem | Principal Scientific Officer  | Organic Chemistry  |
| **2)** | Dr. Razia Sultana | Principal Scientific Officer | Organic Chemistry(Natural product chemistry) |
| **3)** | Ms. Ambrat | Senior Scientific Officer | Chemistry |
| **1.3 Plastic And Polymer Section**  |
| **A** | **List of Major Equipment** | **No.** |
|  |
| **1)** | Thermal Gravimetric Analyzer (TGA)Mettle Toledo (TGA/SDTA 851) | 1 |
| **2)** | Differential Scanning Calorimeter (DSC)Mettle Toledo DSC 822 | 1 |
| **3)** | VICAT- Softening PointCEAST Italy (HDT VICAT) | 1 |
| **4** | Ozone Check Gibitre (Italy)OZ-2002056 | 1 |
| **5** | Hollow Die PunchCEAST-Italy (17677) | 1 |
| **6** | CNC Machine for Plastic CuttingCEAST-Italy (18535)  | 1 |
| **7** | Impact Tester (IZOD/ Charpy/ Tensile)–RESIL IMPACTOR(18711) | 1 |
| **8** | Impact Tester (DART) CEAST (18491) | 1 |
| **9** | UTM- (5kN)INSTRON-4301 | 1 |
| **10** | Oven (Ageing/ Air Circulating)Elastocon – EB 04/120 – 200230 | 1 |
| **11** | PlastographBra-bender, 815605/02012  | 1 |
| **12** | Stress RelaxationElastocon  | 1 |
| **13** | Flash Point Analyzer Grabner Instruments425-000-00/16-01-1742  | 1 |
| **14** | Material Pyrolyzer Elastocon, EP-01/200322  | 1 |
| **15** | FT-IRThermo Nicolet Avatar 320 FTIR  | 1 |
| **16** | Density Check Gibitre – Italy  | 1 |
| **17** |  UTM- 1000 kNTinius Olsen - USA  | 1 |
| **18** | UPS(APC) & NFOSEC | 1 |
| **19** | Air Compressor (Local made). | 1 |
| **20** | MDR Moving Die RehometerGibitre-Italy. Rheochock profile MD/RCO-2006040.  | 1 |
| Sr. Nos. 2, 6, 10, 14 and 18 – 20 are, at present, out of order. |
| **B** | **List of experts**  | **Designation** | **Major Fields** |
| 1) | Dr. Khalil Ahmed  | PSO | Chemistry |
| 2) | Mr. AFK Ifrahim | SEO | Chemistry |
| 3) | Mr. Muhammad Aijaz | SSO | Chemistry |
| 4) | Mr. S. Junaid Mahmood | SO | Chemistry |
| **1.4 Textile Seection** |
| **A** | **List of major Equipment** | **Quantity** |
|
| **1)** | Auto Bursting Tester | 1 |
| **2)** | Air Compressor for Weather-O-Meter | 1 |
| **3)** | Weather-O-meter Ci 3000+ | 1 |
| **4)** | Data Color SF 650X | 1 |
| **The above mentioned 4 equipments are presently not in working condition.** |
| **B** | **List of experts** | **Designation** | **Major Field** |
| **1)** | Mr. M. Aleem Ahmed | PSO | **-** |
| **2)** | Ms. Fauzia Noureen | SSO | **-** |
| **3)** | Ms. Munazza Sohail | SSO | **-** |
| **4)** | Mr. Mansoor Iqbal | SO | **-** |
| **5)** | Mr. Kamran Ahmed | SO | **-** |

2. **Applied Physics, Computer and Instrumentation Centre/Physics/Physics**

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| **Name Sub Centre / R&D Discipline / Field:**  |
| **A** | **List of Major Equipments** | **Quantity** |
|
| 1) | XRF | 1 |
| 2) | XRD (Powder) | 1 |
| 3) | XRD (Single crystal) | 1 |
| 4) | Thin film coating machine | 1 |
| 5) | Lathe Machine | 2 |
| 6) | Milling Machine | 1 |
| 7) | Furnace (1500 C) 1Sr. No. 1, 2 at p-resent are out of order. |
| **B** | **List of Experts** |  **Designation** | **Major Field**  |
| 1) | Dr Saeed ul Hasan Naqvi | PSO | Laser Physics and Electronics |
| 2) | Mr Dildar Mamon | PE | Electrical and Electronics Engineering |
| 3) | Mr Arif Karim | SSO | Instrumentation and Electronics |
| 4) | Mr Zain ul Ibad | SSO | Instrumentation and Calibration |
| 5) | Mr Aftab Usmani | SSO | Instrumentation and Calibration |
| 6) | Dr Abid Karim | SSO | Optics and Spectroscopy |
| 7) | Mr Sheikh Kamal uddin | SO | X-Ray Spectroscopy |

1. **Centre For The Development of Laboratory Equipment**

|  |  |  |
| --- | --- | --- |
| **A** | **List of Major** **Equipments** | **Quantity** |
|
|  | Computerized unit for biomedical signal acquisition display | 01 |
|  | Endoscope tester dale 301 kit | 01 |
|  | Rf303 digital electro surgery analyzer kit. Multi- purpose hard sided watertight carrying case (contains “pick & pluck” foam) | 01 |
|  | Infusion device analyzer ida 4 plus kit | 01 |
|  | Impulse 6000d defibrillator analyzer- | 01 |
|  | Incu incubator analyzer kit / humidity tester | 01 |
|  | Phototherapy radiometer dale40 kit | 01 |
|  | Ps 410 ecg simulator includes operator manual  | 01 |
|  | Ps 420 multi parameter simulator  | 01 |
|  | Vt mobile. Eng gas flow analyzer | 01 |
|  | Ultrasound power meter | 01 |
|  | Analog liner i.c. Tester part | 01 |
|  | Digital pressure meter | 01 |
|  | Universal ic programmer | 01 |
|  | Tachometer | 01 |
|  | Pulse oximeter test system fingersim | 01 |
|  | Biomedical equipment safety analyzer | 01 |
|  | Digital canon camera 980 is | 01 |
|  | Biomedical equipment toolkit jtk-7500 | 01 |
|  | In circuit emulator login analyzer mso 9064a | 01 |
| **#** | **Equipment** | **Qty.** |
|
|  | Pcb milling machine | 01 |
|  | Spot welding machine | 01 |
|  | Buffing machine | 01 |
|  | Drill machine(small) | 01 |
|  | Cutting m,achine | 01 |
|  | Drill machine (large pmte) | 01 |
|  | Lathe machine | 01 |
|  | Grinder machine | 01 |
|  | Auto calve | 01 |
|  | Welding Machine  | 01 |
|  | Hand Disk Cutter  | 01 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Engr. M. Mohsin Ali | Principal Engineer | Electronics |
|  | Mr. Aqeel Ahmed | Senior Scientific Officer | Electronics |
|  | Mr. Sohail Akhter | Senior Scientific Officer | Electronic |
|  | Mr. Ghuulam Mustafa | Junior Engineer | Bio Medical Engineer |
|  | Mr. Zain-ul-Abdeen | Experimental Officer | Physics/ Electronics |
| **C** | **Services being provided :** |
|  | **a** | **Testing/ Analytical:** |
|  |  | Performance Test of UPS (With Batteries) |
|  |  | Calibration of Electro Medical Equipment |
|  | **b** | **Consultancy:** |
|  |  | Supply of Laboratory Equipment |
|  |  | Repairing of Equipment |
|  | **C** | **Training:** Provide trainings to Universities students in various fields. |

4. **Engineering Services Centre**

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| * 1. **Research Industrialization Section**
 |
| **#** | **List of major equipment** | **Quantity** |
|
|  | Boiler | 2 |
|  | Hot Air Oven | 1 |
|  | Stranding Machine | 1 |
|  | Tablet Coating Machine | 1 |
|  | Large Pin Grinder | 1 |
|  | Small Pin Grinder | 1 |
|  | Paste Filling Machine | 1 |
|  | Swifter | 1 |
|  | Sachet Packing Machine | 1 |
|  | Mixer Drum | 1 |
|  |  Blade Mixer | 1 |
|  |  Filling Machine (Many All Y) | 1 |
|  |  Auto Clave [ A) Electrically Heating | 1 |
|  |  (B) Steam Heating]  | 1 |
|  |  Jacketed Belt Conyers | 1 |
|  |  Cane Steamer | 1 |
|  | Reverse Osmoses unit  | 1 |
|  |  Cold Incubator | 1 |
|  |  Double Distillation Unit | 1 |
|  |  Steam Drum Dryer | 1 |
|  |  Blender Mixer | 1 |
|  |  Reaction Mixer Tank (Double Jacketed)  | 1 |
|  |  Vacuum Concentrator (Steam Jacketed)  | 1 |
|  |  Thermo breaker | 1 |
|  |  Concentrator | 1 |
|  |  Vacuum Dryer  | 1 |
|  |  Exchanger | 1 |
|  |  Bristol Packing Machine | 1 |
|  |  Centrifuge | 1 |
|  |  Capsule Filling Machine | 1 |
|  |  Compressor | 1 |
|  |  Reaction Mixer (Steam Jacketed)  | 1 |
|  |  Stirrer Portable | 1 |
|  |  Reaction Tank | 1 |
|  |  Cream Jar Filling Machine | 1 |
|  |  Evaporator & Condenser | 1 |
|  |  Fluidized Bed Dryer | 1 |
|  |  Compressive Strength Machine | 1 |
|  |  Plat Frame Filter Press | 1 |
|  |  Piping Test Machine | 1 |
|  |  Chiller With Pump. | 1 |
|  |  Thin Film Flash Evaporator (Electrical)  | 1 |
|  |  With Vacuum Pump. | 1 |
|  | Water Distillation Unit | 1 |
|  |  Steam Generator (Old) | 1 |
|  | Steam Distillation Plant | 1 |
|  | Spray Dryer | 1 |
|  | .Solvent Extraction Unit | 1 |
|  |  Cream Processor | 1 |
|  | Water Distillation Unit (Steam Heating)  | 1 |
|  | Sieve Shaker | 1 |
|  | Carbonated Reaction Vessel | 1 |
|  |  Deep Freezer | 1 |
|  | Reaction Vessel | 1 |
|  |  Air Dryer | 1 |
|  |  Freeze dryer | 1 |
|  |  Spray Dryer | 1 |
|  |  Rotary Evaporator | 1 |
|  |  Centrifuge | 1 |
|  | Neem Pesticide Pilot Plant | 1 |
|  | Soxhlet extraction unit | 1 |
|  | 100 KVA Siemens Diesel Generator | 1 |
|  | 200 KVA Siemens Diesel Generator | 1 |
|  | 250 KVA Adamjee Diesel Generator | 1 |
|  | H.T. Switch 11 KV | 1 |
|  | 1000 KVA Climax Transformer | 1 |
|  | Viscometer Tube, Ub Belohde,  | 1 |
|  | Vis. Ub belohde Espec. serie Ib | 1 |
|  | Visc. Ub belohde Espec. Serie Iib | 1 |
|  | Visc. Ub belohde Serie 3b.  | 1 |
|  | Visc. Ubbelohde Serie 4b | 1 |
|  | Pulp and Paper Pilot Plant | 1 |
|  | Chilling plant with all accessories  | 1 |
|  | Cooling tower | 1 |
|  | Mechanical Plate form with Hoist system | 1 |
|  | Glass column with condenser and all accessories | 1 |
|  | Glass absorption column with all accessories | 1 |
|  | Washing unit (Glass) | 1 |
|  | Lime tank | 1 |
|  | Formulation tank with stirring system (SS 316) | 1 |
|  | Storage tank | 1 |
|  | Automatic liquid filling machine | 1 |
|  | Shrink wrapping and strip machine  | 1 |
|  | Vacuum Pump | 1 |
|  | Fork Lifter | 1 |
|  | Sedimentation Tank for effluent treatment  | 1 |
|  | Scrubbers (Glass) | 1 |
|  | Miscellaneous  | 1 |
|  | Neem Pesticide Pilot Plant | 1 |
|  | Weighting Balance | 1 |
|  | Washing Machine | 1 |
|  | Mixer | 1 |
|  | Chopper | 1 |
|  | Hydrolyser | 1 |
|  | Vacuum Filtration Units | 1 |
|  |  Evaporator | 1 |
|  |  Reaction Vessel | 1 |
|  |  Washing, Drying, Filling, Capping And Labeling Machines. | 1 |
|  |  Vacuum Pump | 1 |
|  |  Grinder | 1 |
|  |  Double Drum Dryer | 1 |
|  |  Papaya Juicer | 1 |
|  |  Dryer | 1 |
|  |  Deep Freezer | 1 |
|  |  Oil Expeller | 1 |
|  |  Plate And Frame Filter | 1 |
|  |  Freeze dryer | 1 |
|  |  Spray Dryer | 1 |
|  |  Rotary Evaporator | 1 |
|  |  Centrifuge | 1 |
|  |  Meting And Boiling Point | 1 |
|  |  Apparatus (Mettler Toledo) | 1 |
|  |  Flash Point Apparatus | 1 |
|  |  (Grabner Instrument) | 1 |
|  | Viscometer | 1 |
|  |  Moisture Des Termination Balance. | 1 |
| **Sr. No 72 and 89 presently out of order.** |
| **B** | **List of Experts** |  **Designation** |  **Major Field** |
| 1) | Ms. Farzana Azmat | Principal Engineer HOC/ESC | Chemical Engineering |
| 2) | Mr. Muhammad Rauf | Principal Engineer | Chemical Engineer & Environmental Engineering |
| 3) | Mr. S. Burhanuddin Abdali  | Principal Scientific Officer | Applied Chemistry & Project Management |
| 4) | Mr. Zulfiqar A. Dhakan, | Senior Engineer | Chemical Engineering & HSE |
| 5) | Dr. Naheed Kausar | Principal Scientific Officer | Applied Chemistry |
| 6) | Mr. S. Mohsin Ali | Senior Experimental Officer | Chemistry |
| 7) | Mr. M. Farhan,  | Senior Scientific Officer | Analytical Chemistry & Petroleum |
| 8) | Mr. Asrar A.Qadri | Scientific officer | Geology |
| 9) | Mr. M. Ali Imran | Junior Engineer | Chemical Engineering |
| 10) | Mr. Umais Ihsan | Experimental Officer | Chemistry  |
| 11) | Mr. Muhammad Ilyas | Junior Experimental Officer | Chemical Technology |
| 12) | Mr. M. Rehan | Junior Experimental Officer | Mechanical/A.C./Refrigeration |
| 13) | Mr. Abdul Rahman | Junior Experimental Officer | Chemical Technology  |
| 14) | Mr. Dawood Wagan | Senior Scientific Officer | Analytical Chemistry |
| **D** | **Pilot Plant Facility****(Briefly describe, If available)** |
|
|  | * Common Facilities of Pilot Plant for Food, Pharmaceutical and Chemicals products development are available.
* Complete setup of semi commercial production for Fish Protein Concentrate, Phitofix (Plant hormones) and agro-chemicals are available from manufacturing to packing
 |
| * 1. **Name of Sub Centre / R&D Discipline/Field: Engineering Work Shop**
 |
| **#** | **List of major equipment** | **Quantity** |
|
|  | CNC-Turning Centre | 1 |
|  | CNC-Turning Centre(with milling attachment) | 1 |
|  | CNC Plasma Cutting | 1 |
|  | Machining Centre | 1 |
|  | Lathe Machine(PECO-Germany) | 1 |
|  | Lathe Machine | 1 |
|  | Lathe Machine (PECO-Germany) | 1 |
|  | Lathe Machine(Pak Machine Tool Factory) | 1 |
|  | Milling MachineBilliot (England) | 1 |
|  | Milling Machine(Not with Accessories / Operating Tools) | 1 |
|  | Surface Grinder | 1 |
|  | Cylinder Grinder | 1 |
|  | Drilling Machine | 1 |
|  | Straight Cutting M/c | 1 |
|  | Spot Welding M/c | 1 |
|  | Radial Drill M/c  | 1 |
|  | Shearing M/c | 1 |
|  | Sheet Bending M/c (Manually)  | 1 |
|  | Sheet Rolling M/c (Manually Light work→4 fit) | 1 |
|  | Sheet Rolling M/c (Auto Heavy work) | 1 |
|  | Drill Machine L-T | 1 |
|  | Gas Cutting Machine | 1 |
|  | Gas Cutter | 1 |
|  | Electric Drill M/c | 1 |
|  | Hand Press M/c (Small)  | 1 |
|  | Drill Machine | 1 |
|  | Compressor 1.5 ton | 1 |
|  | Blower | 1 |
|  | Clamp Meter | 1 |
|  | Guage Manifold | 1 |
|  | Pressure Guage of Anytime & oxygen | 1 |
|  | Torch | 1 |

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|  | Welding Transformer (Outdoor) | 1 |
|  | Welding Torch (Gas Welding) | 1 |
|  | Welding Screen | 1 |
|  | Bench Grinder | 1 |
|  | Bench Vise | 1 |
|  | Power Saw | 1 |
|  | Power Saw  | 1 |
|  | Mini Grinder | 1 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| 1 | Engr. Pervaiz Iqbal | P.E. | Mechanical |
| 2 | Egr. Jawed Iqbal | P.E. | Metallurgy |
| 3 | Engr.Ghulam Hussain | J.E. | Metallurgy |
| 4 | Mr. Muhammad Kamleen | E.O | Instrumentation |
| 5 | Mr. Muhamad Zarif | T.O. | Mechanist |
| 6 | Engr.Ch. Muhamad Ahsan Sajid. | J.E. | Industrial Electronics Engg./Financial Mgt. |
| 7 | Engr. Adeel A.Khan | J.E. | Mechanical |
| 8 | Engr. Mazhar Ali | J.E. | Mechanical/Engg. Management. |
| 9 | Mr. Abdul Rasheed | E.O. | Mechanical/A/C and refrigeration. |
| 10 | Mr. Muhammad Aslam Khan | T.O. | Welding |
| 11 | Mr. Mohsin Akhtar | JTO | Fabrication |
| 12 | Mr. Amanat Ali | P.T. | Carpentry |
| 13 | Mr. Muhammad Ismail | P.T. | Mechanist. |
| 14 | Mr. Abid Hasan | J.E.O. | Fabrication |
| 15 | Mr. Abdul Hassain | J.E.O. | Welding |
| 16 | Mr. Kazim Raza | J.E.O. | Mechanical/CAD Drafting |
| 17 | Mr. Muhammad Mazhar Khan | J.TO. | Precision, Mechanics & Instrument |
| 18 | Mr. Muhammad Hanif | P.T. | Carpentry. |

5. **Food & Marine Resources Research Center**

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| **1.1** **Food Technology Lab** |
| A | **List of Major Equipment** | **Quantity** |
|
|  | Gas chromatography | 1 |
|  | HPLC | 1 |
|  | Amino Acid Analyzer | 1 |
|  | FT-IR | 1 |
|  | Spectophotometer | 1 |
|  | Kjeldahl Distillation Unit | 1 |
|  | Kjeldahl Digestion Unit | 1 |
|  | Fiber Tech | 1 |
|  | Flame Photometer | 1 |
|  | Ferinograph Analyzer | 1 |
|  | Falling Number | 1 |
|  | Moisture Analyzer | 1 |
|  | Soxtherm | 1 |
|  | Refractometer | 1 |
|  | Soxhlet | 1 |
|  | Spray Dryer | 1 |
| **Sr. No. 4, 7, 8 and 13 presently out of order.** |
| **B.** | **List of Experts** | **Designation** | **Major Field** |
|  | Dr. Muhammad Samee Haider  | SSO | Food Technologist |
|  | Dr. Omer Mukhar Tarar | SSO | Food Technologist |
|  | Mr. Waqas Afzal  | SO | Food Technologist |
|  |  |  |  |
| **1.2** **Applied Biology Lab** |  |
| A | **List of Major Equipment** | **Quantity** |
|
|  | Analytical Balance | 1 |
|  | Inverted Microscope | 1 |
|  | Binocular microscope | 1 |
|  | Shaker | 1 |
|  | Cooling incubator | 1 |
|  | Colony Counter | 1 |
|  | Electronic Oven | 1 |
|  | Rotary Evaporator with chiller | 1 |
| **B.** | **List of Experts** | **Designation** | **Major Field** |
| **1.** | Dr. Rahila Nazli | SSO | Entomologist  |
| **2.** | Ms. Mussarrat Akhter | SSO | Nematologist |
| **3.** | Mr. Umed Aali Soomro | SSO | Agronomist |
| **4.** | Ms. Bushra Nawab | R.A | Zoologist |
| **1.3: Plant Biotechnology Lab** |
| A | **List of Major Equipment** | **Quantity** |
|
|  | Laminar Flow Cabinet | 1 |
|  | Plant Growth / Germination Cabinet | 1 |
|  | Autoclave | 1 |
|  | Water Distillation / Ultra Pure Water Assembly  | 1 |
|  | Analytical Balance | 1 |
|  | Soil Stabilizer | 1 |
|  | Muffle Furnace & Accessories | 1 |
|  | Microscope & Accessories | 1 |
|  | Flame Photometer | 1 |
|  | Cool incubator | 1 |
|  | Shaker Incubator | 1 |
| A | **List of Major Equipment** | **Quantity** |
|
|  | Electrical Conductivity meter | 1 |
|  | Water bath | 1 |
|  | Spectophotometer | 1 |
|  | Electronic Oven | 1 |
|  | Microwave Oven | 1 |
|  | Ultrasonic Cleaner | 1 |
|  | Polarimeter | 1 |
|  | PCSR and gel documentation system with electrophoresis and power supply | 1 |
|  | Ice making machine | 1 |
|  | Scale 150 kg | 1 |
|  | Frees dryer | 1 |
|  | Leaf area meter | 1 |
|  | Sample Homogenizer | 1 |
|  | Top loading balance | 1 |
|  | Magnetic stirrer and hot plate | 1 |
| Sr. No 9 and 18 presently out of order.  |
| **B.** | **List of Experts** | **Designation** | **Major Field** |
|  | Dr. Beena Naqvi | SSO | Plant Tissue Culture |
|  | Mr. Ajaz Ali Panhwar  | SE | Agriculture Engineer |
|  | Mr. Muhammad Ashraf | SSO | Agriculture Engineer |
|  | Mrs. Sofia Qaiser | SO | Biotechnologist |
|  | Mr. Khalil Ahmed Solangi  | SSO | Agriculturist |
| A | **List of Major Equipment** | **Quantity** |
|
|  | Autoclave  | (2 NOs) |
|  | Refrigerator | 3 |
|  | Colony counter | 1 |
|  | Incubator | 3 |
|  | Digital Dry Oven | 2 |
|  | Water Bath  | 2 |
|  | Cooled Incubator  | 4 |
|  | pH Meter | 1 |
|  | Laminar Flow  | 2 |
|  | Vortex mixer | 1 |
|  | Microwave Oven | 2 |
|  | Distillation Unit | 1 |
|  | Top Loading Balance  | 2  |
|  | Thermo hygrometer | 4 |
|  | Magnetic Stirrer | 1 |
|  | Vacuum Pump | 1 |
|  | Vacuum Jar | 1 |
|  | Jumbo Mixer | 1 |
|  | Cylinder Water Bath  | 2  |
|  | Computer | 1 |
|  | Thermocycler Gradient | 1 |
| **B.** | **List of Experts** |  **Designation** |  **Major Field** |
|  | Mrs. Seema Ismat Shamshad | PSO | Microbiologist |
|  | Dr. Abdul Basit Khan | SSO (On Extra Ordinary Leave) | Microbiologist |
|  | Dr. Muhammad Naseem Khan | SSO | Microbiologist |
|  | Dr. Zulfiqar Ali Mirani | SSO | Microbiologist |
|  | Ms. Anila Siddiqui | SO | Microbiologist |
|  | Mr. Korish H. Sahir | SO (On Extra Ordinary Leave) | Microbiologist |
|  | Ms. Nida Saleem | SO | Biochemist |
|  | Ms. Lakht-e-Zehra  | SO (On Extra Ordinary Leave) | Biochemist |
|  | Mr. Asadullah | SO | Biochemist |
| **1.5: Food and Feed Safety Lab** |
| A | **List of Major Equipment** | **Quantity** |
|
|  | PCR System | 1 |
|  | HPLC Unit | 1 |
|  | ELISA Micro Plate | 1 |
|  | UV / VIS | 1 |
|  | pH Meter | 2 |
|  | Water Purification System | 1 |
|  | Vortex Mixture | 1 |
|  | Automatic Autoclave | 1 |
|  | Incubator with Orbital Shaker | 1 |
|  | Bomb Calorimeter | 1 |
|  | Digital Ultrasonic Bath | 1 |
|  | Low Temperature Bath | 1 |
|  | Low Temperature Deep Freezer | 1 |
|  | Cooled Incubator | 1 |
|  | High Speed Blender | 1 |
| # | **List of Major Equipment** | **Quantity** |
|
|  | Sieve Shaker | 1 |
|  | Amino Acid Analyzer | 1 |
|  | NIR Analyzer | 1 |
|  | Digestion System | 1 |
|  | Sextet | 1 |
|  | Fiber take 1020 Cold Extractor | 1 |
|  | Densitometer Scanner | 1 |
|  | Furnace | 1 |
|  | Centrifuge | 1 |
|  | Magnetic Stirrer | 1 |
|  | Cyclotake 1093 Grinding Mill | 2 |
|  **Equipment at Sr. No 60 – 62, 64 – 66, 68 , 69 , 71 and 73 are at present out of order.** |
| **B.** | **List of Experts** | **Designation** | **Major Field** |
|  | Mr. Aftab Ahmed | SSO | Mycotoxin |
|  | Mr. Asif Asghar | SO | Mycotoxin |
|  | Mr. M. Inam | R.A | Mycotoxin |
| **1.6: Aquaculture Lab** |
| A | **List of Major Equipment** | **Quantity** |
|
|  | Electric Oven | 2 |
|  | Analytical Balance | 1 |
|  | Electronic Balance | 1 |
|  | Microwave Oven | 1 |
|  | Stereomicroscope with accessories | 1 |
|  | Compound Microscope with accessories | 2 |
|  | Furnace  | 1 |
|  | Vacuum Packing Machine | 1 |
|  Sr. No.74, 82 and 84 presently out of orders. |
| # | **List of Major Equipment** | **Quantity** |
|
|  | Low Freeze Dryer | 1 |
|  | Temperature Controller | 1 |
|  | Microtome with steel knife | 1 |
| **B.** | **List of Experts** | **Designation** | **Major Field** |
| **1.** | Dr. Razia Sultana | PSO | Marine Biology, Aquaculture |
| **2.** | Dr. Zakia Khatoon | SSO | Marine Biology, Fisheries |
| **3.** | Mrs. Wajeeha Ali | SSO (On Extra Ordinary Leave) | Aquaculture |
| **4.** | Mr. Faisal Ameer | SO | Aqua culturist |

**6. Pharmaceutical Research Centre**

|  |
| --- |
| **1.1 Name Sub-Centre / R&D Discipline / Field** |
| **A** | **List of Major Equipment** | **Quantity** |
|
|  | Autoclave | 01 |
|  | Balance (Digital) | 02 |
|  | Balance (Sartorius) | 01 |
|  | Centrifuge 10,000 rpm | 03 |
|  | Chiller | 07 |
|  | Clinical Chemistry Analyzer | 01 |
|  | Clinical Spectrophotometer 1412H (Optizen) | 01 |
|  | Cream Processor | 01 |
|  | Deep Freezer | 02 |
|  | Dissolution Tester | 01 |
| **#** | **List of Major Equipment** | **Quantity** |
|
|  | ELISA Plate Reader(SpectraMax Plus 384Microplate Reader-USA) | 01 |
|  | ELISA Strip Reader | 01 |
|  | Fermentor | 01 |
|  | Four Hole Water Bath | 01 |
|  | FTIR(Make: Thermo Nicolet, Avatar 370 DTGS, USA) | 01 |
|  | GC-17A(Make: Shimadzu-Japan) | 01 |
|  | GCMS-QP2010 Plus(Make: Shimadzu-Japan) | 01 |
|  | Gel Documentation System | 01 |
|  | Heating Mantles | 03 |
|  | Heavy Duty Stirrer | 01 |
|  | Homogenizer | 01 |
|  | Hot Plate | 03 |
|  | Hot Plate / Magnetic Stirrer | 01 |
|  | HPLC/PDA(Make: Prominence LC-20A Series, Shimadzu, Japan) | 01 |
|  | HPLC/UV-Vis.(Make: Dionex-USA) | 01 |
|  | HPLC/UV-Vis.(Make: Perkin Elmer, Series 2000, USA) | 01 |
|  | Incubators | 02 |
|  | Karl Fisher CoulometerMettler Toledo DL 32 | 01 |
| **#** | **List of Major Equipments** | **Quantity** |
|
|  | Magnetic Stirrer | 03 |
|  | Melting Point Apparatus | 01 |
|  | Microscope | 01 |
|  | Microwave Oven (Dawlance) | 01 |
|  | Mini Shaker | 01 |
|  | Oven | 08 |
|  | pH Meter | 03 |
|  | Polarimeter(ATAGO AP-300-Japan) | 01 |
|  | Potentiometer Titrator Metler Tolado | 01 |
|  | Power Lab  | 01 |
|  | Printer (HP) Laserjet-110 A | 01 |
|  | Refrigerator | 04 |
|  | Rota Vapor | 04 |
|  | Rotary Evaporator | 02 |
|  | Rotary Evaporator | 04 |
|  | Rotary Evaporator with Chiller | 02 |
|  | Sonicator | 02 |
|  | SPE Assembly | 01 |
|  | Spectronic-21 | 01 |
|  | Speedi vac (High Vacuum Pump) | 01 |
|  | Split Unit 02 ton LG | 01 |
|  | Stirrer | 02 |
| **#** | **List of Major Equipment** | **Quantity** |
|  |  |  |
|  | Tablet Disintegration Tester | 01 |
|  | Tablet Friability Tester | 01 |
|  | Tablet Hardness Tester | 01 |
|  | Tailflick Analgesio meter | 01 |
|  | Thermo Finnigan LCQ Advantage Max APCI probe P/N 97066-60090 Qty. 1  | 01 |
|  | Top Loading Balance | 02 |
|  | Ultra-filtration Unit | 01 |
|  | UPS Battery | 01 |
|  | UV Light 254 nm | 01 |
|  | UV Lamp | 05 |
|  | UV-Vis Spectrophotometer(Make: Specord, Analylitikjena 200, Italy) | 01 |
|  | Vacuum Oven | 01 |
|  | Vacuum seal for rotary evaporator | 01 |
|  | Vortex | 03 |
|  | Water Bath | 06 |
|  | Weighing Balance | 02 |
|  **Equipment at Sr. No. 7, 15 – 17, 24 – 28, 32, 36, 37 – 39, 43, 48, 49, 54, 55, 58, 59, 61 and 63 are, at present out of order.** |

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| **B** | **List of Experts** | **Designation** | **Major Field** |
| 1 | Dr. Zahra Yaqeen | Principal Scientific Officer | Pharmacology / Toxicology |
| 2 | Dr. Lubna Iqbal | Principal Scientific Officer | Biochemistry / Enzymology |
| 3 | Dr. Shahnaz Perveen | Principal Scientific Officer | Synthetic Chemistry |
| 5 | Dr. Atiq-ur-Rehman | Principal Scientific Officer | Pharmacology / Toxicology |
| 6 | Ms. Rehana Jafri | Principal Scientific Officer | Organic Metallic Chemistry |
| 7 | Dr. Nighat Sultana | Principal Scientific Officer | Phytochemical |
| 8 | Dr. Rashid Ali Khan | Senior Scientific Officer | Natural Product Chemistry |
| 9 | Dr. Amir Ahmed | Senior Scientific Officer | Organic Metallic Chemistry |
| 10 | Dr. Shazia Yasmeen | Senior Scientific Officer | Natural Product Chemistry |
| 11 | Dr. Sadia Ferheen | Senior Scientific Officer | Natural Product Chemistry |
| 12 | Dr. Kauser Siddiqui | Senior Scientific Officer | Molecular Biology |
| 13 | Dr. Saeeda Bano | Senior Scientific Officer | Biotechnology |
| 14 | Mr. Mahmood-ul-Hassan | Senior Scientific Officer | Phytochemical |
| 15 | Dr. Muhammad Aijaz Anwar | Senior Scientific Officer | Natural Product Chemistry |
| 16 | Mr. Kamran Durrani | Senior Experimental Officer | Instrumentation |
| 17 | Dr. Tehmina Sohail | Senior Scientific Officer | Pharmacology / Toxicology |
| 18 | Mr. Muhammad Saleem Qazi | Senior Scientific Officer | Biotechnology |
| 19 | Dr. Salman Tariq Khan | Senior Scientific Officer | Bio-organic Chemistry |
| 20 | Dr. Mehreen Akber | Scientific Officer | Biochemistry |
| 21 | Dr. Kamran Ahmed Abro | Scientific Officer | Synthetic Chemistry |
| 22 | Dr. Abdul Hafeez Laghari | Scientific Officer | Bio-organic Chemistry |
| 23 | Dr. Hina Imran | Medical Officer | Pharmacology / Toxicology |
| 24 | Dr. Ghulam Fareed | Scientific Officer | Synthetic Chemistry |
| 25 | Dr. Samina Iqbal | Scientific Officer | Microbiology |
| 26 | Mr. Irshad Ahmed Khan | Experimental Officer | Organic Metallic Chemistry |

|  |  |
| --- | --- |
| **C** | **Services being provided:** |
|  | **a.** | **Testing/Analytical**  |
|  | **b.** | **Consultancy:** Provide consultancy to Public and Private Sector in various fields. |
|  | **c.** | **Training:** Offer training and Internship Programme for students**.** |

**PCSIR Laboratories Complex, Lahore**

**CORE COMPETENCIES OF PCSIR LABS COMPLEX, LAHORE**

|  |  |  |
| --- | --- | --- |
| **Sr. #** | **Features** | **Description** |
| **1.** | **Products** | 1. **Applied Chemistry Research Centre**

Acid Yellow 36, Metanil Yellow, Shampoo, Herbal shampoo, Herbal hair oil, Hair tonic, Mehndi powder/liquid, Special talcum powder, Prickly heat powder, Foot powder, Foot lotion, Hand lotion, Pimple lotion , After shave lotion, Shaving cream, Acne cream, Cold cream, Crack cream, Aloevera acne cream, Aloevera cold cream, Aloevera cooling gel, Citrus mask, Mud mask, Apricot scrub, Turmeric mud mask, Aloevera mud mask, Whitening mud mask, Fairness cream, Vanishing cream, Turmeric fairness cream, Chamomille facial wash, Turmeric facial wash, Rose facial wash, Glycerrhiza facial wash, Fat free lipstick, Turmeric herbal soap, Neem herbal soap, Cleansing lotion, Almond scrub, Turmeric peel off mask, Deodorant cream, Fat free chap stick, Face bleach cream, Moisturizing cream, Freckle cream, Nail polish remover1. **Centre for the Development of Lab Equipment**

Duty Hot Plate 300 ºc Analogue, Heavy Duty Hot Plate (300 ºc Digital, 400 ºc Digital), Horizontal Shaking Water Bath, Hot & Cold Heavy Duty Water Bath 800 L, Hot and Cold Water Bath 35 L, Magnetic Stirrer Hot Plate, Melting Point Apparatus Analogue, Mini Magnetic Stirrer Hot Plate, Muffle Furnace (1000 ºc, 1200 ºc ), Orbital Shaker, Over Head Stirrer, Rectangular Water Bath, Rotamantle (1 L, 500 mL, 250 mL), Thermostatic Dry Bath, Tube Furnace -1200 ºc, Tube Furnace (Ø 40x400 mm – 1000 ºc, Ø 65x800 mm – 1000 ºc Large), Vortex Mixer, Hot & Cold Shaking Bath, Walk through metal detector, Hand Held Metal Detector, Ozone Generator, Adiabatic Bomb Calorimeter1. **Centre for Environmental Protection Studies**

Pak- Pani Sachet (Instant water cleaner), RDF (Refused Derived Fuel)1. **Food & Biotechnology Research Centre**

Environment Friendly Biofertilizer, Nutri-Max, Slim Fast, Citrus Pectin, Dried Cabbage, Dehydrated Mint, Dehydrated Corriandor, Onion Flakes, Dried Peas, Egg Powder, Carrot Flakes, Tomato Flakes, Potato Flakes, Dengue Syrup, Yellow Food Color, Red Food Colour, Chicken Grill Spice (Mild), Chicken Grill Spice (Marinate, Lemon, Hot Lemon &amp; Herb), Blended Wheat Flour (for Diabetic Patient), Bacterial Alkaline Protease, Banana Instant drink, Kit for the determination of Sulphates in Water.1. **Glass & Ceramics Research Centre**

Graphite Powder (998%), Magnesium Stearate, Stamp Pad Ink, Indelible Ink, Ore Beneficiation1. **Pakistan Institute of Technology for Minerals & Advanced Engineering Materials**

Al-bronz material for Artificial JewelleryHydroxyapatite (animal trails are in progress) |
|  | **2. Facilities** | 1. **Applied Chemistry Research Centre**
* Industrial Chemicals Testing Lab
* Leather Testing Lab
* Oils, Fats & Cosmetics Testing Lab
* Paper Testing Lab
* Petrochemicals Testing Lab
* Pharmaceuticals Testing Lab
* Plastics & Polymers Testing Lab
* Textile & Dyes Testing Lab
1. **Applied Physics, Computer& Instrumentation Centre**
* Dimensional Measurement Lab
* Mass & Force Measurement Lab
* Pressure Measurement Lab
* Volume Measurement Lab
* Temp. Measurement Lab
* Electrical Time & Frequency Measurement Lab
* Solution Measurement Lab.
1. **Centre for Development of Lab. Equipment.**
* Mechanical & Electrical Assembly and Fabrication
1. **Centre for Environmental Protection Studies**
* Water Wastewater Testing Lab
* Solid Waste Bio-mass Soil Sledge Testing Lab
* Metal Testing Lab.
* Noise and Air & Exhaust Emission Testing Lab
1. **Engineering Service Centre**

CNC Machining & Turning Centres, Surface Finishing, Rolling Machine, Shearing Machine, Bending Machine, Argon Welding, Hydraulic Press, Quality Control & Design Section etc. The workshop undertakes fabrication in steel, stainless steel and non-ferrous material.1. **Electrical Measurement and Test Laboratory**

Test Lab Facilities for:Fans, Cables, Sockets/ Switches, Lightening Products and other electrical items. 1. **Food & Biotechnology Research Centre**
* Nutrition Lab
* Aflatoxin Lab.
* Molecular Biology Lab
* Meat Lab
* Microbiology Lab
* Diary Lab
* Fermentation Lab.
* Fruit & Vegetable Lab.
* Organic Food Lab
1. **Glass & Ceramics Research Centre**
* Glass Section
* Ceramics Section
* Advanced Materials
* Refractory, Building & Binding Materials
* Geo-Technology
1. **Mineral Processing Centre**
* Minerals Processing Centre
* Product Development Centre
* Analytical Testing Centre
* Coal Testing Centre
1. **Pakistan Institute of Technology for Minerals & Advanced Engineering Materials**
* Plasma Coating Centre
* PVD Coating Centre
* Biomaterials Centre
* Advanced Metallography & Microscopy Centre
* Nano Technology
* Tribology Lab
* Non Destructive Testing Lab
* Powder Metallurgy & Heat treatment Labs
* Mechanical Testing Labs
* Advanced Foundry Technology
* Advanced Engineering Composites
 |
| **3.**  | **Major Strengths** | * Human Resource Development
* Integrated research and development for integrated materials and processes
* Industrial Linkages & WTO Obligations
* QC/QA Services for Public & Private Sectors
* Consultancy/ Troubleshooting
 |
| **4.** | **Designing:** | * Design & Development of different Automobile and Engineering Parts
* Engineering design for the development of Pilot Plants
 |
| **5.** | **Quality Assurance** | * ISO/ IEC 17025:2005 Accreditation by PNAC
* ISO 9001:2008 by TÜV Inter Cert SAAR
* Saudi Arabian Standard Organization (Approved Lab.)
* Ministry of Health & Welfare Japan (Approved Lab.)
* Ministry of Agriculture, Republic of Indonesia (Approved Lab.)
 |

**PCSIR Laboratories Complex, Lahore**

|  |
| --- |
| * 1. **Name Sub Centre/ R&D Discipline/ Field: Food & Biotechnology Research Centre (FBRC)**
 |
| **A** | **List of Major Equipment** | **Quantity** |
|
|  | Grinding Mill | 01 |
|  | Wrist Action Shaker | 01 |
|  | UV cabinet | 01 |
|  | Water Bath | 01 |
|  | Weighing Balance | 01 |
|  | Electric Oven | 01 |
|  | Muffle Furnace | 01 |
|  | Soxhlet | 01 |
|  | Digital Balance | 01 |
|  | HPLC | 02 |
|  | UV-Visible Spectrophotometer | 01 |
|  | Flam Photometer | 01 |
|  | Atomic Absorption Spectroscopy | 01 |
|  | GC- FID | 01 |
|  | Fast Protein Liquid Chromatograph (FPLC) | 01 |
|  | Thermal Cycler (PCR Machine) | 01 |
|  | Light Microscope | 01 |
|  | UV/visible Spectrophotometer | 01 |
|  | Refrigerated centrifuge | 06 |
|  | Incubator | 04 |
|  | Ultrasonic Generator | 01 |
|  | Centrifugal Vacuum Concentrator for DNA/RNA | 01 |
|  | Vertical Electrophoresis with power supply | 01 |
|  | Horizontal Electrophoresis | 01 |
|  | Lamina Flow Hood | 01 |
|  | Microscope Type 102 | 01 |
|  | Coliform Water Bath | 02 |
|  | Stomacher | 01 |
|  | UV Lamp | 01 |
|  | Autoclave  | 03 |
|  | Vortex Mixer | 02 |
|  | Ozone Disinfector  | 01 |
|  | Conductivity Meter | 01 |
|  | Real Time PCR | 01 |
|  | Oven | 01 |
|  | Incubators | 03 |
|  | Deep Freezer | 01 |
|  | Centrifuge | 02 |
|  | Freezer Dryer | 01 |
|  | Furnace | 01 |
|  | Oven | 02 |
|  | -80o C Freezer | 01 |
|  | Spectrophotometer | 01 |
|  | Rapid Moist Tester | 01 |
|  | Farinograph | 01 |
|  | Falling Number | 01 |
|  | Glutamatic | 01 |
|  | Flame Photometer | 01 |
|  | Furnace | 01 |
|  | Sieve Analysis | 01 |
|  | Cyclone Mill | 01 |
|  | Kernilizer | 01 |
| **Equipment at Sr. No. 13,14,34,35 and 37 are, at present, out of order.** |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Dr. Quratulain Syed | CSO | Biochemistry & Microbiology |
|  | Dr. Naz Abbas | PSO | Molecular Biotechnology |
|  | Dr. Ijaz Ahmad | PSO | Food Technology |
|  | Dr. Shaista J. Khan | PSO | Chemistry/Plant Biotechnology |
|  | Dr. Nuzhat Habib Khan  | PSO | Botany/ Plant Biotechnology |
|  | Dr. Rubina Nelofer | SSO | Applied Microbiology |
|  | Dr. M. Nadeem | SSO | Applied Microbiology |
|  | Ms. Alim-un-Nisa | SSO | Microbiology |
|  | Dr. M. Khalid Saeed | SSO | Biochemistry |
|  | Dr. Khurram Shahzad | SSO | Bio-molecular Sciences/Food |
|  | Dr. Salman Saeed | SSO | Nutrition/Food Science |
|  | Dr. Yasir Saleem | SSO | Molecular Biotechnology |
|  | Dr. Sania Mazhar | SSO | Applied Microbiology |
|  | Saima Nazir | SSO | Bio-Chemistry |
|  | Imran Kalim | SSO | Chemistry |
|  | Shama Firdous | SSO | Chemistry |
|  | Dr. M. Ashraf  | SO | Food Technology |
|  | Shaista Nawaz | SO | Bio-Chemistry |
|  | Abdul Ahad | SO | Food Technology |
|  | Muafia Shafiq | SO | Microbiology/ Plant Biotechnology |
|  | Shabana Kausar | SO | Chemistry |
|  | Mrs. Shagufta Naz | SO | Microbiology |
|  | Sajila Hina | SO | Chemistry |
|  | Ammara Yasmeen | SO | Food Technology |
|  | Tehseen Yaseen | SO | Food Technology |
|  | Naseem Zahra | SO | Chemistry |
|  | Dr. Ammara Hassan | JSO | Microbiology |
|  | Eng. Abad Ali | JE | Chemical Engineering |
|  |
| **C** | **Services being provided:** |
| **a.** | **Testing/ Analytical** |
| **b.** | **Consultancy:**  Offer consultancy services to Public and Private Sectors inVarious fields of Biotechnology |
| **c.** | **Training:** Offer training to PhD Students of Universities in Food and Biotechnology |
| **D** | **Pilot Plant Facility** |
|
|  | Koji Fermenter |
|  | Solid State Fermentor |
|  | Filter Press |
|  | Air Compressor |
|  | Centrifuge |
|  | Distillation bubble column |
|  | Boiler |
|  | Microbial Fermentor (300L) |
|  | Microbial Fermentor (30L) (3) |
|  | Dehydration |

* 1. **: Pakistan Institute of Technology for Minerals and Advanced**

**(PITMAEM)**

|  |  |  |
| --- | --- | --- |
| **Sr. #**  | **Name of Equipment**  | **Qty** |
|  | Emission Spectrometer (GNR, Italy) | 1 |
|  | Optical Microscope NIKON | 1 |
|  | On Site Metallographic Kit (Struers, Denmark) | 1 |
|  | Vacuum Impregnation Apparatus (Struers, Denmark) | 1 |
|  | Automatic Grinding, Polishing Machine (Struers, Denmark) | 2 |
|  | Manual Grinding, Polishing Machine (Struers, Denmark) | 3 |
|  | Electrolytic Etching Unit (Struers, Denmark) | 1 |
|  | Image Analyzer (Leica, UK) | 1 |
|  | Zoom Microscope (Olympus, Japan) | 1 |
|  | Measuring Microscope (Olympus, Japan) | 1 |
|  | Shore Hardness Tester (Gibitre, Italy) | 1 |
|  | Micro Vicker Hardness Tester (Wilson, China) | 1 |
|  | Vicker Hardness Tester (OGAWA SEIKI) | 1 |
|  | Portable Hardness Tester (Indentec, UK) | 1 |
|  | Ultrasonic Flaw Detector (Krautkramer, Germany) | 1 |
|  | Dye Penetrant | 1 |
|  | Magnetic Detector | 1 |
|  | Automatic Brinell Hardness Tester (Indentec, UK) | 1 |
|  | Eddy Current Test Equipment (Eddy Current, USA) | 1 |
|  | Industrial X-Ray Equipment (Balteographic, Belgium) | 1 |
|  | Micro Scratch Tester(CSM, Switzerland) | 1 |
|  | Nano Hardness (CSM, Switzerland) | 1 |
|  | Scanning Probe Microscope | 1 |
|  | PVD Coating Equipment (Platit π 80, Switzerland) | 1 |
|  | Calotest Calomax with grinding balls (Switzerland) | 1 |
|  | Tribo Tester (Teer Coating) | 1 |
|  | Carbon Sulphur Determinator (Leco, USA) | 1 |
|  | PH Meter | 1 |
|  | Potentiostat for corrosion testing | 1 |
|  | Differntial Scanning Calorimeter (DSC)/Thermo Gravimetric Analyzer (TGA) complete (TA Instruments, Germany) | 1 |
|  | Dilatometer (Orton, USA) | 1 |
|  | Kjeldahl Digestion Unit | 1 |
|  | Laser Particle Size Analyzer (Fritsch, Germany) | 1 |
|  | Micro X-Ray Flouresence Spectrometer (Spectro, Germany) | 1 |
|  | Densitometer (Gibitre, Italy) | 1 |
|  | Laser for Jewellery Marking (Siro Lasertech, Germany) | 1 |
|  | Scanning Electron Microscope (SEM) with complete EDX facilities (Hitachi 3700N, Japan) | 1 |
|  | Surface Profile Meter for Wear Measuring  | 1 |
|  |  (Hand Held XRF) analyzer  (X-Met, Finland) | 1 |
|  | Ultrasonic Thickness Gauge  | 1 |
|  | Digital Conductivity Meter | 1 |
|  | Refractometer | 1 |
|  | Wear and Friction Measurement Set up (Jinan, China) | 1 |
|  | Ultrasonic Wall Thickness Gauge | 1 |
|  | Universal Tensile Testing Machine 1000kN (Jinan, China) | 1 |
|  | Rotary Bending Fatigue Testing Machine | 1 |
|  | Tensile Testing Machine 5kN (Shimadzu, Japan) | 1 |
|  | Charpy Impact Testing Machine | 1 |
|  | Lab Scale Vacuum Furnace (Nebertherm, Germany) | 1 |
|  | Induction Vacuum Casting Furnace Smartycast, Italy) | 1 |
|  | Compact Hydraulic Press 200 Ton (local) | 1 |
|  | Compacting Hydraulic Press 60 Ton (local) | 1 |
|  | Manual Mounting Press  | 1 |
|  | Yamato Furnace | 1 |
|  | Forging Press 100 tons (local) | 1 |
|  | Gas Fired Furnace (local) | 1 |
|  | Rolling Mill | 1 |
|  | Vulcanizing Press for Jewellery (local) | 1 |
|  | Wax Injector | 1 |
|  | Degassing Furnace (1000 °C) (local) | 1 |
|  | Muffle Furnace (1000 °C) (local) | 1 |
|  | Muffle Furnace (1200 °C) (local) | 1 |
|  | Electric Furnace (carbolite) (1500°C) | 1 |
|  | Flask vacuum Injector (local) mixer | 1 |
|  | Vulcanizing Press for Jewellery | 1 |
|  | Plasma Spraying System (9 MC, Sulzer Metco, USA) | 1 |
|  | ValuArc Wire Coating System  | 1 |
|  | Cupola Furnace (local) | 1 |
|  | Rotary Furnace (local) | 1 |
|  | Induction Furnace (10 kg, 50kgs) | 1 |
|  | Induction Furnace (200kg)  | 1 |
| **B. List of Experts** |
| **Sr. No** | **Name of Employee** | **Designation** | **Major Field** |
| 1 | Mr. Muhammad Irfan | Head / Sr. Engineer | Nano-composite coatings, Failure investigations, plasma coatings, characterization techniques for advanced engineering materials |
| 2 | Mrs. Farzana Habib | Senior Scientific Officer | Biomaterials, corrosion behavior of materials |
| 3 | Ms. Sumaira Nosheen | Scientific Officer | Graphene, advanced polymer materials. |
| 4 | Syed Zaheer Abbas | Scientific Officer | Solar Energy, characterization techniques |
| 5 | Mr. Muhammad Fayyaz | Scientific Officer | Biomaterials, corrosion behavior of materials |
| 6 | Mr. Farooq Iftikhar | Junior Engineer | Mechanical properties of materials, alloy development, alternative fuel energy |
| 7 | Mr. Ali Imran | Junior Engineer | High temperature application ceramic coatings |
| 8 | Mr. Bilal Waseem | Junior Engineer | Nanocomposite coatings, characterization techniques |
| 9 | Mr. Muhammad Nouman  | Junior Engineer | XRF techniques for qualitative & quantitative analysis of metals  |
| 10 | Mr. Badaruddin Soomro | Junior Engineer | Thermal behavior of advanced materials |
| 11 | Mr. Muhammad Shahid | Junior Engineer | PVD coatings |
| 12 | Mr. Waqas Iqbal | Junior Engineer | Corrosion  |
| 13 | Mr. Abdul Karim Aziz  | Jr. Technical Officer | Metallography |
| 14 | Mr. Muhammad Hashim Shah | Research/Technical Asstt. | Instrumentation of PVD system |
| 15 | Mr. Muhamamd Mubashar Akram | Research/Technical Asstt. | Instrumentation of thermal characterization lab |
| 16 | Mr. Rashid Iqbal | Research/Technical Asstt. | SEM analysis |
| 17 | Mr. Salman Ahmad | Technician | Plasma Coatings |

**1.3 Glass and Ceramics Research Center (GCRC)**

|  |  |  |
| --- | --- | --- |
| **A** |  **List of Major Equipment** | **Qty.** |
|
| 1 | Scanning Electron Microscope (SEM) | 1 |
| 2 | DTA/TGA, SHMADZU  | 1 |
| 3 | Thermal Conductivity  | 1 |
| 4 | Viscosity Apparatus | 1 |
| 5 | Refractoriness Under load | 1 |
| 6 | Carbolite Furnace, Max. 1000oC | 1 |
| 7 | Glass Melting Furnace | 1 |
| 8 | Naber Therm Furnace, Max. 1000oC | 1 |
| 9 | Digital Electrical Furnace, Max. 1100oC  | 1 |
| 10 | Digital Optical Pyrometer, Max. 2000oC | 1 |
| 11 | Digital Balance, Max. 200Kg | 1 |
| 12 | Flame Photometer | 1 |
| 13 | Color & Color Difference Meter | 1 |
| 14 | Spectrophotometer Milton Roy | 1 |
| 15 | Polisher BUEHLER | 1 |
| 16 | Electric Oven, Max. 250oC | 1 |
| 17 | Hotplate with stirrer | 1 |
| 18 | Calorimeter  | 1 |
| 19 | Oven | 1 |
| 20 | Sieve Shaker | 1 |
| 21 | Electric Stirrer  | 1 |
| 22 | Oven | 1 |
| 23 | Casagrande Cup | 1 |
| 24 | Hydraulic Press | 1 |
| 25 | Pyrex Glass Distillation Unit | 1 |
| 26 | Ball Mill Grinder/Mixer | 1 |
| 27 | Glass Melting Furnace | 1 |

**Equipment at Sr. No. 1 – 9,14,15,21 and 27 to 30 are at present not in a working condition.**

|  |
| --- |
|  **B List of Experts** |
| # | **Experts** | **Designation** | **Major Field** |
| 1. | Engr. Muhammad Saadet Khan  | Head/PE | Glass Technology  |
| 2. | Dr. Bakht Bahadur Rana | PSO | Glass Technology |
| 3. | Dr. Fadia Shaheen | SSO | Ceramics Technology |
| 4. | Dr. Muhammad Latif  | SSO | Ceramics Geo-Technology |
| 6. | Mr. Khalid Javed | SO | Glass Technology |
| 7. | Mr. Akhtar Shahnaz | SO | Ceramics, Cement Technology |
| 8. | Mr. Muhammad Usman Alvi | SO | Geo-TechnologySurvey, Mineral Exploration  |
| 9. | Ms. Ammarah Kanwal | SO | Ceramics, Cement Technology |
| 10. | Ms. Phool Shahzadi | SO | Ceramics, Cement Technology |
| 11 | Mr. Muhammad Amin | PT | Mechanical Works for pilot Plants |
| **C** | **Services being provided:** |
| **A** | **Testing / Analytical** |
| 1 | Cement Testing and Analysis, Ceramics and related Testing, Geo Technical Testing, Glass Testing and Analysis, Glass and Ceramics Accessories Testing, Mineral Testing. |
| **B** | **Consultancy:** |
| 1 | Heat Burner Block Evaluation for Refractory use |
| 2 | OP Cement Standard Parameter Evaluation for use in Mortar |
| 3 | OP Cement Standard Parameter Evaluation for use in Historical Buildings |
| 4 | Suitability of Sand for use in Water Filters |
| **C** | **Training:** |
| 1 | Glass Technology |
| 2 | Ceramics Technology |
| **D Pilot Plant Facility:** |
| 1 | Convention Annealing Chamber |
| 2 | Frit Furnace Capacity 2.5 Ton |
| 3 | Borosilicate Capacity 1Ton |
| 4 | Black Glass Capacity 700 Kg |

**4. Mineral Processing Research Centre (MPRC)**

|  |  |  |
| --- | --- | --- |
| **A** | **List of Major Equipment** | **Quantity** |
|
| 1 | (Froth Flotation Circuit | 02 |
| 2 | (Wilfley Tables) | 01 |
| 3 | (Low/High Intensity Magnetic Separator) | 02 |
| 4 | (Flotation/Machine) Lab. | 02 |
| 5 | X-RD-D5000 Siemens  | 01 |
| 6 | XRF, JSX 603 (Jeol)  | 01 |
| 7 | Atomic Absorption Spectrophotometer (Hitachi)  | 01 |
| 8 | ICP  | 01 |
| 9 | TGA/DTA | 01 |
| 10 | Carbon Sulphur Determinator | 01 |
| 11 | Combined Cylic Corrosion Tester | 01 |
|  |  |  |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| 1 | Engr. Adnan Akram | P.E | Process & Product Development/Pilot Plant Designing |
| 2 | Syed Kamran Raza Kazmi | P.E | Mineral Processing |
| 3 | Ms. Samreen Zahra | SSO | Evaluation of Material/Process & Product Development/QC |
| 4 | Ch. Athar Amin | S.E | Product Development/Pilot Plant Studies |
| 5 | Mr. M. Arif Bhatti | SSO | Mineral Processing |
| 6 | Mrs. Uzma Zafar | SSO | Analytical & Method Validation |
| 7 | Mr. Zahid Mahmood | SSO | Development of Mineral Based Products/Process and Quality Control |
| 8 | Mr. Ansar Mahmood | SSO | Development of Mineral Based Products |
| 9 | Dr. Saqib Nasir | SSO | Coal Technology |
| 10 | Mr. Rashid Mahmood | SO | Engineering Geology |
| **C** | **Services being provided:** |
|  | a. | Testing/Analytical |
|  |  | Testing of Ores, Alloys, Raw Materials, Coal, Aggregates, Clay etc. |
|  | b. | **Training** |
|  | 1) | Internship (BS/MS Engg.) |
|  | 2) | M. Phil Chemistry |
| **D** | **Pilot Plant Facility****Multipurpose Ore Beneficiation** |
|
|  | (MOB) Pilot Plant : for R&D on almost all types of ores & Minerals |

**5.** **Centre for the Development of Laboratory Equipment (CDLE)**

|  |  |  |
| --- | --- | --- |
| **A** | **List of Major Equipment**  | **Quantity** |
|
|  | Lathe machine | 01 |
|  | Milling machine | 01 |
|  | Hydraulic rolling machine | 01 |
|  | Hydraulic bending machine | 01 |
|  | Drilling machine…heavy | 01 |
|  | Shearing machine | 01 |
|  | DC Power Supply | 02 |
|  | IC Programmer - All 11 | 01 |
|  | Universal Programmer | 01 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Mr. Pir Bukhsh Khan | Senior Scientific Officer(Head / SSO) | Electronics |
|  | Mr. Muhammad Saleem | Senior Experimental Office (SEO) | Mechanical |
|  | Mr. Khalil-ur-Rehman | Scientific Officer (S.O) | Electronics |
| **C** | **Services being provided:** |
|  | **i)** | **Testing / Analytical / Production** |
|  | **ii)** | **Consultancy:** Provide Consultancy to Public and Private Sector in various fields. Offer services to repair the instruments**.** |

**6. Applied Chemistry Research Centre (ACRC)**

| **Sr. #** | List of Major Equipment | **Qty.** |
| --- | --- | --- |
|
|  | Launder-ometer | 1 |
|  | Perspirometer Kits | 1 |
|  | Weather-ometer | 1 |
|  | Crockmeter | 1 |
|  | Martindale Abrasion & Pilling Tester | 1 |
|  | Sample Cutter | 1 |
|  | ICI Pilling Tester | 1 |
|  | Top Load Washer | 1 |
|  | Front Load Tumble Dryer | 1 |
|  | Wrap Reel | 1 |
|  | Pick Counter | 1 |
|  | Spectrophotometer SF-650X | 1 |
|  | Hydrostatic Head Tester | 1 |
|  | Flammability Tester | 1 |
|  | Colour Measuring Instrument | 1 |
|  | Particle Size Analyser | 1 |
|  | Dyeing Machine | 1 |
|  | PH Meter | 4 |
|  | Vacuum Pump | 1 |
|  | GC | 1 |
|  | Material Testing Machine | 1 |
|  | Rub Fastness Tester | 1 |
|  | Water Vapor Permeability | 1 |
|  | UV Visible Spectrophotometer | 1 |
|  | Furnace | 2 |
|  | FT – IR | 1 |
|  | GC – MS | 1 |
|  | Muffle Furnace | 1 |
|  | Bursting Machine | 2 |
|  | Tear Tester | 1 |
|  | LCMS | 1 |
|  | HPLC | 2 |
|  | Atomic Absorption Spectrophotometer | 1 |
|  | FT – IR | 1 |
|  | Rotary Evaporator | 1 |
|  | Freeze Dryer | 1 |
|  | Dissolution Apparatus | 1 |
|  | Disintegration Apparatus | 1 |
|  | Flash Chromatography Apparatus | 1 |
|  | Gas Chromatography (GC) | 1 |
| **Equipment at Sr. No. 3, 14 to 17 and 19 are, at present, out of order.** |

**ACRC Experts List**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.#** | **Name (All Ph.Ds)** | **Designation** | **Major Field** |
|  | Dr. Amran Waheed | PSO | Lipid Chemistry |
|  | Dr. Abdul Qayyum Ather | SSO | Heterocyclic Chemistry |
|  | Dr. Zeeshan Ali | SSO | Applied Chemistry |
|  | Dr. Muhammad Zia- ur- Rehman | SSO | Organic Chemistry |
|  | Dr. Zahida Parveen | SSO | Applied Chemistry |
|  | Dr. Muhammad Naeem Khan | SSO | Synthetic Organic Chemistry |
|  | Dr. Rabia Nazir | SSO | Nano Chemistry |
|  | Dr. Saira Taj | SSO | Polymer |
|  | Dr. Abus Saleem | SSO | Applied / Ceochemistry |
|  | Dr. Zafar Iqbal | SSO | Applied Chemistry |
|  | Dr. Muhammad Naeem | SSO | Organic Chemistry |
|  | Dr. Afsheen Arshad | SSO | Physico / Organic Chemistry |

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.#** | **Name (MPhils)** | **Designation** | **Major Field** |
|  | Mrs. Hifza Akhter | SSO | Organic / Applied Chemistry (Oil, Fats, Cosmetics) |
|  | MRs. Asma Inayat | SSO | Applied Chemistry |
|  | Ms. Filza Zafar Khan | SSO | Applied Chemistry |
|  | Mr. Shahid Rehman KhanO | SO | Applied Chemistry |
|  | Miss Saima Siddique | SO | Essential Oils, Cosmetics |
|  | Miss. Shafaq Mubarad | SO | Analytical Chemistry |
|  | Mr. Muhammad Zaheer | SO | Analytical Chemistry |
|  | Mr. Mahroze Ahmad Khan | O | Inorganic Chemistry |

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.**  | **Name (MSc)** | **Designation** | **Major Field** |
|  | Mr. M. Farooq Arif | PSO | Organic Chemistry |
|  | Mr. Ehsan ul Haq Najmi | SSO | Applied Chemistry |
|  | Ms. Lubna Liaquat | SSO | Organic Chemistry |
|  | Mr. Raza Hussain | SSO | Polymer Chemistry |
|  | Ms. Tayyaba Ahmad |  | Coordination Chemistry |
|  | Mr. Atif Latif | SO | Analytical Chemistry |
|  | Mr. Hamood ur Rehman | SO | Analytical Chemistry |
|  | Mr. M. Usman Sabri | SO | Applied Chemistry |
|  | Ms. Mubeen Akhter | SO | Applied Chemistry |
|  | Mr. Hamid Iqbal | SO | Organic Chemistry |
|  | Ms. Azra Yaqub | SO | Physical Organic / Eniv. Science |

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.** | **Name: Pharmacist / Diploma** | **Designation** | **Major Field** |
|  32. | Mr. Naqi Hussain | SO | Pharmaceutical |
|  33. | Mr. Arshad Ali | JTO | Leather Technology |
|  34. | Mr. Sulman Tayyab | JTO | Leather Technology |

**C) Services being Provided:**

|  |  |
| --- | --- |
|  | **Testing / Analytical** (Testing / analytical services to different departments / organizations) |
|  | **Consultancy** : (Consultancy services to different departments / organizations) |
|  | **Training:** Offer training services to various departments and organization in different fields. |

**D) Pilot Plant facility:**

|  |  |
| --- | --- |
| **Sr.#** | **Pilot Plant facility** |
| 1. | Pilot plant facilities for pharmaceuticals and cosmetics are available for a number of unit operations which include:* Distillation
* Extraction
* Chemical reaction through reflux
* Vacuum filtration
* Rotary evaporation
* Filtration through filter press
* Tableting
* Tube filling
 |

1. **Electrical Measurement & Test Laboratory (EMTL)**

|  |  |  |
| --- | --- | --- |
| **Sr. No** | **List of Major Equipment** | **Qty.** |
|
| 1 | Power Analyzer / Power Hi-Tester | 02 |
| 2 | Fan Air Delivery Test System  | 01 |
| 3 | Needle Flame Tester  | 01  |
| 4 | Hot Line Winding Resistance Measuring Instrument | 01 |
| 5 | High Voltage Tester  | 03 |
| 6 | Tensile Testing Machine  | 01 |
| 7 | Cable Flexing Tester  | 01 |
| 8 | Convention and Ventilating Ageing Oven | 01 |
| 9 | Temperature & Humidity Test Chamber | 02 |
| 10 | Goniophotometer  | 01 |
| 11 | Spectroradiometric, Colorimetric & Electric System | 02 |
| 12 | LED Driver Tester  | 01 |
| 13 | Switch Socket Test Apparatus  | 01 |
| 14 | Digital Insulation Tester | 01 |
| 15 | Multi -way Life Tester | 01 |
| 16 | Digital Oscilloscope | 02 |
| 17 | Abnormal Condition Test Setup for Ballast  | 01 |
| 18 | Micro Ohmmeter | 01 |
| 19 | Leak Current Hi-Tester | 02 |
| 20 | Tracking Tester | 01 |
| 21 | Glow Wire Tester | 01 |
| 22 | Cord Anchorage Tester | 01 |
| 23 | Digital Measuring Projector | 01 |
| 24 | Single Piece Cable Vertical Flame Tester | 01 |
| 25 | Test Corner | 01 |
| 26 | Torque Withdrawal Tester | 01 |
| 27 | Salt Spray Test Chamber | 01 |
| 28 | Water Bath | 01 |
| 29 | Impulse Test System | 01 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| 1 | Mr. Muhammad Azhar  | Senior Scientific Officer  | Quality Assessment of Home Electrical Appliances & Accessories  |
| 2 | Malik Allah Yar  | Senior Experimental Officer  | Quality Assessment of Cable & Conductors  |
| 3 | Mr. Muhammad Saleem |  Scientific Officer | Quality Assessment of Cable, Conductors, Insulating Gloves & Line Hardware Materials |
| 4 | Mr. Abdul Majeed | Technical Officer  | Quality Assessment of Electrical Fans, Energy Meters & CTs |
| 5 | Mr. Khurram Javed | Junior Scientific Officer | Quality Assessment of Lighting products including Lamps & Ballasts  |
| **C** | **Services being provided :**  |
|  |  | **Testing / Analytical** (Testing of Electrical Products) |
|  |  | **Training:**  Provide Internship Trainings to B.Sc. Electrical Students) |

**8. Calibration Lab, APC & IC**

|  |  |  |
| --- | --- | --- |
| **A** | **List Of Major Equipment** | **Quantity** |
| 1) | Gauge Block Set | 1 |
| 2) | Vanier Caliper  | 1 |
| 3) | Digital balance | 1 |
| 4) | Graduated Cylinder | 1 |
| 5) | Measuring Burette | 1 |
| 6) | Pressure Calibrator | 1 |
| 7) | Portion Thermometer | 1 |
| 8) | Portable Calibrator | 1 |
| 9) | DRY Well Calibrator | 1 |
| 10) | Frequency Counter  | 1 |
| 11 | Digital Stopwatch | 1 |
| 12) | Sound Level Calibrator | 1 |
| B | **List of Experts** | **Designation** | **Major Field ( Calibration & Testing)** |
| 1) | Mr. Daim Iqbal Bhatti | SEO | Pressure Measurement |
| 2) | Ms. Samina Tariq | S.E | Dimension Measurement |
| 3) | Ms. Uzma Sattar | SSO | Volume Measurement |
| 4) | Mr. Khalid Rasheed | SSO | Mass &Force Measurement |
| 5) | Mr. Muhammad Munir | SO | Temperature Measurement |
| 6) | Mr. Tanveer Ahmad | SO | Electrical, Time & Frequency Measurement |
| **C** | **Services being provided:** |
|  | **a.** | Testing/ Analytical |
|  | **b.** | Consultancy / On Site Visit |

**9.** **Centre for Environmental Protection Studies (CEPS)**

|  |  |  |
| --- | --- | --- |
| A | **List of Major Equipment** | **Quantity** |
|  | Inductively Couple Plasma (ICP) | 01 |
|  | High Performance Liquid Chromatograph (HPLC) | 01 |
|  | MACRO CHNS | 01 |
|  | Parr Automatic Bomb Calorimeter (USA) | 01 |
|  | BOD Testing Apparatus 50 oC | 01 |
|  | Sound Level Meter | 03 |
|  | Total Organic Carbon Analyzer | 01 |
|  | Light Measuring Unit (Lux Meter) | 01 |
|  | Basic Infrared Moisture Analyzer | 01 |
|  | Portable Weather Station | 01 |
|  | Nabertherm Muffle Furnace 1100 oC, Germany | 01 |
|  | Digestion Unit | 01 |
|  | Tinto-meter | 01 |
|  | SAS Super 100 Digital Microbial Air Sampler with Stainless Steel Head | 01 |
|  | Opacity Meter | 01 |
|  | Mercury Analyzer | 01 |
|  | Compound Microscop |  01 |
|  | Conductivity Meter | 01 |
| Sr. No. 2, 3 and 10 are, at present, out of order. |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| 1 | Dr. Rauf Ahmad Khan/Head | PSO | Microbiology |
| 2 | Ms. Naz Imtiaz  | PSO |  Environmental Science |
| 3 | Ms. Tayyaba Aftab | PSO | Environmental Science |
| 4 | Mr. M. Tahir Butt | SSO |  Urban and Industrial Environmental Management  |
| 5 | Dr. Hammad Khan | SSO | Environmental Chemistry |
| 6 | Dr. Farzana Bashir | SSO | Environmental Chemistry |
| 7 | Dr. Farah Deeba | SSO | Organic Chemistry  |
| 8 | Dr. M. Khalid Iqbal | SSO |  Environmental Chemistry |
| 9 | Mr. Farrukh Hussain | SO | Applied Chemistry  |
| 10 | Mr. Naeem Abbas  | SO | Chemistry  |
| 11 | Mr. M. Javid Iqbal | SO | Chemistry  |
| 12 | Mrs. Sadia Aslam | SO | Organic Chemistry |
| **C** | **Services being provided:** |
|  | **a.** | **Testing / Analytical** |
|   | **b.** | **Consultancy:** Provide Consultancy to Public and Private sectors in Various fields. |
| **D** | **Pilot Plant Facility** |
|
|  | 1. Semi Pilot plant as R&D base of RDF  |
|  | 1. Laboratory Sewage wastewater treatment plant
 |

**PCSIR Laboratories Complex, Peshawar**

**Core Competencies of PCSIR Laboratories Complex Peshawar**

|  |  |  |
| --- | --- | --- |
| **S.#** | **FEATURES** | **DESCRIPTION** |
| **1.** | **PRODUCTS** | * Manufacturing of machine parts
* Cutting, Polishing, Engraving & Carving of stones (marble and granite)
* Mosaic work on stones (marble and granite)
 |
| **2.** | **FACILITIES** | **Machines:*** CNC Machining Centre
* CNC Turning Centre
* CNC Tool Grinding Machine
* Surface Grinding Machine
* Cylindrical Grinding Machine
* Engraving Machine for Marble & Granite
* Marble Slab & Section Cutting Machine
* Mobile Bridge Saw “Speedycut”
* Arm Polishing Machine
* Scampering Shaping & Polishing Machine

**Calibration:*** Temperature Metrology
* Mass Metrology
* Pressure Metrology
* Chemical Metrology
* Volumetric Metrology
* Electrical Metrology
* Length metrology
 |
| **3.** | **MAJOR STRENGTHS** | * **Conduction of diploma courses at PSTC Peshawar**
	+ **(DAE in Dies & Mould Technology (DMT) 04 years**
	+ **DAE in Precision Machining & Instrument Technology (PMIT) 03 years**
	+ **Diploma in Information Technology 01 year**
* **Short Courses at PSTC:**
	+ Dies & Mould Technology (01 to 06 months)
	+ Machinist (01 to 06 months)
	+ Computerized Numerical Control (CNC) (01 to 06 months)
	+ Certificate in Information Technology (01 to 06 months)
	+ Electrician and Welding (01 to 06 months)
* **Conduction of short courses at Dimension Stone Peshawar**
	+ Dimension Stone Mining (2 months)
	+ Designing and Fabrication of Stones Mosaic (3 months)
	+ Cutting & Polishing of Marble & Granite (2 months)
	+ Value addition to Dimension Stones (4 months)
	+ Mining and General Safety (1 month)
	+ Fork lifter Operation(1 month)
 |
| **4.** | **DESIGNING** | Designing Centre having Computer Aided Design (CAD/CAM) facilities supported by Engineering Software |
| **5.** | **QUALITY ASSURANCE** | ISO / IEC 17025: 2005 Accredited Calibration Labs.  |

**PCSIR Laboratories Complex, Peshawar**

* + - 1. **Medicinal Botanic Centre:**

|  |  |  |
| --- | --- | --- |
| **A** | **List of Major Equipment** | **Quantity** |
|  | GC-Mass Spectrometer (Shimadzu Model QP 2010) (Plus) | 1 |
|  | HPLC (Shimadzu SC-8A System) | 1 |
|  | Amino Acid Analyzer (Shimadzu Model 20 A) | 1 |
|  | Gas Chromatograph (Perkin Elmer Model 8410) | 1 |
|  | FTIR Spectrophotometer (Shimadzu Prestige 21) | 1 |
|  | Autoclave | 1 |
|  | Cooled Incubator (Gallenkamp) | 1 |
|  | Cooled Incubator (Memmert) | 1 |
|  | Droplet Counter Current Chromatograph (Model DCC-300-92) | 1 |
|  | Semi Auto-chemistry Analyzer | 1 |
|  | Laminar Flow Cabinet (Karl Kolb) | 1 |
|  | Stereoscopic Microscope | 1 |
|  | Viscometer | 1 |
|  | Vacuum Oven | 1 |
|  | Digital melting Point Apparatus | 1 |
|  | Bench Top Muffle Furnace, Oven | 1 |
|  | Pyrogen Tester (Rabbit) | 1 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Dr. Inayat ur Rahman | PSO  | Organic Chemistry  |
|  | Syed Naeem ud Din Gillani | PSO | Bio-chemistry |
|  | Mr. Gul Akhtar Khan | PSO | Organic Chemistry |
|  | Dr. Muhammad Qaiser, | SSO | Organic Chemistry |
|  | Ms. Farina Kanwal | SSO | Physical Chemistry |
|  | Mr. Muhammad Saddique | SSO | Organic Chemistry |
|  | Mr. Muhammad Akram | SSO | Organic Chemistry |
|  | Dr. Yousaf Ali | SSO | Organic Chemistry |
|  | Mr. Mushtaq Ahmad | SSO | Organic Chemistry |
|  | Ms. Hina Fazal | SO | Botany |
|  | Ms. Farah Gul | SO | Pharmacy |
|  | Engr. Muhammad Saddique | Jr. Engr. | Chemical Engineering |
|  | Ms. Humaira Inayat | SO | Organic Chemistry |
|  | Mr. Yaqoob ur Rahman, | SO | Bio-Chemistry |
| **Equipment at Sr. No. 1 is, at present, out of order**. |
| C. | **Services :**  Analytical, Consultancy and Training |
| D. | **Pilot Plant Facility**  |
|  | Capsule Filling Machine |
|  | Capsule Polishing Machine |
|  | Dedicated Powder Cone Mixer |
|  | Freeze Dryer Karl Kolb |
|  | Sigma Mixer |
|  | Strip/Blister Packing |
|  | Tablet Rotary Machine |
|  | Vacuum Emulsifier (Heavy Duty) |
|  | Plethysmometer/Volume Meter |
|  | Grinding Mill |
|  | Automatic Tube Filling & Sealing Unit |
|  | Cream/Ointment Mixing Vessel |
|  | Water Deionizer |
|  | Steam Jacketed Liquid Mixer |
|  | Fine Pulverizer |
|  | Boiler |
|  | Solvent Extraction unit. |

* + - 1. **Materials Science Centre**

|  |  |  |
| --- | --- | --- |
| **A** | **List of Major Equipment** | **Quantity** |
|  | Atomic Absorption Spectrophotometer | 01 |
|  | Spectraflash Spectrophotometer | 01 |
|  | X-ray Fluorescence Spectrophotometer  | 01 |
|  | Auto burst tester | 01 |
|  | CHNS Elemental Analyzer | 01 |
|  | Spectrofluorometer | 01 |
|  | Cloud & pour point apparatus | 01 |
|  | High temp furnace | 01 |
|  | Box furnace | 01 |
|  | Analine point apparatus | 01 |
|  | Flash point apparatus | 01 |
|  | Flame photometer | 01 |
|  | Universal testing machine (1000 KN) | 01 |
|  | Universal testing machine (50 NK) | 01 |
|  | Emission Spectrograph | 01 |
|  | Metallurgical Microscope | 01 |
|  | Flame photometer | 01 |
|  | Electric furnace | 01 |
|  | Balance (sartorious) | 01 |
|  | Balance (Mettler) | 01 |
|  | Electric overn | 01 |
|  | Fuming hood | 01 |
|  | pH meter | 01 |
|  **Equipment at Sr. No 3 and 9 to 12 are, at present, out of order.** |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Mr. Farid Ullah Khan | PSO | Analytical Chemistry |
|  | Ms.Nazir Jan | PSO | Analytical Chemistry (M.Phil) |
|  | Mr. Amin ur Rahman | SSO | Physical Chemistry |
|  | Ms. Asma Yamin | SSO | Physical Chemistry (M.Phil) |
|  | Mr.Muhammad Siddiq | Technician | F. Sc |
|  | Dr. Mahtab Faisal | SSO | PhD Nano Technology |
|  | Mr. Pirzada. M Naeem | Sr. Exp Officer | DAE (Mechanical) |
|  | Mr. Gul Hassan | Technician | DAE (Mechanical) |
|  | Dr. Mahmood Iqbal | SSO | Polymer Science |
|  | Mr. Sohail Noor | Sr. Technician | Environmental Sciences (M.Phil) |
|  | Mr. Waheed ur Rahman | Jr. Engr | Chemical Engineer |
|  | Mr. Rahat Shah | Junior Tech Officer | Matric (Science) |
| C | **Services being provided:**  Analytical, Consultancy and Training |
| D. | **Pilot Plant Facility Equipments** |

|  |  |
| --- | --- |
|  | Jaw Crushers |
|  | Hammer Mill |
|  | Ball Mill (Closed Circuit) |
|  | Ball Mill (Mini) |
|  | Pot Mill |
|  | Vibrating Screen 1 |
|  | Vibrating Screen 2 |
|  | Floatation Cells |
|  | Curing Tank |
|  | Centrifuge 1 |
|  | Centrifuge 2 |
|  | Vacuum Filtration Unit |
|  | Kneader Mixer |
|  | Double Cone Blender |
|  | Tray Dryer |
|  | Magnetic Separator |
|  | Pin Mill |
|  | Screening Unit |
|  | Disc Grinder |
|  | Crystallizer |
|  | High Temperature Furnace |
|  | Reactor (Stainless Steel) |
|  | Multi Flow Mixer(Water Jacketed, Stainless Steel) |
|  | Reactor (Simple Agitated) |
|  | Autoclave |
|  | Evaporator |
|  | Rotary Kiln (Small) |
|  | Tilting Crucible Furnace |
|  | Energy Mill |
|  | Settling and Storage Tanks |
|  | Pin Mill |
|  | Light Weight Aggregate Pilot Plant |

 **3. Food Technology Centre:**

|  |  |  |
| --- | --- | --- |
| **A.** | **List of Major Equipment** | **`Quantity** |
|  | Top loading Balance | 01 |
|  | Analytical Balance  | 03 |
|  | Vacuum Oven  | 02 |
|  | Fibertec  | 01 |
|  | UV Spectrophotometer  | 04 |
|  | Moisture Analyzer  | 02 |
|  | Thermostatic Dry Bath  | 01 |
|  | Refractometer  | 03 |
|  | Freez Drier  | 02 |
|  | Electric Autoclave  | 01 |
|  | pH Meter  | 04 |
|  | Colony Counter  | 01 |
|  | Laminar Air Flow Cabinet | 01 |
|  | Stomacher  | 01 |
|  | Pure Lab Prima  | 01 |
|  | Electric Microscope  | 01 |
|  | Digital conductivity Meter  | 01 |
|  | Membrane Filter Assembly with Diaphragm Type Dry Vacuum pump | 01 |
|  | Media dispenser apparatus  | 01 |
|  | Grain Analyzer  | 01 |
|  | Rotary Vacuum Evaporator  | 01 |
|  | Dryer machine (Filter) | 01 |
|  | Atomic Absorption Spectrophotometer  | 01 |
|  | Flame Photometer  | 01 |
|  | Triple Plus Air Analyzer  | 01 |
|  | Haz Dust Analyzer Particulate Matta | 01 |
|  | Conduct meter  | 01 |
|  | Do meter  | 01 |
|  | Land Flue Gas Analyzer | 01 |
|  | Water bath | 01 |
|  | Oven (Memmert) | 01 |
|  | Centrifuge Machine  | 01 |
|  | Vortex Mixer  | 01 |
|  | HPLC | 01 |
|  | Auto kjhedhal  | 01 |
|  | Electric Balance (Top Loading) | 01 |
|  | Rotary Evaporator (Small) | 01 |
|  | Rotary Evaporator (Large) | 01 |
|  | Eyela Cool ACE Chiller | 01 |
|  | Crushing Mill | 01 |
|  | Sontec system | 01 |
|  | Polarimeter  | 01 |
|  | Tentometer  | 01 |
|  | Heavy duty hop plate  | 01 |
|  | Incubator  | 01 |
|  | Cooled Incubator  | 01 |
|  |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Mr. Shams ur Rehman  | PSO | Food Science & Technology  |
|  | Dr. Javed Abbas Bangash  | SSO | Bio Chemistry  |
|  | Mr. Jehangir Shah  | PSO | Environmental Management  |
|  | Dr. Arshad Hussain  | SSO | Biotechnology  |
|  | Mr. Muhammad Younas  | SSO | Statistic  |
|  | Ms. Nabeela G. Dar  | SSO | Food Science & Technology  |
|  | Dr. Javed Ali  | SO | Microbiology  |
|  | Mr. Rehmanullah Khan  | SO | Food Science & Technology |
|  | Ms. Salma Iman  | SO | Food Science & Technology |
|  | Mr. Muhammad Sohail  | SO | Food Science & Technology |
|  | Mr. Inayatur Rehman  | SO | Environmental Chemistry  |
|  | Mr. Ghulam Mohi Uddin Paracha | JSO | Food Science & Technology  |
| C. | **Services being provided:** Analytical, Consultancy and Training |
| D. | **Pilot Plant Facility Equipments** |
|  | Grinding Mill (2 Nos) |
|  | Pin Grinder (2 Nos) |
|  | Juice Extracting Machine  |
|  | Mango Pulper  |
|  | Pulper Machine  |
|  | Juice Extracting Automatic Machine  |
|  | Peel Shreading Machine  |
|  | Dried Fruit washer and Dryer |
|  | Citrus Reaming Machine  |
|  | Jacketed Vacuum Pan with Vacuum Pump |
|  | APV Plate Evaporator |
|  | Soda water Machine  |
|  | Bottle Filling Unit |
|  | Crown cork Automatic Machine  |
|  | De-level Centrifuge Separator |
|  | Citrus Super Fermatic Oil Extracting Machine  |
|  | Hydraulic press  |
|  | Ball Mill  |
|  | Cabinet Dryer  |
|  | Ptoto Peele  |
|  | Oil expeller  |
|  | Double Drum Dryer  |
|  | Steam Jacketed Pan  |
|  | Peel Shredder Machine |
|  | Filer Press |
|  | Spin Cooker Steam Sterilizer  |
|  | Climbing Film Evaporator Distillation Plant |
|  | High Vacuum Pump |
|  | Helix Autovac sealing Unit  |
|  | Helix Sealing Unit  |
|  | Mental Mincer  |
|  | Double Sealer Machine  |
|  | Hand Flange Large  |
|  | Body reformer  |
|  | Hand fange small  |
|  | Apple Peeler – 2 (02) |
|  | Vegetable Preparing Manual Machine  |
|  | Canning Line  |
|  | Petort with two Baskit |
|  | Scale Avery  |
|  | Fruit slicing and dicing machine  |
|  | Steam Blancher  |
|  | Washing preparing and draining SS Table  |
|  | Quick fit all glass distillation Plan |
|  | Mill Wall |
|  | Centrifuge Machine  |
|  | Bottling Cleaning Unit  |
|  | Autoclave |
|  | Ice Cube Making Machine  |
|  | Chiller  |
|  | Cold Storage  |
|  | Soalr Dryer  |
|  | Conveyor dryer  |
|  | Pops Making Machine |
|  | Compressor  |
|  | Expiry Date Printing Machine  |
|  | Dry Powder Mixing Machine  |
|  | Baking Oven  |
|  | Water Purifier  |
|  | Slicing Machine  |
|  | Automatic Unit for Carbonation and Mineral Water  |
|  | Mixer along with Agitator  |
|  | Steam Generator  |
|  | Jam Filling and capping machine  |
|  | Acetator  |
|  | Fermentor  |
|  | Rotary Vacuum Drum Filter  |
|  | Packing Machineries (a) Pops (b) Paste (c) Ticky Pack (d) Powder  |
|  | Juice Filling Machine  |
|  | Homogenizer (Hand/ Portable) |

1. **Calibration Centre**

|  |  |  |
| --- | --- | --- |
| **A** | List of Major Equipment | **Quantity** |
|  | Balances | 03 |
|  | Water Bath Julabo | 01 |
|  | Oil Bath | 01 |
|  | Kalibrator Inmel 33  | 01 |
|  | Calibrator Fluke | 01 |
|  |  Dead Weight Tester | 01 |
|  | Agilant Digital Multimeter | 01 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Dr. Mushtaq ur Rehman | SSO | Physics |
|  | Ms. Sheeba Hassan | SO | Physics |
|  | Mr. Bakhtiar Nawaz | SO | Electronics |
|  | Mr. Muhammad Niaz | SO | Physics |
|  | Mr. Anwar Khan | Technician | Electrical |

**5. Dimension Stone Centre**

|  |  |  |
| --- | --- | --- |
| **A** | List of Major Equipment | **Quantity** |
|  | Mobile Bridge Saw speedy cut FK/NC 1400 | 1 |
|  | Marble Cutting & Sectioning Machine | 1 |
|  | Hydraulic Portable Blade Cutter | 1 |
|  | Sector Multi Speed Portable Router | 1 |
|  | Arm polishing machine | 1 |
|  | Turning /Lath Machines | 5 |
|  | Portable Grinding machine | 1 |
|  | Portable Drilling machine | 1 |
|  | Engraving Machine | 1 |
|  | Fork lifter Truck | 1 |
|  | Compression Testing Mach. | 1 |
|  | Flexural Testing Machine | 1 |
|  | Abrasive Meter (Abrasion Testing Machine) | 1 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Mr. Abdul Ghani  | PSO | Geology  |
|  | Mr. Mehtab Ahmad Afridi  | JE | Chemical  |
|  | Mr. Sardar Ali Khan  | Technician  | Marble Processing  |
|  | Mr. Ghulam Akbar  | Technician  | Marble Processing  |
|  | Mr. Ilyas Khan  | JT  | Marble Processing  |
| **D.** | **Pilot Plant Facility**  |  |  |

**C. Services being provided:**

|  |  |
| --- | --- |
| **a.** | **Testing/Analytical:** Quality testing of dimension stones |
| **b.** | **Consultancy:** Offer services of consultancy to Public and Private Sectors**.** |
| **c.** | **Training:**  Supervise MS/M. Phill/ Ph. D Students. |

**PCSIR Laboratories, Hyderabad**

|  |
| --- |
| **1.1 Analytical Research Division** |
| **A** | **List of Major Equipment** | **Quantity** |
| **1)** | Water Distillation Unit | 01 |
| **2)** | Weighing Balance | 01 |
| **3)** | Autoclave Sterilizer  | 02 |
| **4)** | Incubator | 02 |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| **1)** | Mr. Habibul Hassan Ghouri | Experimental Officer | B. Tech. |
| **2)** | Mr. Mohammad Yaqoob Kapri | Technical Assistant | B. Sc.  |
| **C** | **Services being provided:**  |
|  | **a** | **Testing / Analytical:** Water, Medicine; Food, Poultry Feed. |
|  | **b** | **Consultancy:** offer consultancy to Public and Private Sectors. |
|  | **c** | **Training** : Provide training in Water Analysis / Analytical and Testing Service |

**LEATHER RESEARCH CENTER (LRC), KARACHI**

**CORE COMPETENCIES OF LEATHER RESEARCH CENTRE, PCSIR, KARACHI**

|  |  |  |
| --- | --- | --- |
| **Sr. #.** | **Features** | **Description** |
| 01. | Products | * Technologies for Exotic type of Leather such as Chicken Paw Leather, Ostrich Leather, Stomach Leather, Fish Leather etc.
* Process for leather chemicals such as Vegetable oil Fatliquor, Zero Formaldehyde Syntan, Resins etc.
* Process for Environment Friendly products such as protein, fat, fertilizer from leather solid waste.
* Technologies for especial Leather such as Gasket for high pressure jacks for Air craft & Automotive, Easy maintainable Leather, Sub Zero Leather.
 |
| 02. | Facilities | * State of the art physical & Chemical Testing facilities for Leather goods & chemicals.
* Quality technical services by experts i.e. Ph.Ds, M. Phil, M.Sc etc. Scientists, Technologists & Engineers.
* Pilot scale leather processing facilities from raw to finish.
 |
| 03. | Strength | * R&D Innovations through basic and applied research in leather and allied areas.
* LRC provides Technical Trained Manpower to Leather Industry, public & Private Sector and Armed Forces LRC also solves problems being faced by Leather Industry in Leather processing and environmental issues through consultancy.
 |
| 04. | Services | * Research & Development through need based, demand based & national interest project.
* Physical, Chemical & Environmental Testing for Leather, Chemical, textile & Auxiliaries more than 100 Tests.
* Demand based training in Leather & QA/QC.
 |
| 05. | Quality Assurance | * As per ISO-17025 Accreditation
* EPA Certified Environmental testing.
 |

**LEATHER RESEARCH CENTER (LRC), KARACHI**

|  |
| --- |
| **1.1 Leather Research Centre/ Leather & Allied Chemicals**  |
| **A** | **Name of Major Equipment** | **Quantity** |
|
| 1. | Material Testing Machine (with accessories) | 01 |
| 2. | Tensile Tester | 01 |
| 3. | Auto Fastness Tester  | 01 |
| 4. | Rub Fastness (manual) | 01 |
| 5. | Flexometer | 01 |
| 6. | Penetrometer | 02 |
| 7. | Conditioning Chamber for sample | 01 |
| 8. | Velcro Fatigue Tester | 01 |
| 9. | Wrinkleometer | 01 |
| 10. | Analogue Leather Softness Tester | 01 |
| 11. | Martindale Abrasion Machine | 01 |
| 12. | Autoclave  | 01 |
| 13. | Soxhlet Apparatus | 05 |
| 14. | DR-2000 Spectrophotometer | 11 |
| 15. | Rotary evaporator  | 01 |
| 16. | Autoclave | 01 |
| 17. | Microwave Digester  | 01 |
| 18. | centrifuges  | 01 |
| 19. | Furnace  | 01 |
| 20. | COD Reactor  | 01 |
| 21. | Flame Photometer  | 01 |
| 22. | Conductivity meter  | 01 |
| 23. | FTIR Spectrophotometer  | 01 |
| 24. | Sonicator  | 01 |
| 25. | UV Spectrophotometer  | 02 |
| 26. | HPLC  | 01 |
| 27. | Colony Counter | 01 |
| 28 | Incubator | 01 |
| 29. | Conditioning Chamber for Lab. | 01 |

|  |  |  |  |
| --- | --- | --- | --- |
| **B** | **List of Experts** | **Designation** | **Major Field** |
|  | Dr. Hafiz Rub Nawaz | Director, LRC | Organic Chemistry, Nano- Technology, Leather waste management. |
|  | Ms. Farrukh Nazir | Principal Scientific Officer | Leather Science & Technology specially on characterization of indigenous vegetable tanning material  |
|  | Dr. M. Kashif Pervez | Principal Scientific Officer | Organic Chemistry, Leather, Synthesis of Leather Auxiliaries, Synthesis of Dyes & Metal Complexed Dyes,Natural Dyes, Analysis of Toxic Chemicals, Separation Sciences, Phytochemistry, Chromatographic Techniques and Medicinal Sciences |
|  | Engr. Nisar Ahmed | Senior Experimental Officer | Mechanical Technology |
|  | Dr. Farman Ahmed | Senior Scientific Officer | Organic Chemistry, Leather & Leather Auxiliaries, Analysis of Toxic Chemicals, Environmental Studies, Natural Dyes, Phytochemical Investigation, Separation Sciences and Medicinal Sciences |
|  | Mr. Barkat Ali Solangi | Senior Scientific Officer | Enzyme Technology in Leather Processing  |
|  | Mr. Tahira Ayaz | Senior Scientific Officer | Leather & Leather Auxiliaries & Environment Sciences |
|  | Ms. Sarwat Jahan Mahboob | Senior Scientific Officer | Organic Chemistry, Leather, Synthesis of Leather Chemicals, Application of leather Chemicals and Analysis of Leather & Leather Chemicals |
|  | Dr. Beena Zehra | Scientific Officer | Chemistry, Leather Solid Waste  |
|  | Mr. Rajkumar Dewani | Scientific Officer | Analytical Chemistry, Leather, Analysis of Leather & Leather Chemicals |
|  | Mr. Muhammad Zeeshan | Principal Technician | Leather Technology, Physical & Chemical Testing |
|  | Mr. Sikandar Ali | Junior Scientific Officer | Leather, Analysis of Leather & Leather Chemicals |

|  |  |
| --- | --- |
| **C** | **Services being provide:**  |
| **a** | **Testing/ Analytical**  |
|  | Abrasion Resistance of Leather/Textile |
|  | Bursting Strength of Leather  |
|  | Color fastness to perspiration (Leather/Textile) |
|  | Crock test (wet & dry Leather ) |
|  | Dexterity of Gloves  |
|  | Fibre Identification of Leather  |
|  | Flexing endurance of Leather (wet & dry)  |
|  | Shrinkage temperature of Leather  |
|  | Sizing of Working Glove  |
|  | Softness of Leather  |
|  | Tear Strength of Leather (Single & Double Edge) |
|  | Thickness of Leather  |
|  | Microbiological analysis for drinking water  |
|  | Biological oxygen demand (BOD) in water & waste water |
|  | Chemical oxygen demand (COD) in water & waste water  |
|  | Chlorides in water & waste water |
|  | Magnesium in water  |
|  | Permanent Hardness |
|  | Potassium in water  |
|  | Sodium in water  |
|  | Sulfate in water & waste water  |
|  | Sulfide in water & waste water  |
|  | Total Chlorine in water & waste water |
|  | Ash Content in Leather  |
|  | Chromium Oxide in Leather (Cr2 O3) |
|  | Chromium VI in natural colour Leather  |
|  | Fat Content in Leather  |
|  | pH Value of Leather Extract  |
|  | Sulphated Ash in Leather  |
|  | Azo Dye from Leather & Textile  |
|  | Dimethyl Fumarate |
|  | Formaldehyde from Leather & Textile |
|  | Stability of chemical  |
|  | Determination of Non-Hazardous chemical  |
|  | Enzyme activity in Bate powder  |
|  | Identification of Material  |
|  | Determination of Oil & Grease  |
|  | Purity of chemical |
|  | Determination of Free Fatty Acid  |
|  | Solid Content in chemicals |
| **b.** | **Consultancy** |
| 1. | Verification of product for fire fighter  |
| 2. | Confirmation of Pure Water  |
| 3. | Verification of Product for Welding Gloves |
| 4. | Verification of Product for Mechanic Gloves  |
| 5. | Fur Leather Recipe Provided  |
| 6. | Identification of banned item in Leather  |
| 7. | Examination of Waste Water  |
| 8. | Verification of In-House Items |
| 9. | VF Compliance  |
| **c.** | **Training:** Arrange workshops, seminars and offer training to students and Clients. |

|  |  |
| --- | --- |
| **D** | **Pilot Plant Facility****(Briefly describe, if available)** |
|
|  | LRC have pilot plant facility for Leather processing. At present these facilities are used in training and R&D experiments. Most of All these machines with \* mark were gifted by JICA JAPAN in 1984 and most of them have completed their working capability.  |
|  | Drums (Wooden & Plastic) with different sizes  |
|  | Fleshing machine\* |
|  | Sammying machine\* |
|  | Splitting machine\* |
|  | Auto Shaving Machine\* |
|  | Sammying Setting out Machine\* |
|  | Vacuum Dryer\* |
|  | Toggle Dryer\* |
|  | Vibrating Staking Machine\* |
|  | Rotary Spray with Drying chamber\* |
|  | Stonning machine\* |
|  | Hydraulic Press.\* |
|  | Polishing machine\* |
|  | Glazing machine |
|  | Buffing machine |
|  | Boiler |
|  | Wheel Staking Machine |

**Fuel Research Centre**

**CORE COMPETANCE OF FUEL RESEARCH CENTRE, PCSIR**

|  |  |  |
| --- | --- | --- |
| **S/N** | **FEATURES** | **DESCRIPTION** |
| 1 | **PRODUCTS** | FRC has three distinct R&D based products:1. **Coal, coke, coal / biomass briquettes**

These briquettes provide environment friendly fossil fuel energy source which reduces the emission of SOx and NOx gases in the environment. These briquettes serve as a smokeless fuel.1. **Humic Acid (granulated)**

A coal-derived fertilizer which accelerate the growth of crops significantly. Different combinations of humic acid have been made with different metals like zinc, potassium and calcium depending upon the nature of soil and requirement of crops.1. **Sabzazar (Humic Acid in Liquid form)**

Humic acid extracted from indigenous coals in liquid form which increase fertility of agricultural land by increasing the permeability, water soaking ability, and absorption of oxygen of land.  |
| **2** | **FACILITIES** | 1. **R&D facilities for:**
2. Coal, coke, and related products
3. Biomass materials
4. Liquid fuels
5. **Analytical Testing Facilities for:**
6. Proximate analysis
7. Ultimate analysis
8. Calorific (Heating) value
9. HGI
10. Major, minor and trace elements
11. Apparent / Bulk density
12. Free swelling index
13. Thermogravimetric analysis
14. Size analysis
15. Pour point / cloud point of liquid fuels
16. Flash Point
17. Viscosity measurement
18. Emission analysis
 |
| **3** | **MAJOR STRENGTHS** | * R&D skills and expertise on solid fuels (coal, coke, biomass etc.) and liquid fuels
* Analytical Testing skills of solid and liquid fuels, water and environment samples
 |
| **4** | **DESIGNING** | - |
| **5** | **QUALITY ASSURANCE** | The accreditation of ISO 17025 is in process. |

**Fuel Research Centre**

|  |  |  |
| --- | --- | --- |
| **A** | **List of Major Equipment** | **Quantity** |
| 1 | Proximate AnalyzerLECO Model MAC-600 | 01 |
| 2 | SulphurDeterminatorLECO Model SC-132 | 01 |
| 3 | Bomb calorimetersModel PARR-1241 | 01 |
| 4 | Hardgrovegrindibility tester | 01 |
| 5 | Ash fusion determinator | 01 |
| 6 | Thermogravimetric AnalyzerTGA 2000 | 01 |
| 7 | Isoperibol Bomb CalorimeterPARR 6300 | 01 |
| 8 | CHNS Elemental Analyzer Euro EA | 01 |
| 9 | Atomic Absorption SpectrometerPerkin Elmer Model PE-3030B | 01 |
| 10 | Oven Fischer 469, USA | 01 |
| 11 | FurnaceThermolyn (0500 Type) | 01 |
| 12 | Muffle Furnace | 01 |
| 13 | Analytical BalanceSartorius Germany 36100252 | 01 |
| 14 | Analytical BalanceSartorius Germany 36080234 | 01 |
| 15 | Autochemistry System Orion | 01 |
| 16 | Briquetting machine K.R. Komarek Model I-2611, USA | 01 |
| 17 | Briquetting pressB-220-18, SKR, Komarek | 01 |
| 18 | Briquetting machine Turchmir, Pakistan | 01 |
| 19 | Coal Pulverizer Sepor, 501XL USA | 01 |
| 20 | Sample crusher Sepor, 210XL USA | 01 |
| 21 | Drum mixer Model 201 | 01 |
| 22 | Mech. Oven Sepor | 01 |
| 23 | Pollution monitoring set Andersen, 1200 | 01 |
| 24 | Automatic petroleum distillatoryModel ADA-IV | 01 |
| 25 | High Performance (HPLC)WAT-007093 S. No. 000137 | 01 |
| 26 | Flue Gas Analyzer Testo - 0350 | 01 |
| 27 | Flash Point Apparatus ISL | 01 |
| 28 | Viscometer ISL | 01 |
| 29 | Cloud and pour point tester Petro Test |  01  |
|  Sr. No. 1, 24, 25 and 28 are presently out of order. |
| **B** | **List of Experts** | **Designation** | **Major Field** |
| 1 | Mr. Gulzar Hussain Jhatial | Principal Scientific Officer | Analytical Chemistry |
| 2 | Mr. Bux Ali Dahri | Senior Engineer | Mechanical Engineering |
| 3 | Mr. Mateen Muhammad Khan | Senior Scientific Officer | Physics |
| 4 | Dr. Gul-e-RaanaJafri | Senior Scientific Officer | Chemical Engineering |
| 5 | Mr. Santosh Kumar | Senior Scientific Officer | Analytical Chemistry |
| 6 | Dr. Zakiuddin Ahmed | Senior Scientific Officer | Environmental Sciences |
| 7 | Dr. Anila Sarwar | Senior Scientific Officer | Physical Chemistry |
| 8 | Syed Kabir Shah | Scientific Officer | Petroleum Technology |
| 9 | Mr. Amanat Ali | Scientific Officer | Analytical Chemistry |
| 10 | Mr. Nadir Bux | Scientific Officer | Geology |
| 11 | Mr. Ali GoharChachar | Junior Engineer | Electrical Engineering |
| 12 | Mr. Nasim Ahmed | Technical Officer | Electrical |
| **C** | **Services being provided:** |
|  | **a** | **Testing / Analytical:**  |
|  | 1) | Testing of Coal, coke and derivatives(includes proximate analysis (moisture, ash, volatile matter, fixed carbon), ultimate analysis (C, H, N, S & O), calorific value, Hard groove index, major and minor elements) |
|  | 2) | Environment Pollution monitoring |

|  |  |  |
| --- | --- | --- |
|  | **b** | **Consultancy:** |
|  | 1) | Heating efficiency of coal briquettes in boilers |
|  | 2) | Fabrication of down-draft biomass gasified |
|  | 3) | Humic acid |
|  | 4) | Upgrading of Baluchistan lignite to clean coal briquettes |
|  | **c** | **Training:**  |
|  | Provide training and Internship Programmes to the Students on the below mentioned following topics.i. Instrumental techniques for Characterization of coalii. Quality of coaliii. Classification of indigenous coal reserves of Pakistaniv. Underground gasification of indigenous coalsv. Coal - The future fuel of countryvi. Coal briquettes |

**Demonstration-Cum Training Center Skardu**

|  |
| --- |
|  |
| **A**  | **List of Major Equipment** | **Quantity** |
|
| 1 | Electronic weighing balance | 1 |
| 2 | Digital PH meter | 1 |
| 3 | Conductivity meter  | 1 |
| 4 | Water Distilation Unit | 1 |
| 5 | DigitalDrying Oven | 1 |
| 6 | Muffle Furnace | 1 |
| 7 | Digital Colony Counter | 1 |
| 8 | Incubator | 1 |
| 9 | Autoclaive  | 1 |
| 10 | Flame Phtometer | 1 |
| **B** | **List of Experts** | **Designation** | **Major field** |
| 1 | Mr. Tariq Umar Khan  | Principal Scientific Officer | Agriculture  |
| 2 | Mr. Faizullah Khan  | Scientific Officer | Food Science and Technology  |
| 3 | Mr. M. Iqbal Khan  | Scientific Officer | Food Science and Technology |
| **C** | **Services** Analytical, Consultancy and Trainings are provided to various Departments such as AKRSP, WWF, Agriculture Dept , farmers of GB, KIU, NGOs, etc in the following fields:1. Processing of fruits and vegetables
2. Value added product development
3. Dehydration of fruits
4. Students chemical composition testing
 |
|  |
| **D** | **Pilot plant facility** |
|
| 1 | Boiler commercial scale |
| 2 | Boiler small size |
| 3 | Cold storage (portable) |
| 4 | Mobile training Unit |
| 5 | Seed cleaning machine |
| 6 | Oil Expeller |
| 7 | Oil filter |
| 8 | Pulpier  |
| 9 | Cabinet drier  |
| 10 | Solar House  |
| 11 | Potato cutter |
| 12 | Potato Slicer |
| 13 | Potato peeler |
| 14 | Mobile training Unit |
| 15 | Moveable & Portable Solar |
| 16 | Electric Dehydration tunnel |
| 17 | Seasoning tanks |
| 18 | Berry washer |
| 19 | Leather oil heater |
| 20 | Thermo Break (Steam fitted) |
| 21 | Cooking pans  |
| 22 | Hydraulic Juice Extractor |
| 23 |  Oven large size  |
| 24 | Weighing machine |
| 25 |  Thermo break  |