

Food & Allied Products, Beverages, Soft Drinks and Drinking Water				
Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
Milk (Powder, Skim, Raw, Condensed and Flavored)				
FA-01	Flavour and Odour	2-3 days	In House	LLC, KLC, PLC, IL
FA-02	Moisture	3 days	AOAC	*LLC, KLC, PLC, IL
FA-03	Solubility index (Rolled-dried, Spray-dried)	3 days	AOAC	LLC, KLC
FA-04	Total Ash (on dry basis) % by mass	3-4 days	AOAC	*LLC, KLC, PLC, IL
FA-05	Milk Fat (% by mass)	3-4 days	AOAC	*LLC, KLC, PLC, IL
FA-06	Titrateable Acidity (as lactic acid) % by mass	3 days	AOAC	PLC, KLC, IL
FA-07	S.N.F	3-5 days	AOAC	LLC, KLC, IL
FA-08	Total solids (% by wt.)	3 days	AOAC	LLC, KLC, PLC, IL
FA-09	Sucrose (%)	5 days	AOAC	LLC, KLC, PLC, IL
FA-10	Protein	5-6 days	AOAC	*LLC, KLC, PLC, IL
FA-11	Lactose (%)	5 days	SHERMA et al., 2016, HPLC (AOAC)	LLC, KLC
FA-12	Casein	5 days	AOAC 2019, 2021	KLC, LLC, PLC
FA-13	Shelf life	1-3 months	In House	LLC, KLC, IL, PLC
FA-14	Bacterial count	3 days	FAO, 1992	*LLC, *KLC, *PLC, IL
FA-15	Coliform count	5 days	FAO, 1992	*LLC, *KLC, *PLC, IL
FA-16	Total Colony count	3 days	FAO, 1992	*KLC, *LLC, *PLC, IL
FA-17	Aflatoxin M1	3 days	AOAC 2019	PLC, *LLC, *KLC
FA-18	Aflatoxin	3 days	AOAC 2019/2021(972.26), HPLC	*KLC, *LLC, PLC, IL
FA-19	Creaming index	5 days	AOAC	LLC, PLC
FA-20	Phosphate test	5 days	AOAC	LLC
FA-21	pH at 20°C	3 days	In House	KLC, LLC, IL
FA-22	pH at 55 ± 1 for 7 weeks	5 days	In House	KLC, LLC, IL
FA-23	CHNS elemental analyzer	10 days	APHA/ John Edward, 1982	PLC
FA-24	Biochemical analysis	3-5 days	AOAC	PLC, LLC
FA-25	Salmonella	5-10 days	AOAC	PLC, *KLC, IL, *LLC
Butter				
FA-26	Organoleptic Quality	3 days	In House	KLC, LLC
FA-27	Hygienic Condition	5-10 days	FAO 1992	LLC, KLC, IL, PLC
FA-28	Milk Fat (m/m)	3-4 days	AOAC	LLC, KLC, PLC, IL
FA-29	Milk Solid-not-fat contents (m/m)	3-5 days	AOAC	LLC, KLC, PLC, IL
FA-30	Water content (m/m)	3 days	AOAC	LLC, KLC
FA-31	Sodium chloride (m/m) for salted butter	3 days	AOAC	LLC, KLC, IL
FA-32	Rancidity (Qualitative)	3 days	Pearson's composition and analysis of foods (1991)	PLC, IL, KLC
FA-33	Rancidity Kries test	3-5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC
FA-34	Shelf life of product	1-3 months	In House	LLC, KLC, IL
FA-35	Appearance, smell, taste & color	3 days	In House	LLC, KLC, PLC, IL
FA-36	pH of Butter Serum	2 days	pH meter	KLC
Tea				
FA-37	Water Extract (% by wt.)	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-38	Total ash (% by wt.)	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-39	Ratio of soluble ash to total ash (% by wt.)	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-40	Alkalinity of soluble ash calculated as K ₂ O (% by wt.)	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL

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FA-41	Ash insoluble in acid (% by wt.)	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-42	Curde Fibre (% by wt.)	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-43	Caffeine % by wt.	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-44	Tannin (% by wt.)	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-45	Heavy Metals	3-5 days	AOAC	LLC, *KLC, IL
FA-46	Package for tea	7-10 days	AOAC	PLC, IL
FA-47	Alkalinity of Water soluble ash (as KOH), % mass fraction of total ash	5 days	Pearson's composition and analysis of foods (1991)	PLC, IL
FA-48	Aflatoxin	3 days	AOAC	PLC, IL, *LLC,*KLC
FA-49	Acid Insoluble ash, % mass fraction	5-7 days	Pearson's composition and analysis of foods (1991)	PLC, IL, *KLC

Fruit Squashes/ Concentrated Juices/ Fresh Fruit Juices/ Soft Drinks

FA-50	Sulphur dioxide	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC, IL, PLC
FA-51	Benzoic acid	3 days	Pearson's composition and analysis of foods (1991), HPLC	LLC, KLC
FA-52	Colour	3-5 days	PS:1739	LLC, KLC, PLC
FA-53	Taste & Flavour	3 days	PS:1739	LLC, KLC, IL
FA-54	Absence of defects	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, IL
FA-55	Degree of Brix clear sample	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	*LLC, KLC, PLC, IL
FA-56	Microbiology	5-10 days	FAO, 1992	*LLC, *KLC, IL
FA-57	Heavy Metals (Arsenic, Lead, Copper, Zinc, Iron, etc.)	5-7 days	AOAC	LLC, *KLC, PLC, IL
FA-58	Pulp (pH, sugar (sucrose) total solid pulp on dry weight basis)	7 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, PLC, IL
FA-59	Sorbic Acid	5 days	AOAC, HPLC	KLC
FA-60	Sulphurous acid salts or SO ₂ (mg/kg)	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC
FA-61	Soluble solids (% by wt.)	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-62	Alcohol in Herbal Drinks and Juices	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	KLC, PLC
FA-63	Cholesterol Contents	5 days	AOAC, Biochemistry, GC	LLC, KLC, PLC, IL
FA-64	Brix	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	*LLC, KLC, SL, IL
FA-65	Hygiene	5-10 days	FAO, 1992	LLC, IL
FA-66	Specific gravity	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-67	Total solids Brix corrected (% w/v)	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC
FA-68	Acidity % (calculated as citric acid/ malic acid)	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC, PLC, SL, IL
FA-69	Ash (% w/v)	3 days	AOAC	LLC, KLC, SL, IL

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FA-70	Alkalinity of ash (calculated as K ₂ CO ₃ (% w/v)	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-71	Ascorbic acid (Vit. C)	5-7 days	AOAC	LLC,*KLC, PLC, IL
FA-72	Essential oils ir/ax ml/kg	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	KLC
FA-73	Formal number mg of NaOH/100 ml	3 days	AOAC	LLC
FA-74	Total organic volatiles (g/kg)	5 days	Pearson's composition and analysis of foods (1991)	LLC
FA-75	Acid insoluble ash (% mg/kg)	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-76	pH value	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-77	Refractive index at 20°C	3-5 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC,PLC
FA-78	Total solids with sugar %	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC,PLC
FA-79	Total solids without sugar %	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC,PLC
FA-80	Caffeine	3 days	Pearson's composition and analysis of foods (1991)	KLC,PLC,LLC
FA-81	Sweetners	7 days	Pearson's composition and analysis of foods (1991)	LLC
FA-82	Sugar	5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC,PLC
FA-83	Citric Acid	3 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL,PLC
FA-84	Vitamin C	5-7 days	AOAC, HPLC	LLC, *KLC, IL,PLC
FA-85	Benzoates	3-5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC
FA-86	Phosphoric Acid	3 days	Pearson's composition and analysis of foods (1991)	LLC
FA-87	Package-1 (pH, sugar sweetener, acidity, sodium contents, caffeine in Cola drinks)	10 days	AOAC	KLC,LLC, PLC, IL
FA-88	Package-2 (total soluble solids, pH acidity, Vitamin C, total sugar, reducing and nonreducing sugar)	10 days	AOAC	PLC, LLC, IL
FA-89	Aflatoxin test of fruit for B1, B2, G1, G2	3 days	AOAC	PLC, *KLC
Chilli Powder/ Curry Powder/ / Spices				
FA-90	Colour (Sudan I-VI)	3-5 days	SN Mahindru-2000, HPLC	LLC, KLC, IL
FA-91	Odour	3 days	PSS 1742:2010	LLC, KLC
FA-92	Taste Plungecy	3 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC, IL
FA-93	Freedom from moulds	5-10 days	FAO,1992	LLC, KLC, *PLC, IL
FA-94	Insects	5 days	PSS 1742:2010	LLC, IL
FA-95	Aflatoxin	3 days	AOAC	LLC, *KLC,PLC, IL
FA-96	Fitness	3 days	AOAC	LLC, IL
FA-97	Moisture %	3-5 days	AOAC	LLC, KLC,*PLC, SL, IL
FA-98	Total Ash (m/m) on dry basis % max.	3-5 days	AOAC	LLC, KLC,*PLC, SL, IL
FA-99	Acid insoluble ash (m/m) on dry basis % max.	3-5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, SL, IL, *PLC

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FA-100	Volatile oil ml/100 g on dry basis	3-5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-101	Non-Volatile ether extract on dry basis	3-5 days	FSSAI Manual of method of analysis of food Spices and condiments 2015	LLC, KLC, IL
FA-102	Crude fibre on dry basis	5 -7 days	AOAC	LLC, KLC,PLC, IL
FA-103	Edible starchy material	3-5 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-104	Food grade salt % m/m	5-7 days	AOAC	KLC,LLC
FA-105	Salmonella	5-10 days	FAO,1992	PLC, IL,*LLC,*KLC
FA-106	Total Coliforms	5-10 days	FAO,1992	PLC, IL,*LLC,*KLC
FA-107	Yeast / Molds Count	5-10 days	FAO,1992	PLC, IL,*LLC,*KLC
FA-108	Total Plate Count	5-10 days	FAO,1992	PLC, IL,*LLC,*KLC
FA-109	BR Value at 40°C	5-10 days	AOAC	PLC, LLC
FA-110	Package (Chemical Analysis)	5-10 days	AOAC	PLC, IL, LLC
FA-111	Ash Insoluble in HCl acid % on dry basis	5-7 days	Pearson's composition and analysis of foods (1991)	PLC, IL, LLC
FA-112	Salt (Package) Moisture, Iodine value, sodium chloride, water insoluble etc.	5-7 days	AOAC, Pakistan Standard SASO	SL, KLC, LLC
FA-113	Snacks/Salinity (Package) Moisture, Protein, Ash, Fat, , F.F.A.V, Fiber	5 days	AOAC	SL
Turmeric Whole & Ground				
FA-114	Odour, flavor & colour	5-7 days	PSS: 1820	LLC, KLC, IL
FA-115	Free from insects, moulds	5-10 days	PSS: 1820	LLC, KLC, IL
FA-116	Defective rhizome % m/m	3 days	PSS: 1820	LLC,KLC
FA-117	Particle size coarse powder 98%	5-7 days	PSS: 1820	LLC, KLC, IL
FA-118	Particle size fine powder 98%	5-7 days	PSS: 1820	LLC, KLC, IL
FA-119	Moisture (%)	5-7 days	AOAC	LLC,KLC,*PLC, IL
FA-120	Total Ash (m/m) on dry basis % max.	5-7 days	AOAC	LLC, KLC, IL
FA-121	Acid insoluble ash (m/m) on dry basis % max.	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL, *PLC
FA-122	Lead (mg/kg max)	3-5 days	AOAC	LLC, KLC, IL
FA-123	Test for lead chromate	5-7 days	AOAC	LLC
FA-124	Volatile oil (ml/100g) on dry basis min.	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-125	Starchy (%)	5-7 days	Pearson's composition and analysis of foods (1991)	LLC,KLC
FA-126	Curcumin	5-7 days	ISO:5566: 2018	LLC, KLC
FA-127	Freedom from coarse particles	5-7 days	PSS: 1820	LLC , KLC
FA-128	Acid-insoluble as on dry basis	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC,*PLC, IL
FA-129	Protein	5-7 days	AOAC	LLC, KLC
FA-130	Fat	5-7 days	AOAC	LLC, KLC, IL
FA-131	Package (Moisture, Fats, Protein, Starch, Color, Ash)	5-7 days	AOAC	KLC, PLC, LLC
FA-132	Water Extract	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-133	Ether Extract	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-134	Acid insoluble ash (m/m) on dry basis	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL, *PLC
FA-135	Package (Chemical Analysis)	5-7 days	AOAC	PLC, IL, LLC
Poultry /Animal Feeds/ Balanced Feed Mixture for Livestock				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-136	Total Aflatoxin (B ₁ , B ₂ , G ₁ & G ₂)	3 days	AOAC, HPLC	LLC, *KLC, PLC, IL
FA-137	Ochratoxin "A"	4 days	AOAC, HPLC	*KLC, PLC, LLC,
FA-138	Aflatoxin M ₁	3 days	AOAC, HPLC	*KLC, *LLC, PLC,
FA-139	Aflatoxin B ₁	3 days	AOAC	*LLC, *KLC
FA-140	Gross energy	7 days	by calculations	LLC
FA-141	Metabolize energy (by calculation)	7 days	by calculations	LLC
FA-142	Crude protein	4-5 days	AOAC	*LLC, *KLC, PLC
FA-143	Moisture	3-5 days	AOAC	*LLC, *KLC, *PLC, IL
FA-144	Calcium	3-5 days	AOAC	LLC, KLC, IL
FA-145	Nanphytate Phosphorus	5-7 days	AOAC	LLC
FA-146	Salt	3-5 days	AOAC	LLC, KLC, IL
FA-147	Crude fat / oil	5-6 days	AOAC	*LLC, KLC, PLC, IL
FA-148	Crude fiber	5-6 days	AOAC	LLC, KLC, PLC, IL
FA-149	Dietary Fiber	5-6 days	AOAC, 2016	KLC
FA-150	Total ash	3-5 days	AOAC, 2019, 2021	*LLC, *KLC- *PLC, IL
FA-151	Vitamins (per sample)	7-10 days	AOAC	LLC, KLC, IL
FA-152	Inorganic elements (per sample)	5-7 days	AOAC	LLC, IL, PLC
FA-153	Protein	4-5 days	AOAC	*KLC, PLC, SL, LLC
FA-154	Microbiology	5-10 days	FAO, 1992	*KLC, *PLC, IL, *LLC
FA-155	Energy (Kcal/100gm)	7-8 days	AOAC	PLC, *KLC
FA-156	Package (Chemical Analysis)	7-8 days	AOAC	PLC, IL
FA-157	Acid Insoluble Ash (%)	7-8 days	Pearson's composition and analysis of foods (1991)	*PLC, IL, LLC
Oil and Fat, Seeds/Butter				
FA-158	Peroxide value free fatty acid butyro, refractive reading, melting point, rancidity, vitamin A, refractive index, moisture	5-7 days	AOCS / Pearson's composition and analysis of foods (1991)	LLC, KLC, IL, *PLC
FA-159	Monoununsaturated Fatty Acids	5 days	AOAC	*KLC, LLC
FA-160	Free Fatty Acids	3 days	PS: 56-196/ AOCS	*KLC, *PLC, IL, LLC
FA-161	Unsaturated Fat	3-5 days	AOAC	*KLC, LLC
FA-162	Omega 3 Fatty Acid	3-5 days	AOAC	KLC
FA-163	Poly unsaturated fatty acid	3-5 days	AOAC	*KLC, LLC
FA-164	Trans Fatty Acid	3-5 days	AOAC	*KLC, LLC
FA-165	Viscosity	3 days	Falling Ball method / Pearson's composition and analysis of foods (1991)	LLC, KLC, IL
FA-166	Moisture	2-3 days	AOAC	*KLC, PLC, SL, IL, LLC
FA-167	Saponification Value	3 days	PS: 56-196/ AOCS	LLC, PLC, IL
FA-168	Un-saponified Matter	3 days	PS: 56-196/ AOCS	LLC, PLC, IL
FA-169	Iodine Value	3 days	PS: 56-196/ AOCS	LLC, PLC, IL
FA-170	GLC	5 days	AOAC	LLC
FA-171	RM Value	3 days	AOAC	LLC
FA-172	BR Value	3 days	AOCS / Pearson's composition and analysis of foods (1991)	LLC, PLC, KLC
FA-173	Erucic Acid	5 days	GC / ISO 17025	LLC, *KLC
FA-174	Lovibond Color	3 day	AOCS	KLC, LLC
FA-175	Fatty acid Profile and Trans Fat	5 days	AOAC	KLC, LLC, PLC
FA-176	Flash Point	2 days	ASTM	KLC, LLC
FA-177	Free fatty acid	3 days	AOCS	KLC, LLC, IL, *PLC
FA-178	Impurity	2 days	AOCS	KLC, IL, LLC
FA-179	Iodine value	3 days	PS: 56-196/ AOCS	KLC, LLC, *PLC, IL
FA-180	Moisture & Volatiles	3 days	AOAC	KLC, LLC, IL
FA-181	Peroxide value	3 days	Pearson's composition and analysis of foods (1991)/ AOCS	KLC, *PLC, IL, LLC
FA-182	Rancidity (qualitative)	2 days	Pearson's composition and analysis of foods (1991)	KLC, PLC, IL, LLC
FA-183	Rancidity (Kries Test) measured by Lovibond	2 days	Pearson's composition and analysis of foods (1991)	KLC, IL, LLC

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FA-184	Refractive index @ 40 oC	2 days	PS: 56-196	KLC, *PLC, IL, LLC
FA-185	Saponification Value	3 days	AOCS	KLC, LLC, SL, IL
FA-186	Unsaponifiable Matter	2-3 days	PS: 56-196	KLC, PLC, LLC, IL
FA-187	Butyro Refractometer Reading @ 40 °C	1 day	PS: 56-196/ AOCS	KLC, LLC
FA-188	Fatty acid composition and Trans Fat	5 days	AOAC	KLC, LLC, PLC, SL
FA-189	Vitamin-A (Qualitative)	8 days	AOAC	PLC, *KLC
FA-190	Moisture & Volatile Matter	2 days	AOCS / IUC	KLC, IL, PLC
FA-191	Nickel	2-3 days	AOAC / AAS	KLC, IL, PLC
FA-192	Peroxide value	2-3 days	Pearson's composition and analysis of foods (1991)	KLC, LLC, *PLC, IL
FA-193	Rancidity (qualitative)	2-3 days	Pearson's composition and analysis of foods (1991)	KLC, LLC, PLC, SL, IL
FA-194	Rancidity (Kries Test) Color measured by Lovibond tintometer	3-5 days	Pearson's composition and analysis of foods (1991)	KLC, IL
FA-195	Slip Melting Point	2 days	AOCS, AOAC	KLC, LLC, IL, PLC
FA-196	Soap Content	3 days	AOCS, AOAC	KLC, SL, IL, LLC
FA-197	Moisture and insoluble impurities Percent by weight max	2-3 days	AOAC	PLC, IL, LLC
FA-198	Admixture	2 days	Lab Developed method	KLC
FA-199	Moisture content	2 days	AOAC, AOCS	*KLC, SL, IL, PLC
FA-200	Oil content	3 days	In-house / AOAC	KLC, IL, LLC
FA-201	Relative Density (20oC/water at 20oC)	2 days	AOAC, AOCS	PLC, SL, IL, LLC
FA-202	Density @ 40 oC	2 days	AOCS, AOAC	KLC, IL, LLC
FA-203	Color	5-7 days	AOAC	LLC, IL
FA-204	Cholesterol (Qualitative)	5-7 days	AOAC	LLC, IL, PLC
FA-205	Iron, Nickel, Lead and Copper	5-7 days	AOAC, AAS	LLC, IL, PLC
FA-206	Cloud Point	3 days	AOAC	LLC, PLC
FA-207	Fat Content	2 days	AOAC	PLC, LLC, IL, KLC
FA-208	Visual Inspection	1 day	AOAC	LLC, IL, PLC
FA-209	Miscibility in ethanol	1 day	AOAC	LLC, IL
FA-210	Ethanol Content	5 days	AOAC	LLC, IL
FA-211	Inflammability Test	2 days	ASTM	LLC, IL
FA-212	Flash Point	3 days	ASTM	LLC, IL
FA-213	Organoleptic Quality	2 days	AOAC	LLC, IL
FA-214	Hygienic Condition	5 days	FAO	LLC, IL
FA-215	Milk Fat (m/m)	5-6 days	AOAC,	LLC, IL
FA-216	Milk Solids-not-fat contents (m/m)	5-6 days	AOAC	LLC, IL
FA-217	Water content (m/m)	3 days	AOAC	LLC, IL
FA-218	Sodium Chloride (m/m) for salted butter	3-5 days	AOAC	LLC, IL
FA-219	Milk Fat or Vegetable Fat or Blend	3-5 days	AOAC	PLC, IL
FA-220	Flavor & Color	3-4 days	AOAC	PLC, IL, LLC
FA-221	Package (TSS, pH, Acidity, Sugar, & vit C)	5-8 days	AOAC	PLC, IL
FA-222	Melting Point	3 days	AOAC	PLC, SL, IL
FA-223	Peroxide Value, express as milliequivalent	5 days	Pearson's composition and	*PLC, IL, LLC
FA-224	Aflatoxin M1	4 days	AOAC, HPLC	*KLC, PLC, *LLC
FA-225	Titrateable Acidity (%)	5 days	AOAC	PLC, IL
FA-226	Total Bacterial Count	3 days	FAO, 1992	PLC, IL, *LLC
FA-227	Total Ash (on dry basis) %	3-4 days	AOAC	PLC, IL
FA-228	Salmonella	5-10 days	FAO, 1992	PLC, IL, *LLC, *KLC
FA-229	Fat (Milk/Vegetable/Blend) %	4-5 days	AOAC	PLC, IL, LLC, KLC
FA-230	Package (POV, FFA, BR value, Rancidity (qualitative), Vitamin A (qualitative), moisture and refractive index)	8-10 days	PS: 56-196	PLC, IL
FA-231	Package (Chemical Analysis Banaspati Ghee, Oil) Specific Gravity, Rancidity, Free Fatty acid volume, Moisture, Seaplast	8-10 days	AOAC 2016	SL, IL
FA-232	Mineral vegetable Oil Analysis	10 days	AOAC	IL
FA-233	Edible oil/Ghee (Moisture, Saponification value, acid value, free fatty acid, rancidity, melting point, peroxide value)	8 days	AOAC	IL

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FA-234	Pork	5 days	ELISA	KLC
FA-235	Seabuckthorn Oil	3 days	Oil expeller	SL
Dry Fruits and Vegetables				
FA-236	Physicochemical analysis, i.e. pH TSS, CO ₂ , acidity, vitamin C, Sugar and color	7-10 days	AOAC 2000	PLC, IL, LLC
FA-237	Food Sample fitness test for human consumption (Microbiology and Chemical)	5-10 days	FAO,1992,/BAM, USFDA	LLC, *KLC, PLC, IL
FA-238	Plant Material test on CHNS elemental	10 days	John Edward, 1982	PLC
FA-239	Dehydration	3-7 days	In House	LLC, KLC
FA-240	Dry Apricot	3-4 days	In-House	SL
FA-241	Fruit Candy/leather	7 days	In-House	SL
FA-242	Apricot/Apple/Quince/Plum Jam	2 days	In-House	SL
FA-243	Pulping of Fruit	2 days	In-House	SL
FA-244	Reprocessing of Dry Fruit	2 days	In-House	SL
FA-245	Heavy metals	3-4 days	ISO/IEC 17025 Accreditation- AOAC	*KLC
Food for Infants & Children				
FA-246	Protein (%)	7-10 days	AOAC	LLC, *KLC-PLC
FA-247	Fat (%)	7-10 days	AOAC	LLC, *KLC, PLC, IL
FA-248	Linolenic acid & Linoleic Acid	7-10 days	P. s. SCHAFER1 A~D GEORGE E. HOLM	LLC, KLC, IL
FA-249	Carbohydrates (by calculation)	7-10 days	AOAC	LLC, *KLC, PLC, IL
FA-250	Vitamin (A, B ₁ , B ₂ , B ₃ , B ₆ , B ₁₂ , C, D, E, K, Nictinatmide, Folic Acid, Lisine, Methionine, Pantothenic acid, Biotin,)	7-10 days	AOAC	LLC, KLC, PLC, IL
FA-251	Metals/ Cations/ Anions (Sodium, Potassium, Chloride, Calcium, Phosphorus, Magnesium, Iron (Feros, Ferric), Iodine, Copper, Zinc, Maganese, Choline, Lead,	7-10 days	AOAC	LLC, *KLC, PLC, IL
FA-252	Lithium Bromide SLN (pH, alkalinity, copper, total iron, specific gravity, calcium, magnesium, water soluble ash)	5-7 days	AOAC	PLC
FA-253	Microbiology complete (Total plate count, total coliforms, fecal coliforms, Yeast & Molds, Salmonella spp.)	5-10 days	FAO,1992, BAM, USFDA	*KLC, IL,*LLC, *PLC
FA-254	Total Aflatoxin (B1, B2, G1 & G2)	3 days	AOAC	*KLC, IL,*LLC, PLC
FA-255	Aflatoxin	3 days	AOAC	*LLC, IL, PLC, *KLC
FA-256	Aflatoxin M1	3 days	AOAC	*LLC, PLC, *KLC
FA-257	Lithium Bromide concentration	2-3 days	vogel	KLC
Marmalade/Jams/ Jellies/ Pickles/ Ketchup/ Mayonnaise/ Vineger				
FA-258	Package (TSS, pH, Acidity, Sugar, and vitamic C)	5-7 days	AOAC	PLC, IL, LLC
FA-259	Package (total soluble solids, pH acidity, Vitamin C, total sugars, reducing and nonreducing sugar) total package for Marmalade, Jams, Jellies)	5-7 days	Handbook of analysis and quality control of fruit and vegetable products 1986	KLC, PLC, IL, LLC
FA-260	Total sugar	5-7 days	Pearson's composition and analysis of foods (1991)	KLC, IL, LLC
FA-261	Soluble solids	5-7 days	Pearson's composition and	*LLC, KLC, PLC, IL
FA-262	Calcium in marmalade	5-7 days	AOAC	LLC, KLC, IL, PLC
FA-263	Total sugar	5-7 days	Pearson's composition and	KLC, IL, LLC, PLC
FA-264	Vitamin C	5-7 days	AOAC	*KLC, PLC, IL
FA-265	Heavy Metals per element	5-7 days	AOAC	LLC, *KLC, IL, PLC
FA-266	Hygiene	5-10 days	FAO,1992	LLC, IL
FA-267	Jam syrup (approximate analysis)	5-10 days	AOAC	LLC, KLC, PLC, IL
FA-268	Seabuckthorn/Cherry/Mulberry Jam	2 days	In-House	SL
FA-269	Seabuckthorn/Cherry Pulp	2 days	In-House	SL
FA-270	Total fat content	3-5 days	AOAC	LLC, KLC, IL, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-271	Colour	3-5 days	PS:2096:2010	LLC, KLC, IL
FA-272	Flavour & Odour	3-5 days	PS:2096:2010	LLC, KLC, IL, PLC
FA-273	Pickle in edible oil % by wt.	5-7 days	PS520-2013	LLC, IL
FA-274	Salt content by wt.	5-7 days	AOAC	LLC, KLC
FA-275	Acidity % by mass	5-7 days	Handbook of analysis and quality control of fruit and vegetable products 1986	LLC, KLC, PLC, IL
FA-276	Sulphur Dioxide content (mg/kg) as sulphur dioxide	5-7 days	Pearson's composition and analysis of foods (1991)	LLC, KLC, IL, PLC
FA-277	Sodium benzoate (as benzoic acid) (mg/kg)	5-7 days	pearson's (composition and analysis of foods (1991)	LLC, KLC
FA-278	Microbiology	5-10 days	FAO,1992, BAM, USDA	*LLC, *KLC, IL, *PLC
FA-279	Nutritional value / Energy (Moisture, Fat, Ash, Protein, Fibre & Carbohydrate)	7-10 days	AOAC	LLC, KLC, IL, PLC
FA-280	Brix°	5-7 days	pearson's (composition and analysis of foods (1991)	LLC, KLC, PLC, IL
FA-281	Approximate Analysis for Ketchup (total package)	5-7 days	AOAC	LLC, KLC, PLC, IL
FA-282	Bubble/ Chewing Gum (insoluble residue)	5-7 days	fssai Manual of method of analysis of food 2012	LLC,, IL
FA-283	Total Aflatoxin (B ₁ , B ₂ , G ₁ & G ₂)	3 days	AOAC	*KLC, IL, PLC, *LLC
FA-284	Jam, Jellies, Ketchup, Pickles (Food Color)	3 days	FS 310/Specification for identity and purity of food colours, FAO/WHO 1984	LLC, IL
FA-285	pH Value	3 days	AOAC	PLC, IL, LLC
FA-286	Taste, Flavour, Color (physical)	3 days	pearson's (composition and analysis of foods (1991)	PLC, IL, LLC
FA-287	Package (TSS, pH, Acidity, Sugar, and vitamin C)	3-5 days	AOAC	PLC, SL, IL, LLC
FA-288	benzoate	3-5 days	Pearson's (composition and analysis of foods (1991)	PLC , KLC
FA-289	sulfites	2-5 days	pearson's (composition and analysis of foods (1991)	PLC
FA-290	Fruit content	7-10 days	pearson's (composition and analysis of foods (1991)	PLC, IL
FA-291	Taste, Flavour & Colour (Organoleptic Evaluation)	7-10 days	PS 2096 2010	PLC
FA-292	Total Coliforms	5-10 days	FAO 1992/ APHA-2015	*PLC, IL, *KLC, *LLC
FA-293	Yeast / Molds Count	5-10 days	FAO 1992/ APHA-2015	*PLC, IL, *KLC, *LLC
FA-294	Bubble/ Chewing Gum (gum base)	7-10 days	fssai Manual of method of analysis of food 2012	LLC, KLC, PLC
Refined Sugar/ Honey				
FA-295	Sugar Profile (Moisture, conductivity, ash, polarization invert sugar sulphur dioxide and color)	10 days	ICUMSA	LLC, KLC, PLC, IL
FA-296	Polarization	3 days	ICUMSA	LLC, KLC
FA-297	Moisture (%)	3 days	ICUMSA	LLC, KLC, *PLC, IL
FA-298	Invert Sugar/ Reducing Sugar	3 days	ICUMSA	LLC, KLC, *PLC, IL
FA-299	Ash	10 days	ICUMSA	LLC, KLC, IL
FA-300	Solution colour ICUMSA unit	3 days	ICUMSA	LLC, KLC, IL
FA-301	Sulphur Dioxide (% mg/kg)	3 days	ICUMSA	LLC, KLC, PLC
FA-302	Heavy Metals (Copper, Arsenic, Lead)	3-5 days	AOAC	LLC, *KLC, IL, PLC
FA-303	Sugar sucrose ICUMSAT polarization sulphated ash	5 days	ICUMSA	KLC, PLC
FA-304	Apparent Sucrose Content	5 days	ICUMSA	LLC, KLC, PLC
FA-305	Water insoluble solids	5 days	ICUMSA	LLC, KLC, *PLC, IL
FA-306	Mineral content (ash)	3 days	ICUMSA	LLC, KLC, PLC, IL
FA-307	Acidity (ppm)	3 days	ICUMSA	LLC, KLC, *PLC, IL
FA-308	Hydroxymethyl Furfural content (HMF)	5 days	AOAC	LLC, KLC, *PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-309	Fiehel's test	3 days	PS: 1934, 2010	LLC,KLC
FA-310	Test on CHNS elemental analyzer for Honey	10 days	John Edward, 1982	PLC
FA-311	Package (Chemical Analysis)	5-8 days	AOAC	*PLC
FA-312	Diastase Activity in honey	5 days	AOAC	LLC, *PLC
FA-313	Fructose Contents	5 days	Pearsons Composition and analysis of food	LLC , *PLC
FA-314	Honey (package) (Moisture, Ash, Acidity, Invert Sugar, PIT)	10 days	AOAC	*PLC,SL, IL,LLC
Sugarcane Molasses/Refined & White Sugar				
FA-315	Norotics Test	3-5 days	AOAC , Chromatography	LLC, KLC
FA-316	Chemical Test (Brix, Polarization, Reducing sugar, Total Sugar, Sucrose, Ash)	10 days	ICUMSA	LLC, KLC, IL, PLC
FA-317	Reducing Sugar	3 days	ICUMSA	LLC, KLC, IL, PLC
FA-318	Total Sugar	3 days	ICUMSA	LLC, KLC, PLC, IL
FA-319	Brix	3 days	ICUMSA	LLC, KLC, IL, PLC
FA-320	Microbiology complete	5-10 days	FAO,1992, BAM, USFDA	*LLC, *KLC, IL, PLC
FA-321	Heavy Metals	3-5 days	AOAC	LLC, *KLC, IL, PLC
FA-322	POL of Molasses	5 days	ICUMSA	LLC
FA-323	Purity of Molasses	5 days	ICUMSA	LLC
FA-324	Aflatoxin	3 days	AOAC	*LLC , IL, PLC, *KLC
FA-325	Vitamins	10 days	AOAC	LLC , IL
FA-326	Unsaponifiable matter, percent by weight, Max	10 days	Pearsons Composition and analysis of food	PLC,LLC
FA-327	Peroxide Value, express as milliequivalent oxygen per Kg, Max	3-5 days	Pearsons Composition and analysis of food	PLC,LLC
FA-328	Rancidity test (Qualitative)	3-5 days	Pearsons Composition and analysis of food	PLC
FA-329	Vitamin-A (Quantitative)	5-7 days	AOAC	PLC, IL,LLC, *KLC
FA-330	Soap Content, ppm, Max	5-7 days	AOAC	PLC
FA-331	Package (POV, FFA, BR value, , Rancidity (qualitative), Vitamin A(qualitative), moisture and refractive index	8-10 days	Pearsons Composition and analysis of food	PLC
FA-332	Extraneous matter % m/m,	2-3 days	AOAC	PLC, IL,LLC
FA-333	Moisture, % by weight	3 days	AOAC	*PLC, IL,LLC,KLC
FA-334	Total Ash % on dry basis	2-3 days	AOAC	PLC, IL,LLC,KLC
FA-335	Acid Insoluble Ash % on dry basis	2-3 days	AOAC	*PLC, IL,LLC
FA-336	Chlorophyriphose	10 days	Pesticide Science, 55: 1222-1228, 1999.	LLC
Rice				
FA-337	Nutritional value / Energy (*Moisture, *Fat, *Ash, *Protein, Fibre & Carbohydrate)	5-7 days	AOAC	*LLC,KLC, PLC, IL
FA-338	Microbiology	5-10 days	FAO,1992, BAM, USFDA	*LLC, KLC, IL, PLC
FA-339	Aflatoxin	3 days	AOAC	*LLC, *KLC,IL, PLC
FA-340	Complete Physical Analysis	3 days	AOAC	LLC, KLC, IL, PLC
FA-341	Heavy Metals (*Lead & *Cadmium)	3-5 days	AOAC	*LLC, *KLC, IL, PLC
FA-342	Vitamins	7-10 days	AOAC	LLC, KLC, IL
FA-343	Broken Rice	3 days	AOAC	LLC, KLC, IL, PLC
FA-344	Glutinous Rice (Amylose:Amylopectin)	3-5 days	AOAC	KLC
FA-345	Ochratoxin "A"	3-5 days	AOAC	*KLC, PLC
FA-346	Rice husk ash (with raw material) excluding grinding	3-5 days	AOAC	PLC
FA-347	Rice husk ash (with raw material) including grinding	3-5 days	AOAC	PLC
FA-348	Rice husk ash (without raw material) excluding grinding	3-5 days	AOAC	PLC
FA-349	Rice husk ash (without raw material) including grinding	3-5 days	AOAC	PLC
FA-350	Paddy	1 day	visual	KLC
FA-351	GMO	3 days	PCR	KLC
Pesticide Residue (Qualitative Test)				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-352	Chlorpyrifos	5-7 days	Pesticide Science, 55: 1222-1228, 1999.	LLC, KLC
FA-353	Bifenthrin	5-7 days	Pesticide Science, 55: 1222-1228, 1999.	LLC, *KLC
Package Pesticide Residue				
FA-355	Organochlorine (OCs)	5 days	AOAC , OECD 405	*KLC, LLC
FA-356	General mixture	5 days	AOAC, OECD 404	*KLC, LLC
FA-357	Pyrethroides General mixture	5 days	AOAC , OECD 406	*KLC, LLC
FA-358	Organophosphorus(OPs)	5 days	AOAC, OECD 436	*KLC, LLC
FA-359	Carbamates	5 days	AOAC, GC	*KLC
FA-360	PCBs (Fish)	5 days	EPA 1668-REV A	*KLC
FA-361	PAHs (Polycyclic Aromatic Hydrocarbons) (Fish)	5 days	RICA 19(12), 2003	*KLC
FA-362	AliphaticHydrocarbons/ Alkanes	5 days	GC-FID	KLC
FA-363	Phthalates	5 days	GC-FID	KLC
FA-364	Alkyl Phenols	5 days	GC-FID	KLC
FA-365	Aromatic Hydrocarbons	5 days	GC-FID	KLC
FA-366	Volatiles	5 days	GC-FID	KLC
FA-367	Amines & Derivatives	5 days	HPLC	KLC
FA-368	PH ₃	5 days	Titmetric	KLC
FA-369	Dioxin (Fish)	5 days	EPA	*KLC
FA-370	Ruminant Ingredient (fish meal oil feed etc)	03 days	Kit methods	KLC
FA-371	Antioxidant Activity (fish meal oil feed etc)	03 days	DPPH	KLC
FA-372	Acute oral toxicity LD50	90 days	OECD 423	*LLC
FA-373	Acute Dermal toxicity LD50	90 days	OECD 402	*LLC
FA-374	Acute Dermal Irritation/corrosion test	30 days	OECD 404	*LLC
FA-375	Acute eyes irritation/ Irritation test	30 days	OECD 405	*LLC
FA-376	Skin sensitization	90 days	OECD 406	*LLC
FA-377	Inhalation toxicity	90 days	OECD 436	LLC
Wheat/ Wheat Flour/ Atta / Maida				
FA-378	Microbiology complete (Total plate count, total coliforms, fecal coliforms, E.coli, Staph. Aureus, Pseudomonas spp.)	5-10 days	FAO,1992, BAM, USFDA	*LLC, *KLC, PLC, IL
FA-379	E.Coli 0157	5-10 days	BAM, USFDA, Kit	KLC, IL
FA-380	Fecal coliforms	5-10 days	FAO,1992, BAM, USFDA	*KLC,*LLC, IL, *PLC
FA-381	Pseudomonas aeruginosa	2-4 days	FAO,1992	PLC
FA-382	Listeria Detection	7 days	BAM, USFDA,	KLC
FA-383	Bascillus cereus	5 days	BAM, USFDA	KLC
FA-384	Fumonisin	4 days	AOAC	KLC, LLC
FA-385	Moisture	3-5 days	AOAC	*LLC, *KLC, SL, IL, *PLC
FA-386	Protein	5-7 days	AOAC	*LLC, *KLC, SL,IL,PLC
FA-387	Gluten (wet)	3 days	AACC,1999	LLC, KLC, PLC, SL
FA-388	Gluten (dry)	3 days	AACC,1999	KLC,LLC, PLC
FA-389	K-Calories energy	3 days	AOAC	*KLC, PLC, LLC
FA-390	Ash	3-5 days	AOAC	*LLC, *KLC, SL, IL, *PLC
FA-391	Fat	3-5 days	AOAC	*LLC, *KLC, SL, IL
FA-392	Falling Number	3 days	AOAC	LLC, KLC, PLC
FA-393	Acidity	3-5 days	Peason composition and analysis of food 1991	LLC, KLC, PLC, SL, IL
FA-394	1000 Kernel Weight	01 day	In House	KLC
FA-395	Broken and Shriveled Kernel	3 days	AOAC	KLC,LLC, PLC
FA-396	Damaged and Heat Damaged Kernels/ Heat & Strout Damaged Kernels	01 day	In House	KLC,LLC, PLC
FA-397	Immature Grain & Chalky Kernels	01 day	In House	KLC,LLC, PLC
FA-398	Red Grain or Red Streaks	01 day	In House	KLC,LLC, PLC
FA-399	Insect & Fungus Damaged Grain	01 day	FAO,1992	KLC,LLC, PLC
FA-400	Aflatoxin	4 days	AOAC, HPLC	*KLC,*LLC,PLC, IL
FA-401	Bacillus cereus	3-4 days	BAM,USFDA	KLC
FA-402	Ochratoxin in all Cereals & Agro Based	4 days	AOAC	LLC , PLC, *KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-403	DON in Cereals & Agro based products	4 days	AOAC	LLC, KLC
FA-404	Fumonisin in Cereals & Agro based product	4 days	AOAC	LLC
FA-405	Acrylamide in Food Products	5-7 days	AOAC	LLC
FA-406	Bisphenol A in Food Products	5-7 days	AOAC	LLC
FA-407	Polyromantic Hydrocarbons (PAHS) in Food Products	5-7 days	AOAC	LLC, KLC
FA-408	Karnal Bunt	04 days	In House methods	KLC, PLC
FA-409	K-Calories energy	5 days	BAM,USFDA	KLC, PLC
FA-410	Microbiology complete (Total plate count, total coliforms, fecal coliforms, Yeast & Molds, <i>Salmonella</i> spp.)	7 days	APHA, 2017, ISO-9308, ISO-16266, FAO 1992	*KLC, IL,*LLC, *PLC
FA-411	Moisture	01 day	AOAC	*KLC, IL,*LLC, PLC
FA-412	Ochratoxin "A"	4 days	AOAC	*KLC,LLC, PLC
FA-413	Protein	2 days	AOAC	*KLC, IL,*LLC, PLC
FA-414	Proximate/ Nutritional Value	8-10 days	AOAC	PLC, IL,LLC
FA-415	Gluten	5 days	AOAC	PLC, IL,LLC
FA-416	Sample Preparation (Organics, Meat, Fish involving-microwave digestion)	5 days	AOAC	IL
FA-417	Fiber	2 days	AOAC	IL,LLC, PLC
FA-418	GMO	3 days	PCR	KLC
FA-419	Heavy metals	3-4 days	ISO/IEC 17025 Accreditation AOAC	*KLC
Seed Analysis				
FA-420	Seed Vigor	3 days	FAO	LLC, PLC
FA-421	Seed Germination %	3 days	AOAC	LLC, PLC
FA-422	Physical/ Chemical test for seed	3 days	AOAC	PLC,LLC
FA-423	Toxicity of Cotton seed	3-5 days	Toxicity Test on Animal Model	PLC
FA-424	GMOs	3 days	PCR	KLC
FA-425	Deoxynivalenol (DON) (vomitoxin)	5 days	HPLC, ELISA Kit	KLC,LLC
FA-426	T-2 Toxin	5 days	HPLC	KLC
FA-427	Zearalenone (ZON)	5 days	HPLC, ELISA kit	KLC,LLC
FA-428	Karnal Bunt	4 days	In-house methods	KLC
FA-429	Water absorption	2 days	AOAC, Farinographic analysis	LLC, KLC
FA-430	Acid Detergent Fiber (ADF)	3 days	Pearson Composition and analysis of food 1991	KLC
FA-431	Acid Value	2 days	AOCS	KLC, IL
FA-432	BR Reading at 40 °C	1 day	AOCS	KLC
FA-433	Daily Value	5 days	AOAC	KLC,LLC
FA-434	Diastase Activity	2 days	AOAC	KLC,LLC
FA-435	Dockage, total deductible	1 day	Lab developed method	KLC
FA-436	Dry Matter	1 day	AOAC	KLC,LLC
FA-437	Fat (acid hydrolysis)	2 days	Pearson Composition and analysis of food 1991, AOAC	*KLC,LLC
FA-438	Fat Gerber matter	1 day	AOAC	KLC,LLC
FA-439	Foreign Matter	1 day	AOAC	KLC,LLC
FA-440	H ₂ O ₂	1 day	Excised embryo test-A guide to forest seed handling FAO org	KLC,LLC
FA-441	Lactose	1 day	HPLC/ AOAC	KLC,LLC
FA-442	Mesh size	1 day	In House	KLC,LLC
FA-443	Pepsin Digestibility	3 days	AOAC	KLC
FA-444	Sand, Percentage	1 day	AOAC	KLC, IL,LLC
FA-445	Solid Content	1 day	AOAC	KLC, IL,LLC
FA-446	Test Weight	1 day	Physical method	KLC
FA-447	Total Calories by calculation	3 days	AOAC	KLC,LLC
FA-448	Total Calories single parameter	3 days	AOAC	KLC
FA-449	Total Volatile by biological nitrogen (TVBN)	3 days	AOAC	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-450	Urea	01 day	Pearson Composition and analysis of food 1991	KLC
Plant Disease Analysis (Grains, Seed, Agricultural Commodities and Live Microalgae/Plants/Nematodes, Crustaceans, Fish)				
FA-451	Downy Mildew	01 day	In House	KLC
FA-452	Rust	01 day	In House	KLC
FA-453	Smut	01 day	In House	KLC
FA-454	Grain purity/Other seed contamination	01 day	In House	KLC,LLC
FA-455	Germination basic	01 day	In House	KLC,LLC
FA-456	Germination Chemical based	01 day	In House	KLC
FA-457	Sclerotinia head Rot	01 day	In House	KLC
FA-458	Septoria Leaf Spot	01 day	In House	KLC
FA-459	Verticillium Wilt	01 day	In House	KLC
FA-460	Dry rot	01 day	In House	KLC
FA-461	Kernel Bunt	04 days	In House	KLC
FA-462	Ergot	04 days	In House	KLC
FA-463	Storage mold	01 day	In House	KLC
FA-464	Alternaria	01 day	In House	KLC
FA-465	Scab	01 day	In House	KLC
FA-466	Fusarium	01 day	In House	KLC
FA-467	Eye spot	01 day	In House	KLC
FA-468	Seedling blight	01 day	In House	KLC
FA-469	Crown gall	01 day	In House	KLC
Drinking Water				
FA-470	Microbiology complete (Total plate count, total coliforms, fecal coliforms, E.coli, Staph. Aureus, Pseudomonas spp.)	3-4 days	APHA,2017, ISO-9308, ISO-16266	*LLC, *KLC, IL, PLC
FA-471	Microbiology acc. to PS-4639 for bottled water (Coliforms, E.coli, Ps. aeruginosa, Enterococci)	3 days	APHA, 2017, ISO-9308, ISO-16266.	*KLC
FA-472	Total plate count	2-4 days	APHA,2017	*LLC, *KLC, SL, IL
FA-473	Total coliforms	2-4 days	APHA,2017, ISO-9308	*LLC, *KLC, SL, IL, PLC
FA-474	Fecal coliforms	2-4 days	APHA,2017, ISO-9308	*LLC, *KLC, IL, *PLC
FA-475	E. coli	2-4 days	APHA,2017, ISO-9308	*LLC, *KLC, *PLC, IL
FA-476	E. coli (0157)	4 days	APHA 2017, ISO-9308, USP	KLC, IL
FA-477	Shigellai	3-5 days	APHA,2017, ISO-9308	LLC, KLC, PLC, IL
FA-478	Salmonella	7 days	APHA,2017	*LLC, *KLC, PLC, IL
FA-479	Staphylococcal count	7 days	APHA,2017	*KLC, *PLC, IL
FA-480	Yeast count	2-4 days	APHA,2017	*LLC, *KLC, *PLC, IL
FA-481	Pseudomonas spp.	2-4 days	APHA,2017, ISO-9308	LLC, KLC, IL, PLC
FA-482	Chemical Analysis Complete	5-7 days	APHA,2017	LLC, KLC, SL, IL, PLC
FA-483	Metals (Per sample)	3-5 days	APHA,2017	LLC, IL, PLC, KLC
FA-484	Aerobic Plate Count	2 days	APHA,2017	IL, *PLC, *KLC
FA-485	Heterotrophic Plate Count	2 days	APHA,2017	*KLC, IL
FA-486	Water fit for Human Consumption	2 days	APHA,2017	IL
FA-487	Alternaria	3 days	HPLC	KLC
FA-488	Ergot	3-5 days	In House	KLC
FA-489	Patulin	3-5 days	HPLC	KLC
FA-490	Conductivity	3 days	AOAC	SL, IL, LLC, *PLC *KLC
FA-491	Sodium as Na	3-5 days	APHA, 2017	SL, IL, *LLC, *PLC
FA-492	Potassium as K	3-5 days	APHA, 2017	SL, IL, *LLC, *PLC
FA-493	Total Dissolved Solids (TDS)	3-5 days	APHA, 2017	SL, IL, *LLC, *PLC
FA-494	Total Suspended Solids (TSS)	3-5 days	APHA, 2017	SL, IL, LLC, PLC
FA-495	Total Hardness as CaCO3	3-5 days	APHA, 2017	SL, IL, LLC, *PLC
FA-496	Calcium as CaCO3	3-5 days	APHA, 2017	SL, IL, LLC, *PLC
FA-497	Magnesium as CaCO3	3-5 days	APHA, 2017	SL, IL, LLC, *PLC
FA-498	Total Alkalinity as CaCO3 + PH	3-5 days	APHA, 2017	SL, IL, LLC, *PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
FA-499	Chloride as Cl-1	3-5 days	APHA, 2017	SL, IL, LLC, *PLC
FA-500	Nitrite as NO2-	3-5 days	APHA, 2017	SL, IL, LLC, PLC
FA-501	Bacterial Endotoxin	03 days	ISO	KLC
FA-502	Total Phenolics Content	5 days	Reference method	KLC
FA-503	Antioxidant Activity	5 days	HPLC, Spectrophotometer	KLC
Shelf Life Studies/Miscellaneous				
FA-504	Shelf Life study of Drinking Water	3 months	APHA, 2017	LLC, IL
FA-505	Shelf Life study of Juices(One year)	2-3 month	In-house	LLC, KLC, IL
FA-506	Shelf Life study of Juices (06 month)	1-2 month	In-house	LLC, KLC, IL
FA-507	Antimicrobial activity in various items	6-10 days	Zaika. 1988	LLC, IL, KLC
FA-508	Total Phenolics Contents	3-5 days	Singleton and lamuela raventos. 1999	LLC, IL
FA-509	Antioxidant Activity	3-5 days	Brands William et al, 1995	LLC, IL, KLC
FA-510	Food Colour Contents Quantitative	3-5 days	Specifications for identity and purity of food colors, FAO/WHO. 1984	LLC
FA-511	Lysine(Amino Acid)	7-10 days	AOCS-AACC. 1968	LLC
FA-512	Methionine(Amino Acid)	7-10 days	AOCS-AACC. 1968	LLC
FA-513	Antimicrobial Activity of Hand Sanitizer	3-5 days	EN 1205412054, EN-1276	LLC, KLC
FA-514	Antibacterial / Antifungal Activity of Paints etc.	14 days	ISO-22196	LLC
FA-515	MSG Analysis	7 days	Latif et al., 2012	LLC
FA-516	Currency Disinfectant Machine	10 days	ISO	LLC, KLC
FA-517	Tyrosinase Activity	05 days	ISO	KLC
FA-518	Specific Enzymes Activities	05 days	ISO	KLC
FA-519	Stability (Accelerated)	1-3 month	ISO	KLC
FA-520	In-Vitro Bioavailability (multiple parameters)	05 days	ISO, HPLC	KLC
FA-521	In-Vitro Bio equivalence (multiple parameters)	05 days	ISO, HPLC	KLC
FA-522	Preservative Challenge Test	30 days	ISO	KLC
	Water Activity in Food (canned food, pickles, and dates)	5 days	AOAC 978-18 (2017)	*KLC
Electrical Measurement & Testing				
Electric Fans				
Performance and Constructions of Electric Circulating Fans and Regulators (PS-I)				
EMT-01	Ceiling Fan	4 days	PS-1	*LLC, KLC
EMT-02	Pedestal Fan	4 days	PS-1	*LLC, KLC
EMT-03	Bracket Fan / Table Fan	4 days	PS-1	*LLC, KLC
Safety of Household and Similar Electrical Appliances Particular Requirements for Fans (IEC 60335-2-80)				
EMT-04	Ceiling Fan	25 days	IEC 60335-2-80	*LLC
EMT-05	Pedestal Fan	25 days	IEC 60335-2-80	*LLC
EMT-06	Bracket Fan / Table Fan	25 days	IEC 60335-2-80	*LLC
EMT-07	Ventilating Fan	25 days	IEC 60335-2-80	*LLC, KLC
Electric Fans & Regulators Part 1: Performance. Part 2: Safety Requirements (SLS 814)				
EMT-08	Ceiling Fan	25 days	SLS 814	LLC
EMT-09	Pedestal Fan	25 days	SLS 814	LLC
EMT-10	Bracket Fan / Table Fan	25 days	SLS 814	LLC
EMT-11	Ventilating Fan IEC 60665	4 days	IEC 60665	LLC, KLC
EMT-12	Ventilating Fan	25 days	IEC 60665-2-80, SLS 814	LLC, KLC
Domestic Electric Fans				
Methods of Tests for Domestic Electric Fans (SSA 112)				
EMT-13	Ceiling Fan	4 days	SSA 112	LLC
EMT-14	Pedestal Fan	4 days	SSA 112	LLC
EMT-15	Bracket Fan / Table Fan	4 days	SSA 112	LLC
EMT-16	Ventilating Fan	4 days	SSA 112, IEC 60665	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
Safety of household and similar electrical appliances Part:1 General Requirements. – and particular requirements for fans (NIS 64)				
EMT-17	Ceiling Fan	10 days	NIS 64	LLC
EMT-18	Pedestal Fan	10 days	NIS 64	LLC
EMT-19	Bracket Fan / Table Fan	10 days	NIS 64	LLC
EMT-20	Ventilating Fan	10 days	NIS 64	LLC, PLC
Cables				
Polyvinyl Chloride insulated cables of rated voltage up to and including 450/750 V – Part – 3: Non sheathed cables for fixed wiring				
EMT-21	Sample Tests	5 days	IEC 60227-3, BS 6346	*LLC , KLC
EMT-22	Type Tests	15 days	IEC 60227-3, BS 6346	*LLC, KLC
EMT-23	Complete Cable Testing (Sample & Type Tests)	15 days	IEC 60227-3, BS 6346	*LLC , KLC
EMT-24	Dimensional Test	02 days	IEC 60227-3, BS 6346	*LLC , PLC, KLC
EMT-25	D.C Resistance Test	04 days	ASTM D149, IEC 60227-3	*LLC , PLC, KLC
EMT-26	Insulation Resistance Test	04 days	ASTM D120, IEC 60227-3	*LLC, PLC, KLC
EMT-27	High Voltage Test	04 days	ASTM D193, IEC 60227-3	*LLC , PLC
EMT-28	Cold Bend Test	02 days	IEC 60227-3	*LLC
EMT-29	Cold Elongation Test	02 days	IEC 60227-3	*LLC
EMT-30	Flame Retardance Test	02 days	IEC 60227-3	*LLC
EMT-31	Tensile Test before Aging	02 days	PS/IEC:60227-1 to 7, IEC 60227-3	*LLC, KLC
EMT-32	Compression set	02 days	PS/IEC:60227-1 to 7	KLC
EMT-33	Thermal Stability Test	02 days	PS/IEC:60227-1 to 7, IEC 60227-3	*LLC, KLC
EMT-34	Tensile Test before & after Aging	10 days	PS/IEC:60227-1 to 7, IEC 60227-3	*LLC, KLC
EMT-35	Any Other Partial Test(s)	Depends on nature of Job	PS/IEC:60227-1 to 7	*LLC, KLC
Polyvinyl Chloride insulated cables of rated voltage up to and including 450/750 V – Part – 4: sheathed cables for fixed wiring.				
Sample Tests				
EMT-36	• Two Core	5 days	IEC 60227-4, BS 6346	*LLC , PLC, KLC
EMT-37	• Three Core	5 days	IEC 60227-4, BS 6346	*LLC , PLC, KLC
EMT-38	• Four Core or Five Core	5 days	IEC 60227-4, BS 6346	*LLC , PLC, KLC
Type Tests				
EMT-39	• Two Core	15 days	IEC 60227-4, BS 6346	*LLC, KLC
EMT-40	• Three Core	15 days	IEC 60227-4, BS 6346	*LLC , KLC
EMT-41	• Four Core or Five Core	15 days	IEC 60227-4, BS 6346	*LLC , KLC
Complete Cable Testing (Sample & Type Tests)				
EMT-42	• Two Core	15 days	IEC 60227-4, BS 6346	*LLC , KLC
EMT-43	• Three Core	15 days	IEC 60227-4, BS 6346	*LLC , KLC
EMT-44	• Four Core	15 days	IEC 60227-4, BS 6346	*LLC , KLC
Dimensional Test				
EMT-45	• Two Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-46	• Three Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-47	• Four Core or Five Core	3 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
D.C Resistance Test				
EMT-48	• Two Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-49	• Three Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-50	• Four Core or Five Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
Insulation Resistance Test				
EMT-51	• Two Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-52	Three Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-53	Four Core or Five Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
High Voltage Test				
EMT-54	Two Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-55	Three Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
EMT-56	Four Core	2 days	IEC 60227-4, BS 6346	*LLC, PLC , KLC
Cold Bend Test for Insulation / Sheath				
EMT-57	Two Core	3 days	IEC 60227-4	*LLC
EMT-58	Three Core	3 days	IEC 60227-4	*LLC
EMT-59	Four Core	3 days	IEC 60227-4	*LLC
Cold Elongation Test for Insulation / Sheath				
EMT-60	Two Core	3 days	IEC 60227-4	*LLC
EMT-61	Three Core	3 days	IEC 60227-4	*LLC
EMT-62	Four Core	3 days	IEC 60227-4	*LLC
Flame Retardance Test				
EMT-63	Two Core	2 days	IEC 60227-4, BS 6346	*LLC, KLC
EMT-64	Three Core	2 days	IEC 60227-4, BS 6346	*LLC , KLC
EMT-65	Four Core	2 days	IEC 60227-4, BS 6346	*LLC , KLC
Tensile Test before Aging for Insulation / Sheath				
EMT-66	Two Core	10 days	IEC 60227-4, BS 6346	*LLC , KLC
EMT-67	Three Core	10 days	IEC 60227-4, BS 6346	*LLC , KLC
EMT-68	Four Core	10 days	IEC 60227-4, BS 6346	*LLC , KLC
Tensile Test before & after Aging for Insulation / Sheath				
EMT-69	Two Core	10 days	PS/IEC:60227-1 to 7, IEC 60227-4	*LLC, KLC
EMT-70	Three Core	10 days	PS/IEC:60227-1 to 7, IEC 60227-4	*LLC, KLC
EMT-71	Four Core	10 days	PS/IEC:60227-1 to 7, IEC 60227-4	*LLC, KLC
EMT-72	Any Other Partial Test(s)			*LLC
Polyvinyl Chloride insulated cables of rated voltage up to and including 450/750 V – Part – 5: Flexible cables (cords)				
Sample Tests				
EMT-73	Two Core	5 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
EMT-74	Three Core	5 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
EMT-75	Four Core	5 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
Type Tests				
EMT-76	Two Core	15 days	IEC 60227-5, BS 6346	*LLC , KLC
EMT-77	Three Core	15 days	IEC 60227-5, BS 6346	*LLC , KLC
EMT-78	Four Core	15 days	IEC 60227-5, BS 6346	*LLC , KLC
Complete Cable Testing (Sample & Type Tests)				
EMT-79	Two Core	15 days	PS/IEC:60227-1 to 7	*LLC , KLC
EMT-80	Three Core	15 days	PS/IEC:60227-1 to 7	*LLC , KLC
EMT-81	Four Core	15 days	PS/IEC:60227-1 to 7	*LLC , KLC
Dimensional Test				
EMT-82	Two Core	2 days	IEC 60227-5,PS/IEC:60227-1 to 7	*LLC,PLC , KLC
EMT-83	Three Core	2 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC,PLC , KLC
EMT-84	Four Core	2 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC,PLC , KLC
D.C Resistance Test				
EMT-85	Two Core	2 days	IEC 60227-5, BS 6346	*LLC,PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-86	Three Core	2 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
EMT-87	Four Core	2 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
Insulation Resistance Test				
EMT-88	Two Core	2 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
EMT-89	Three Core	2 days	IEC 60227-5, BS 6346	*LLC, KLC, PLC
EMT-90	Four Core	2 days	IEC 60227-5, BS 6346	*LLC, PLC, KLC
High Voltage Test				
EMT-91	Two Core	2 days	IEC 60227-5, ASTM D 149	*LLC, PLC, KLC
EMT-92	Three Core	2 days	IEC 60227-5, ASTM D 149	*LLC, PLC, KLC
EMT-93	Four Core	2 days	IEC 60227-5, ASTM D 149	*LLC, PLC, KLC
Cold Bend Test for Insulation / Sheath				
EMT-94	Two Core	2 days	IEC 60227-5	*LLC
EMT-95	Three Core	2 days	IEC 60227-5	*LLC
EMT-96	Four Core or Five Core	2 days	IEC 60227-5	*LLC
Cold Elongation Test				
EMT-97	Two Core	2 days	IEC 60227-5	*LLC
EMT-98	Three Core	2 days	IEC 60227-5	*LLC
EMT-99	Four Core	2 days	IEC 60227-5	*LLC
Flame Retardance Test				
EMT-100	Two Core	2 days	IEC 60227-5	*LLC
EMT-101	Three Core	2 days	IEC 60227-5	*LLC
EMT-102	Four Core	2 days	IEC 60227-5	*LLC
Tensile Test before Aging for Insulation / Sheath				
EMT-103	Two Core	10 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-104	Three Core	10 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-105	Four Core	10 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC, KLC
Tensile Test before & after Aging for Insulation / Sheath				
EMT-106	Two Core	10 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-107	Three Core	10 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-108	Four Core	10 days	IEC 60227-5, PS/IEC:60227-1 to 7	*LLC, KLC
Thermal Stability Test				
EMT-109	Two Core	10 days	IEC 60227-5	*LLC
EMT-110	Three Core	10 days	IEC 60227-5	*LLC, KLC
EMT-111	Four Core	10 days	IEC 60227-5	*LLC
EMT-112	Flexing Test	5 days	IEC 60227-5	*LLC
EMT-113	Any Other Partial Test(s)	10 days	IEC 60227-5	*LLC
EMT-114	Power Cables with extruded insulation and their accessories for rated voltage from 1KV up to 30KV – Part -1: Cables for rated voltage 1 KV.			

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
Routine Tests				
EMT-115	Single Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-116	Two Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-117	Three Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-118	Four Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
Sample Tests				
EMT-119	Single Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-120	Two Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-121	Three Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-122	Four Core	5 days	IEC 60502-1, BS 6346	*LLC , KLC
Type Tests				
EMT-123	Single Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-124	Two Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-125	Three Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-126	Four Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
Complete Cable Testing (Sample & Type Tests)				
EMT-127	Single Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-128	Two Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-129	Three Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-130	Four Core	15 days	IEC 60502-1, BS 6346	*LLC , KLC
D.C Resistance Test				
EMT-131	Single Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-132	Two Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-133	Three Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-134	Four Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
Insulation Resistance Test				
EMT-135	Single Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-136	Two Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-137	Three Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-138	Four Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
Dimensional Test				
EMT-139	Single Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-140	Two Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-141	Three Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
EMT-142	Four Core	2 days	IEC 60502-1, BS 6346	*LLC , KLC
High Voltage Test				
EMT-143	Single Core	2 days	IEC 60502-1, ASTM 149	*LLC , KLC
EMT-144	Two Core	2 days	IEC 60502-1, ASTM 149	*LLC , KLC
EMT-145	Three Core	2 days	IEC 60502-1, ASTM 149	*LLC , KLC
EMT-146	Four Core	2 days	IEC 60502-1, ASTM 149	*LLC , KLC
Cold Elongation Test				
EMT-147	Single Core	3 days	IEC 60502-1	*LLC
EMT-148	Two Core	3 days	IEC 60502-1	*LLC
EMT-149	Three Core	3 days	IEC 60502-1	*LLC
EMT-150	Four Core	3 days	IEC 60502-1	*LLC
Flame Retardance Test				
EMT-151	Single Core	3 days	IEC 60502-1	*LLC
EMT-152	Two Core	3 days	IEC 60502-1	*LLC
EMT-153	Three Core	3 days	IEC 60502-1	*LLC
EMT-154	Four Core	3 days	IEC 60502-1	*LLC
Tensile Test before Aging for Insulation / Sheath				
EMT-155	Single Core	3 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-156	Two Core	3 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-157	Three Core	3 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-158	Four Core	3 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
Tensile Test before & after Aging for Insulation / Sheath				
EMT-159	Single Core	10 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-160	Two Core	10 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-161	Three Core	10 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-162	Four Core	10 days	IEC 60502-1, PS/IEC:60227-1 to 7	*LLC, KLC
EMT-163	Any Other Partial Test(s)	10 days	IEC 60502-1	LLC
EMT-164	Bare Copper Conductor / Buss Bar Material	5 days (One sample)	ASTM B193	KLC, *LLC
Dimensional tests				
EMT-165	Resistivity of extruded semi-conducting screens applied over the conductor and insulation before and after ageing	10 days	IEC 60502-2	*LLC
EMT-166	Test for determining of the mechanical properties of insulation & over sheath before and after ageing	10 days	IEC 60502-1, IEC 60502-2	*LLC
EMT-167	Additional ageing test on pieces of completed cable	10 days	IEC 60502-1, IEC 60502-2	*LLC
EMT-168	Hot pressure test at high temperature on PVC over sheath	3 days	IEC 60502-1, IEC 60502-2	*LLC
EMT-169	Behaviour of PVC over sheath at low temperature	2 days	IEC 60502-1, IEC 60502-2	*LLC
EMT-170	Loss of mass test on PVC over sheath	8 days	IEC 60502-1, IEC 60502-2	*LLC
EMT-171	Heat Shock Test on PVC Over sheath	1 day	IEC 60502-1, IEC 60502-2	*LLC
EMT-172	Hot set test for XLPE insulations	1 day	IEC 60502-1, IEC 60502-2	*LLC
EMT-173	Flame spread test on single cable	1 day	IEC 60502-1, IEC 60502-2	*LLC
EMT-174	Water Absorption test on XLPE insulation	16 days	IEC 60502-1, IEC 60502-2	*LLC
EMT-175	Electrical resistance of the conductor	5 days	IEC 60502-1, IEC 60502-2	*LLC, KLC
EMT-176	Single core, three core, P-29	20 days	IEC 60502-2	*LLC
Verification of Dimensions				
EMT-177	Mechanical Properties of Insulation Before & After Aging	15 days	IEC 60502-2 & P-29	*LLC
EMT-178	Hot Set Test	1 day	IEC 60502-2 & P-29	*LLC
EMT-179	Shrinkage Test	1 day	IEC 60502-2 & P-29	*LLC
EMT-180	Conductor Resistance Test	1 day	IEC 60502-2 & P-29	*LLC, KLC
EMT-181	Alternating Current Test	1 day	IEC 60502-2 & P-29	*LLC, KLC
EMT-182	Insulation Resistance Test	1 day	IEC 60502-2 & P-29	*LLC, KLC
EMT-183	Single core/ two core/ three core/ four core/ five core-DDS 82	20 days	IEC 60502-1 & DDS-82	*LLC
EMT-184	Bare Copper Conductor / Buss Bar Material		ASTM 193, BS 6346	*LLC, KLC
EMT-185	Electrical Resistivity / Conductivity ASTM 193	2 days	ASTM 193, BS 6346	*LLC, KLC
EMT-186	Electrical Resistivity / Conductivity	2 days	ASTM 193, BS 6346	*LLC, KLC
Test of copper wire/ earthing conductor, pipe				
EMT-187	Copper purity	2-5 days	N.H. Fuman, Standard methods of chemical analysis, 6th edition/ ASTM E53	KLC, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-188	Size/ gauge	2 days	Digital vernier calliper	PLC, KLC
Test of insulation matrix				
EMT-189	Compressive strength	2 days	ASTM: D 792	LLC, PLC
EMT-190	Density	2 days	ASTM: D 1621, ISO 1183: 2012	KLC, PLC
Lamps				
EMT-191	Tungsten Filament Lamps for Domestic and Similar General Lighting Purposes – Performance Requirements	5 days	In House Methods	KLC
EMT-192	Tungsten Filament Lamps	5 days	IEC 60064 / In House Methods	LLC, KLC
EMT-193	Tubular Fluorescent Lamps (Double-capped Fluorescent Lamps – Performance Specifications)	5 days	IEC 60081/ In House Methods	*LLC, KLC
EMT-194	Tubular Fluorescent Lamps	5 days	IEC 60081/In House Methods	*LLC, KLC
EMT-195	Compact Fluorescent Lamps (Self-Ballasted Lamps for General Lighting Services –	5 days	In House Methods	KLC
EMT-196	Compact Fluorescent Lamps IEC 60968	15 days	IEC 60968	*LLC, KLC
EMT-197	Compact Fluorescent Lamps Excluding Harmonics Test	5 days	IEC 60969	*LLC
EMT-198	Including Harmonics Test	7 days	IEC 60969	*LLC
EMT-199	High Pressure Mercury Vapour Lamps – Performance requirements	7 days	IEC 60188	*LLC
EMT-200	High Pressure Sodium Vapour Lamps – Performance Requirements	7 days	IEC60662	*LLC
Ballast				
EMT-201	Ballast for Tubular Fluorescent Lamps (Performance Requirements)	01 day	In House Methods	KLC
EMT-202	Electromagnetic Ballast for Tubular Fluorescent Lamps	7 days	In house methods	KLC,*LLC
EMT-203	Electromagnetic Ballast for Tubular Fluorescent Lamps IEC60921	7 days	IEC 60921, In House Methods	*LLC, KLC
EMT-204	Electromagnetic Ballasts for Discharge Lamps	7 days	IEC 60921	*LLC
EMT-205	Electromagnetic Ballasts for Discharge Lamps IEC 60923	7 days	IEC 60921	*LLC
EMT-206	A.C SuplLed Electronic Ballast for Tubular Fluorescent Lamps (Performance Requirements)	7 days	IEC 60929, In House Methods	KLC, *LLC
EMT-207	Excluding Endurance Test	10 days	IEC 60929	LLC
EMT-208	Including Endurance Test	10 days	IEC 60929	LLC
EMT-209	Lamps Controlgear (Ballasts) for Fluorescent Lamps (Particular Safety Requirements for A.C SuplLed Electronic Ballasts for Fluorescent Lamps)		IEC 61347-2-3, In House Methods	KLC
EMT-210	A.C SuplLed Electronic Ballast for Tubular Fluorescent Lamps IEC 61347-2-3	15 days	IEC, 60929, In House Methods	*LLC, KLC
EMT-211	A.C SuplLed Electronic Ballast for Tubular Fluorescent Lamps	15 days	IEC 61347-2-3, In House Methods	KLC,LLC
Lighting Accessories				
PVC Electrical Conduits.				
EMT-212	Electrical Conduites (IEC 60614-1)	15 days	IEC 60614-1	LLC
EMT-213	Edison Screw Lamp Holder	15 days	IEC 60238, 60238	LLC, KLC
EMT-214	Two Pole & Earthing - Pin Plugs, Socket outlets, Adaptors	25 days	BS 546, 60884-2	LLC, KLC
EMT-215	13A plugs Socket-outlets, adaptors and connections	25 days	BS 1363-1, 60669-1, 60884-2	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-216	Plugs & Sockets outlets for Household and similar purpose	25 days	IEC 60884-1	LLC
EMT-217	Impact Test	05 days	ASTM D 120	KLC
EMT-218	Heat Deflection Temperature	05 days	ASTM D 120	KLC
EMT-219	Tensile Strength	05 days	ASTM D 120	KLC
EMT-220	Modules of Elasticity under Tensile	05 days	ASTM D 120	KLC
EMT-221	Specific Gravity	05 days	ASTM D 120	KLC
EMT-222	Flexural Strength	05 days	ASTM D 120	KLC
EMT-223	Compressive strength	05 days	ASTM D 120	KLC
EMT-224	Coefficient of thermal Expansion	05 days	ASTM D 120	KLC
EMT-225	Thermal Conductivity	05 days	ASTM D 120	KLC
Switches for Households and Similar fixed Electrical Installation Part –1 General Requirements				
EMT-226	Switches for household and similar fixed electrical installation	25 days	IEC 60669-1	KLC,LLC
Rubber Insulating Gloves				
EMT-227	Routine Tests (Insulation, Chemical Resistance test, Tensile Strength, Elongation, Tear Resistance, Puncture Resistance)	10 days	ASTM D 120	KLC
EMT-228	2 Nos. (Single Pair)	10 days	DDS 53	LLC
EMT-229	4 Nos. (2 Pair)	10 days	DDS 53	LLC
EMT-230	8 Nos. (4 Pair)	10 days	DDS 53	LLC
EMT-231	16 Nos. (8 Pair)	10 days	DDS 53	LLC
Sample Tests as per clause 6.2				
EMT-232	2 Nos. (Single Pair)	10 days	DDS 53	LLC
EMT-233	4 Nos. (2 Pair)	10 days	DDS 53	LLC
EMT-234	8 Nos. (4 Pair)	10 days	DDS 53	LLC
EMT-235	16 Nos. (8 Pair)	10 days	DDS 53	LLC
Complete Testing (6.1 + 6.2)				
EMT-236	2 Nos. (Single Pair)	12 days	DDS 53	LLC
EMT-237	4 Nos. (2 Pair)	12 days	DDS 53	LLC
EMT-238	8 Nos. (4 Pair)	12 days	DDS 53	LLC
EMT-239	16 Nos. (8 Pair)	12 days	DDS 53	LLC
Salt Spray Test [Any Metallic Material Part]				
EMT-240	01 Sample			
EMT-241	24 Hrs.	3 days	ISO 9227	LLC
EMT-242	48 Hrs.	4 days	ISO 9227	LLC
EMT-243	72 Hrs.	5 days	ISO 9227	LLC
EMT-244	96 Hrs.	6 days	ISO 9227	LLC
EMT-245	02 Samples			
EMT-246	24 Hrs.	3 days	ISO 9227	LLC
EMT-247	48 Hrs.	4 days	ISO 9227	LLC
EMT-248	72 Hrs.	5 days	ISO 9227	LLC
EMT-249	96 Hrs.	6 days	ISO 9227	LLC
EMT-250	03 Samples			
EMT-251	24 Hrs.	3 days	ISO 9227	LLC
EMT-252	48 Hrs.	4 days	ISO 9227	LLC
EMT-253	72 Hrs.	5 days	ISO 9227	LLC
EMT-254	96 Hrs.	6 days	ISO 9227	LLC
EMT-255	04 Samples			
EMT-256	24 Hrs.	3 days	ISO 9227	LLC
EMT-257	48 Hrs.	4 days	ISO 9227	LLC
EMT-258	72 Hrs.	5 days	ISO 9227	LLC
EMT-259	96 Hrs.	6 days	ISO 9227	LLC
EMT-260	05 Samples			
EMT-261	24 Hrs.	3 days	ISO 9227	LLC
EMT-262	48 Hrs.	4 days	ISO 9227	LLC
EMT-263	72 Hrs.	5 days	ISO 9227	LLC
EMT-264	96 Hrs.	6 days	ISO 9227	LLC
EMT-265	06 Samples			
EMT-266	24 Hrs.	3 days	ISO 9227	LLC
EMT-267	48 Hrs.	4 days	ISO 9227	LLC
EMT-268	72 Hrs.	5 days	ISO 9227	LLC
EMT-269	96 Hrs.	6 days	ISO 9227	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-270	07 Samples			
EMT-271	24 Hrs.	3 days	ISO 9227	LLC
EMT-272	48 Hrs.	4 days	ISO 9227	LLC
EMT-273	72 Hrs.	5 days	ISO 9227	LLC
EMT-274	96 Hrs.	6 days	ISO 9227	LLC
EMT-275	08 Samples			
EMT-276	24 Hrs.	3 days	ISO 9227	LLC
EMT-277	48 Hrs.	4 days	ISO 9227	LLC
EMT-278	72 Hrs.	5 days	ISO 9227	LLC
EMT-279	96 Hrs.	6 days	ISO 9227	LLC
EMT-280	Instrument Security Factor & Composite Error Single Ratio	2 days	IEC 61869-2	*LLC
EMT-281	Instrument Security Factor & Composite Error Double Ratio	3 days	IEC 61896-2	*LLC
Electric Door Bells Complete Testing (one time)				
EMT-282	1 st Sample	15 days	IEC 62080, 62368-1	LLC, KLC
EMT-283	2 nd Sample	15 days	IEC 62080	LLC
EMT-284	3 rd Sample	15 days	IEC, 62080	LLC
Electric Water Pumps Complete Testing (one time)				
Related up to 1 HP (Safety Tests)				
EMT-285	1 st Sample	20 days	IEC 60335	KLC, LLC
EMT-286	2 nd Sample	20 days	IEC 60335	KLC, LLC
EMT-287	3 rd Sample	20 days	IEC 60335	LLC
Damp Heat Cyclic Test Complete Testing				
EMT-289	1 st Sample	10 days	IEC 60068-2-30	LLC
EMT-290	2 nd Sample	10 days	IEC 60068-2-30	LLC
EMT-291	3 rd Sample	10 days	IEC 60068-2-30	LLC
Solar Radiation Test Complete Testing				
EMT-292	1 st Sample	5 days	IEC 60068-2-5	LLC
EMT-293	2 nd Sample	5 days	IEC 60068-2-5	LLC
EMT-294	3 rd Sample	5 days	IEC 60068-2-5	LLC
Degree of Protection by Enclosures (IP Code)				
EMT-295	1 st Sample	3 days	IEC-60529	*LLC, KLC
EMT-296	2 nd Sample	3 days	IEC-60529	*LLC
EMT-297	3 rd Sample	3 days	IEC-60529	*LLC
Weighing Lab				
EMT-298	Weighing Balance upto 06 Kg	3-5 days	OIML R-76, R-77	*KLC, *PLC
EMT-299	Weighing Balance upto 15 Kg	3-5 days	OIML R-76, R-77	*KLC, *PLC
EMT-300	Weighing Balance upto 100 Kg	3-5 days	OIML R-76, R-77	KLC, PLC
EMT-301	Weighing Balance upto 300 Kg	3-5 days	OIML R-76, R-77	KLC, PLC
EMT-302	Weighing Balance upto 400 Kg	3-5 days	OIML R-76, R-77	KLC
EMT-303	Weighing Balance upto 500 Kg	3-5 days	OIML R-76, R-77	KLC
EMT-304	Masses/Weights upto 1.0 Kg	3-5 days	OIML R-76, R-77	*KLC, *PLC
EMT-305	Masses/Weights 2.0 Kg	3-5 days	OIML R-76, R-77	*KLC, *PLC
EMT-306	Masses/Weights 5.0 Kg/10.0 Kg	3-5 days	OIML R-76, R-77	*KLC, *PLC
EMT-307	Masses/Weights 20.0 Kg	3-5 days	OIML R-76, R-77	*KLC, *PLC
EMT-308	Prespirometer Weights (Other weights)	3-5 days	OIML R-76, R-77	*KLC
EMT-309	Biosafety Cabinet	3-5 days	By comparison	KLC
Electrical Lab				
EMT-310	Digital Earth Tester	3 days	By comparison	*KLC, *PLC
EMT-311	30 KV transformer with Regulator	3 days	By comparison	KLC
EMT-312	Breakdown Voltage Tester below 60 KVA	3 days	By comparison	KLC
EMT-313	Clamp Meter	3 days	By comparison	*KLC, *PLC
EMT-314	Digital Multimeter(DC/AC A,V, Ohm)	3 days	By comparison	*KLC, *PLC
EMT-315	Digital Multimeter(DC/AC A,V,HZ, Ohm)	3 days	By comparison	*KLC, *PLC
EMT-316	DLRO Meter	3 days	By comparison	*KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-317	Frequency Generator	3 days	By comparison	KLC, PLC
EMT-318	High Voltage Insulation Tester	3 days	By comparison	KLC, *PLC
EMT-319	High Voltage Transformer upto 50 KV	3 days	By comparison	KLC
EMT-320	Hi-Pot Tester	3 days	By comparison	KLC
EMT-321	Hi-Voltage Leakage Tester	3 days	By comparison	KLC
EMT-322	Leakage Current Tester	3 days	By comparison	KLC
EMT-323	Lux meter	3 days	By comparison	KLC
EMT-324	Mega ohmmeter	3 days	By comparison	*KLC, *PLC
EMT-325	Megger	3 days	By comparison	*KLC, *PLC
EMT-326	Micro ohm meter	3 days	By comparison	KLC, *PLC
EMT-327	Milliohm Meter	3 days	By comparison	KLC, *PLC
EMT-328	Oil Di-Electric Test Set	3 days	By comparison	KLC
EMT-329	Phase Sequence meter	3 days	By comparison	KLC
EMT-330	Power Analyzer	4 days	By comparison	KLC, *PLC
EMT-331	Primary Current Injection test set upto 2000A	4 days	By comparison	KLC
EMT-332	RPM Meter	2 days	By comparison	*KLC, PLC
EMT-333	Sheath and Insulation Resistance Tester	3 days	By comparison	*KLC, *PLC
EMT-334	Test Bench Ammeter	3 days	By comparison	KLC, *PLC
EMT-335	Test Bench Frequency Meter	3 days	By comparison	KLC, PLC
EMT-336	Test Bench Voltmeter	3 days	By comparison	*KLC, *PLC
EMT-337	Testing trolley	3 days	By comparison	KLC, *PLC
EMT-338	Transformer Ohm Meter	3 days	By comparison	KLC, *PLC
EMT-339	UV light meter/Verivide (Light Box)	2 days	By comparison	KLC, PLC
EMT-340	Voltage Regulator	2 days	By comparison	*KLC, *PLC
EMT-341	9100 WAVETEK	5 days	By comparison	*KLC, *PLC
Pressure / Force Lab				
EMT-342	Consistometer	3-5 days	By comparison	KLC
EMT-343	Crock Meter	3-5 days	By comparison	KLC
EMT-344	Dead Weight Tester	3-5 days	By comparison	KLC
EMT-345	Elmendorf Tear Strength Tester	3-5 days	By comparison	KLC
EMT-346	Feeler Gauge	3-5 days	By comparison	*KLC
EMT-347	Gauge Block	3-5 days	By comparison	*KLC, PLC
EMT-348	GSM Sample Cutter	3-5 days	By comparison	KLC
EMT-349	Load Cell upto 5 KN	3-5 days	By comparison	KLC
EMT-350	Measuring scale upto 100 cm	3-5 days	By comparison	*KLC, PLC
EMT-351	Measuring scale upto 200 cm	3-5 days	By comparison	*KLC, PLC
EMT-352	Measuring scale upto 30 cm	3-5 days	By comparison	*KLC, PLC
EMT-353	Measuring Tape 1 m	3-5 days	By comparison	*KLC, PLC
EMT-354	Measuring Tape 5 m	3-5 days	By comparison	KLC, PLC
EMT-355	Micrometer	3-5 days	By comparison	*KLC, PLC
EMT-356	Pick Glass	3-5 days	By comparison	KLC
EMT-357	Pilling Assessment Viewer	3-5 days	By comparison	*KLC
EMT-358	Pressure Calibrator	3-5 days	By comparison	*KLC
EMT-359	Pressure Gauge upto 10000 PSI	3-5 days	By comparison	*KLC, *PLC
EMT-360	Pressure Gauge upto 2000 PSI	3-5 days	By comparison	*KLC, *PLC
EMT-361	Pressure Gauge upto 5000 PSI	3-5 days	By comparison	*KLC, *PLC
EMT-362	Seam Measuring Scale	3-5 days	By comparison	KLC
EMT-363	Shrinkage Template	3-5 days	By comparison	*KLC
EMT-364	Static Extension Tester	3-5 days	By comparison	KLC
EMT-365	Stiffness Tester	3-5 days	By comparison	KLC
EMT-366	Tear Elmendorf	3-5 days	By comparison	KLC
EMT-367	Vernier Calliper	3-5 days	By comparison	*KLC, *PLC
Rates depending on number of points & parameters				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-368	Gauge Block	01 day	By comparison	PLC, *KLC
EMT-369	Measuring Scale	01 day	By comparison	PLC
EMT-370	Auto Clave	01 day	ASTM	PLC
EMT-371	Micropipette	01 day	ASTM	*PLC
EMT-372	Burette	01 day	ASTM E-542	*PLC, *KLC
EMT-373	Beaker	01 day	ASTM E-542	*PLC, KLC
EMT-374	Pipette	01 day	ASTM	*PLC
EMT-375	Graduated Cylinder	01 day	ASTM	*PLC
EMT-376	Volumetric Flask	01 day	ASTM	*PLC
EMT-377	Titration Flask	01 day	ASTM	*PLC
EMT-378	AC/DC Power Sources	01 day	ASTM	*PLC
EMT-379	Insulation Tester/ Magger	01 day	ASTM	*PLC
EMT-380	Energy Meter	01 day	ASTM	*PLC
EMT-381	Multimeter AC/DC	01 day	ASTM	*PLC
EMT-382	CRO	01 day	By comparison	PLC, KLC
EMT-383	Capacitors	01 day	By comparison	PLC, KLC
EMT-384	Resistors	01 day	By comparison	*PLC, *KLC
EMT-385	Frequency Counter/Universal Counter	01 day	By comparison	PLC, KLC
EMT-386	Frequency Generator	01 day	ASTM	PLC
EMT-387	Earth Tester	01 day	ASTM	*PLC
EMT-388	Stop Watch	01 day	By comparison	PLC, *KLC
EMT-389	Pressure Gauge	01 day	ASTM	*PLC
EMT-390	Safety Valve	01 day	By comparison	*PLC, KLC
EMT-391	Flexible Hose	01 day	ASTM	*PLC
EMT-392	Dead Weight Tester	01 day	ASTM	PLC
EMT-393	Pressure Calibrator	01 day	By comparison	PLC, *KLC
EMT-394	Vacuum Gauge	01 day	By comparison	PLC, KLC
EMT-395	Torque Meters	01 day	By comparison	PLC, KLC
EMT-396	pH Meter	01 day	Single-Two point calibration/ By comparison	PLC, KLC
EMT-397	Conductivity Meter	01 day	Single-Two point calibration	PLC, KLC
EMT-398	Spectrophotometer	01 day	Single-Two point Calibration	PLC, KLC
EMT-399	Refractrometer/Brix meter	01 day	ASTM	PLC
EMT-400	Viscometer	01 day	ASTM	PLC
EMT-401	Moisture Analyzer	01 day	By weighing	*PLC,KLC
EMT-402	Lux Meter	01 day	By comparison	PLC, KLC
EMT-403	Sound Level Meter / Noise Meter	01 day	By comparison	PLC, KLC
EMT-404	Centrifuge Machine	01 day	By comparison	PLC, *KLC
EMT-405	Tachometer	01 day	By comparison	PLC, *KLC
EMT-406	Hardness Tester	01 day	ASTM	PLC
EMT-407	DC Resistance for Cables at 20 °C including dimensional tests	01 day	ASTM	PLC,LLC
EMT-408	routine sample test DC Resistance at 20 °C including dimensional test Insulation resistance at 20 °C Insulation Test on Cable at 2 kV for 5 minutes	07 days	By comparison	PLC,LLC, KLC
EMT-409	Cable Testing without Insulated Conductor (DC Resistance, Cross Sectional Area, No of Strands, Cross Sectional Area of Singel Stand, Breaking Load)	2 weeks	By comparison	PLC, KLC
EMT-410	Copper / Aluninum Puritey of Cable	2 weeks	By comparison	PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-411	Lead Acid Starter Batteries (for Motor Cars) test parameters: a). Electrolyte (Acid) density b). Electrolyte density with Temp c). General & Safety Identification Testing d). Functional Electrical Testing e). Mechanical Testing f). Endurance Test g). Charge Retention Test h). Charge Acceptance Test i). Electrolyte Retention Test j). Vibration Resistance Test k). Water Consumption Test	15 days	PS:IEC:61960-3	KLC
EMT-412	Lead Acid Starter Batteries (for Motor Cycles) test parameters: a). Test for Material with Temp b). General & Safety Marking Testing c). Charge/ Discharge and Retention Testing d). Mechanical Testing e). Overcharge and protection	15-20 days	PS-IEC-60669-1	KLC
EMT-413	Medical diagnostic X-ray equipment –Radiation conditions for use in the determination of characteristics. Test Parameters: a). Radiation Quality Test b). X-Ray Tube Test c). Filter & Diaphragm test d). Detector Test	12-25 days	Pakistan Standard	KLC
EMT-414	Uninterruptible power systems (UPS) – Part 1: General and safety requirements for UPS. Test Parameters: a). Current and Type testing b). Safety Requirement Testing c). Mains and load Power Testing d). Enclosure and Insulation Testing e). Hazards and safety Testing f). Battery charging and Protection testing g). Transformers and current testing h). Durability, Mountings and Mechanical tests i). Any Electrical testing	12-30 days	PS-62040-1/2014	KLC
EMT-415	Uninterruptible power systems (UPS) – Electromagnetic compatibility (EMC) requirements Test Parameters: a). Category and Type Confirmation testing b). Emission (EMI) Testing c). Mains Interference Testing d). D.C testing for Interference e). Any Electrical testing	12-30 days	PS: IEC:60884-2-1	KLC
EMT-416	Uninterruptible power systems (UPS) – Method of specifying the performance and test requirements Corrigendum Test Parameters: a). Mains and load Power Testing b). Enclosure and Insulation Testing c). Hazards and safety Testing d). Battery charging and Protection testing e). Transformers and current testing f). Durability, Mountings and Mechanical tests g)Any Electrical testing	12-30 days	PS-62040-1/2014	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-417	Solar Products(pump inverters, Drives etc) Testing Test Parameters: a). Maximum Power Tracking Testing b). Enclosure and Insulation Testing c). Hazards and safety Testing d). Off load Power and Run Testing e). Enclosure/Insulation and electrical Testing f). Any other specification Testing	15-25 days	Pakistan Standard	KLC
EMT-418	Uninterruptible power systems (UPS) –DC Output UPS – Performance and Test requirements Test Parameters: a). DC Functionality & efficiency Test b). DC power inter face Test c). Battery and flywheel test d). Type Test e). Power performance, Transients, & mode test f). Battery and load test g).Electrical Value Test h). Over load and fault tolerance Test	15-25 days	Pakistan Standard	KLC
EMT-419	Secondary cells and Batteries containing Alkaline or other Non-Acid electrolytes secondary Lithium cells and Batteries for portable ApILcation. Test Parameters: a). Performance Test cell b). Performance Test Battery c). Marking and Designation Parameters test d). Specs and apILcation test e). Charge, discharge, retention test with temperature test f). Endurance, Internal parameter test	15-25 days	PS-IEC-6190-3	KLC
EMT-420	Switches for household and similar fixed electrical installations General Requirements Test Parameters: a). Load control and Current limit test b). Operational type test c). Electronic operation and sensor type test d). Protection and Box safety test e). Remote & temperature controlled switch test f). Electronic Circuit switch test g). Time delay switch (Elec.) test h). Controlled Device type test i). Rating and classification test j). Protection and enclosure (earthing) test k). Thermal stability and durability test	15-25 days	PS: IEC:60884-2-6	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-421	Switches for household and similar fixed electrical installations Particular Requirements - Electronics Switches test parameters: a). Load and Current limit test b). Electro mechanical test c). Semiconductor type test d). Protection test e). Remote controlled switch test f). Circuit switch test g). Time delay switch test h). Monostable/ bi stable type test i). Rating and classification test j). Mechanical and enclosure test k). Thermal stability and durability test	15-25 days	PS: IEC:60884-2-7	KLC
EMT-422	Plug & Socket outlets household and similar purposes – General Requirements test parameters: a). Marking, Type and Rated parameter test b). Electric Shock Protection and insulation type test c). Break force, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Wire live, Earth Termination , Mechanical Mountings Test f). Assembly and construction test g). Aging and Enclosure resistance against Humidity Heat pressure etc h). Electrical strength, Normal operation and insertion and de locking force test i). Creepage Distances, Clearances and Test on Pins	15-25 days	PS:IEC 60906-1	KLC
EMT-423	Plugs and socket-outlets for household and similar purposes - Particular requirements for fused plugs test parameters: a). Marking, Type and Rated parameter test b). Electric Shock Protection and insulation type test c). Break force, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Wire live, Earth Termination , Mechanical Mountings Test f). Assembly and construction test g). Aging and Enclosure resistance against Humidity Heat pressure etc. h). Electrical strength, Normal operation and insertion and de locking force test i). Creepage Distances, Clearances and Test on Pins	15-25 days	PS: IEC:60884-2-1	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-424	Plugs and socket-outlets for household and similar purposes - Particular requirements for socket-outlets for appliances test parameters: a). Marking, Type and Rated parameter (male /female) b). Electric Shock Protection and insulation type test c). Break force/Cracks, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Wire live, Earth Termination , Mechanical Mountings (round/rectangular pin/hole) Test f). Jerk/Axial force impair test g). Aging and Enclosure resistance against Humidity Heat pressure etc h). Electrical strength, Normal operation and Interlock test i). Creepage Distances, Clearances and Test on Pins	15-25 days	PS: IEC:60884-2-2	KLC
EMT-425	Plugs and socket-outlets for household and similar purposes Particular requirements for switched socket-outlets without interlock for fixed installation test parameters a). Marking with assembly, classification/Type and Rated parameter test b). Poles with Electric Shock Protection and insulation type test c). Break force, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Wire live, Earth Termination , Mechanical Mountings Test f). Assembly and construction test g). Aging and Enclosure resistance against Humidity Heat pressure etc h). Electrical strength, Normal operation and insertion force test i). Creepage Distances, Clearances and Test on Pins	15-25 days	PS: IEC:60884-2-3	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-426	Plugs and socket-outlets for household and similar purposes - Part 2-4: Particular requirements for plugs and socket-outlets for SELV a). Marking, Type and Rated parameter test/- b). Electric Shock Protection and insulation type test c). Break Force, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Wire live, Earth Termination , Mechanical Mountings (screws, connections, parts) Test f). Aging and Enclosure resistance against Heat, fire pressure etc g). Electrical strength, Normal operation and insertion and withdrawal force test h). Creepage Distances, Clearances and Test on Pins i). Flexible cable safety and glow fire test	15-25 days	PS: IEC:60884-2-4	KLC
EMT-427	Plugs and socket-outlets for household and similar purposes - Part 2-5: Particular requirements for adaptors a). Marking, adopter type and Rated power parameter test b). Flexible cable safety and glow fire test c). Polarity types/fused and Protection/ insulation type test d). Travel type adopter with break Force, Material type and socket/plug dimension test e). Terminal/Contact pins , load and earth test f). Wire live, Earth Termination , Mechanical Mountings (wire, multi devise connections, re-wireble parts) Test g). Aging and Enclosure resistance against Heat, fire pressure etc h). Electrical strength, Normal operation and insertion and withdrawal force test i). Creepage Distances, Clearances and Test on Pins j). Pin assembly and construction test	15-25 days	PS: IEC:60884-2-5	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-428	Plugs and socket-outlets for household and similar purposes Particular requirements for switched socket-outlets with interlock for fixed electrical installations test parameters a). Marking (complete unit), classification/Type and Rated parameter test b). Electric Shock Protection and insulation type test c). Break force, Material type and socket/plug dimension test d). Actuation and Contact pins , inter lock load and earth test e). Poles nos. and live, Earth Termination , Mechanical Mountings Test f). Assembly and construction test g). Aging and Enclosure resistance against Humidity Heat pressure etc h). Electrical strength, Normal operation and insertion force tes i). Creepage Distances, Clearances and Test on Pins	15-25 days	PS: IEC:60884-2-6	KLC
EMT-429	Plugs and socket-outlets for household and similar purposes - Particular requirements for cord extension sets test parameters a). Cord parameters (Type and assembly) test b). Electric rating and Protection/ insulation test c). Break force, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Dimensions parameters, Wires live, Earth Termination , Mechanical Mountings Test f). Assembly and construction test g). Aging and shield resistance against Humidity Heat pressure etc h). Electrical strength, Normal operation and insertion and breaking capacity test i). Creepage Distances, Clearances and Test on Pin j). Screws, current parts, connections test	15-25 days	PS: IEC:60884-2-7	KLC
EMT-430	Plugs and socket outlets (16 Amp 250Vac) test Parameters a). Marking, Type and Rated parameter test b). Electric Shock Protection and insulation type test c). Break force, Material type and socket/plug dimension test d). Terminal/Contact pins , load and earth test e). Wire live, Earth Termination , Mechanical Mountings Test f). Assembly and construction test g). Aging and Enclosure resistance against Humidity Heat pressure etc. h). Electrical strength, Normal operation and insertion and de locking force test i). Creepage Distances, Clearances and Test on Pins	15-25 days	PS:IEC 60906-1	KLC
Miscellaneous Electric Testing Parameters By KLC				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-431	Electrical power/ utilities products	01 week	PS/IEC	KLC
EMT-432	Solar panel	01 week	PS/IEC	KLC
EMT-433	Solar inverter/UPS	1.5 week	PS/IEC	KLC
EMT-434	Solar pumps	3 days	PS/IEC	KLC
EMT-435	ILLUMINARIES/ Lamps / lightening products (LED, Tube Lights) PS/IEC STANDARDS: i.) Compact Fluorescent Lamps (Self-Ballasted Lamps for General Lighting Services -Performance Requirements) ii.) Tungsten Filament Lamps for Domestic and Similar General Lighting Purposes - Performance Requirements	5 days	PS/IEC	KLC
EMT-436	Performance and Constructions of Electrical Household and Similar Electrical Appliances (PS/IEC standards)	3 weeks	PS/IEC	KLC
EMT-437	Ingress protection Testing (IP)	5 days	PS/IEC	KLC
EMT-438	Electro-medical devices' testing	1.5 week	PS/IEC	KLC
EMT-439	Lux /lumen testing	3 days	PS/IEC	KLC
EMT-440	Product rated power	3 days	PS/IEC	KLC
EMT-441	Efficiency /load testing	3 days	PS/IEC	KLC
EMT-442	DC/AC testing	3 days	PS/IEC	KLC
EMT-443	Battery capacity test	3 days	PS/IEC	KLC
EMT-444	MPPT Test(Solar up to 3KVA)	01 week	PS/IEC	KLC
EMT-445	Cut-off solar power and stand by power test	01 week	PS/IEC	KLC
EMT-446	Dimensional test (physical type)	3 days	PS/IEC	KLC
EMT-447	Temperature performance	3 days	PS/IEC	KLC
EMT-448	Humidity control	3 days	PS/IEC	KLC
EMT-449	Electro cardiograph	3 days	PS/IEC	KLC
EMT-450	Defibrillator	5 days	PS/IEC	KLC
EMT-451	Multi para monitor	3 days	PS/IEC	KLC
EMT-452	NIBP	3 days	PS/IEC	KLC
EMT-453	Surgical diathermy	3 days	PS/IEC	KLC
EMT-454	Pulse Oxi-meter	3 days	PS/IEC	KLC
EMT-455	Ballast for Tubular Fluorescent Lamps (Performance Requirements)	01 week	PS/IEC	KLC
EMT-456	Lamps Control gear (Ballasts) for Tubular Fluorescent Lamps (Particular)	01 week	PS/IEC	KLC
EMT-457	Safety Requirements of Ballasts for Tubular Fluorescent Lamps IEC 60921	01 week	PS/IEC	KLC
EMT-458	Ballasts for Discharge Lamps – Performance requirements	01 week	PS/IEC	KLC
EMT-459	Lamp Control gear – Particular Safety Requirements for Ballasts of Discharge Lamps	01 week	PS/IEC	KLC
EMT-460	A.C SuplLED Electronic Ballast for Tubular Fluorescent Lamps (Performance Requirements)	01 week	PS/IEC	KLC
EMT-461	Lamps Control gear (Ballasts) for Fluorescent Lamps (Particular Safety Requirements for A.C SuplLED Electronic Ballasts for Fluorescent Lamps)	01 week	PS/IEC	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EMT-462	Production of Equipments Up on Client request (commercial model list) Digital pH meter, Digital Conductivity Meter , Digital Electrophoreses Apparatus, Cooled Incubator, Water Deionizer	90 days	PCSIR Product	KLC
Environmental Protection Testing				
Municipal/ Liquid Industrial Effluents/ Treated Wastewater/ Drinking Water/ Surface Water/ Irrigation Water				
EP-01	Temperature	1 day	APHA/ AWWA/ WEF 2017	*LLC, KLC,PLC, IL
EP-02	pH (acidity/ basicity)	1 day	APHA/ AWWA/ WEF 2017	*LLC, *KLC,PLC, IL
EP-03	Conductivity	1 day	APHA/ AWWA/ WEF 2017	*LLC, *KLC,PLC, IL
EP-04	Turbidity	1 day	APHA/ AWWA/ WEF 2017	*LLC, KLC,PLC, IL
EP-05	Colour	1 day	APHA	LLC, KLC, IL
EP-06	Taste	1 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-07	Total dissolved solids (TDS)	3 days	APHA/ AWWA/ WEF 2017/ TDS meter	*LLC, PLC,*KLC, IL, FRC
EP-08	Total suspended solids (TSS)	1 day	APHA/ AWWA/ WEF 2017	*LLC, PLC,KLC, IL
EP-09	Total Settleable solids	1 day	APHA/ AWWA/ WEF 2017	LLC, PLC,KLC, IL
EP-10	Biochemical Oxygen Demand (BOD5) days at 20 oC	5 days	APHA/ AWWA/ WEF 2017	*LLC, PLC,KLC, IL
EP-11	Ultimate Biochemical Oxygen Demand (BOD21) days at 20 oC	21 days	APHA/ AWWA/ WEF 2017	PLC, KLC, IL
EP-12	Chemical Oxygen Demand (COD)	2 days	APHA/ AWWA/ WEF 2017	*LLC, *KLC, *PLC, IL
EP-13	Dissolve Oxygen	7 days	APHA 2017	LLC, KLC, IL, PLC
EP-14	Kjeldhal Nitrogen	7 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-15	Oil and Grease	7 days	APHA/ AWWA/ WEF 2017	*LLC, KLC, PLC, IL
EP-16	Phenol and Phenolic Compounds	3 days	Lab Developed method	*LLC, KLC, IL
EP-17	Anionic Detergent	1 day	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-18	Total Organic Carbon (TOC)	3 days	APHA	LLC, KLC, PLC , IL
EP-19	P. Alkalinity (as CaCO ₃)	2 days	APHA	LLC, *KLC, PLC, IL
EP-20	M. Alkalinity (as CaCO ₃)	2 days	APHA	LLC, *KLC, PLC , IL
EP-21	Hydroxide Alkalinity	2 days	APHA/ AWWA/ WEF 2017	LLC, KLC,PLC, IL
EP-22	Free Carbondioxide	1 day	APHA/ AWWA/ WEF 2017	LLC, KLC,PLC, IL
EP-23	Pesticides (Qualitative)	5 days	AOAC	LLC-PLC, KLC
EP-24	PCB/ PCA Analysis	5 days	AOAC	LLC,KLC, PLC
EP-25	PAH Analysis	5 days	RICA	LLC, KLC, PLC
EP-26	Miscellaneous test (like Aliphatic & Aromatic HC, Pthalates, Phosphine, amines, methyl bromide, 1-4 Dioxan, alkyl phenols etc.)	05 days	GC	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EP-27	Heavy Metals/ Cations/ Anions i. Arsenic, Barium, Boron, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Selenium, Silver, Zinc, Aluminium, Antimony, Strontium, Vanadium	1 day for each metal	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-28	ii. *Fluoride, *Chlorides, *Sulphate, *Sulphide, Sodium, Potassium, Silica, Nitrate, Cyanide, Tin, total nitrogen	1 day for each parameter	APHA/ AWWA/ WEF 2017	*LLC, KLC, PLC, IL
EP-29	iii. *Calcium, *Magnesium, Phosphate, Lithium	1 day each	APHA/ AWWA/ WEF 2017	*LLC, KLC, PLC, IL
EP-30	iv. Mercury	3 days	APHA/ AWWA/ WEF 2017	LLC, KLC, IL
EP-31	Ammonia (NH ₃)	2 days	APHA/ AWWA/ WEF 2017	*LLC, KLC, PLC, IL
EP-32	Chlorine	1 day	APHA	LLC, KLC, IL, PLC
EP-33	Total Toxic Metal	1 day	AAS Method	LLC, KLC, IL
EP-34	Waste water/ effluent analysis (31 parameters)	10 working days	APHA/ AWWA/ WEF 2017	KLC, PLC
EP-35	Waste water/ effluent analysis (selected parameters)	7 working days	APHA/ AWWA/ WEF 2017	KLC, PLC, IL
EP-36	Municipal Solid Waste test on CHNS elemental analyzer	7 working days	CHNS elemental analyzer	KLC, PLC
Solid Waste/ Coal /Biomass/ Fuel Oil Analysis				
EP-37	Proximate Analysis	7 days	ASTM	LLC,KLC,FRC
EP-38	Total Moisture	5-7 days	ASTM	LLC,KLC,FRC, IL
EP-39	Inherent Moisture	5-7 days	ASTM	LLC,KLC,FRC, IL
EP-40	Volatile Matter	5-7 days	ASTM	LLC, KLC,FRC, IL
EP-41	Total Ash	5-7 days	ASTM	LLC, KLC, FRC, IL
EP-42	Fixed Carbon	5-7 days	ASTM	LLC, KLC, FRC, IL
Ultimate Analysis				
EP-43	Chemical Elements (Carbon, Sulfur, Nitrogen, Oxygen, Hydrogen)	3 days	In House methods	LLC, PLC
EP-44	Calorific Value	01 day	ASTM	KLC, PLC
EP-45	Total Chloride (Chlorine)	2 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC
EP-46	Fluoride	2 days	ASTM	LLC, KLC
EP-47	Lower Heating Value	3 days	ASTM	LLC, KLC
EP-48	Higher Heating Value	3 days	ASTM	LLC, KLC
EP-49	Bio Methane Potential	40 days	ASTM	LLC
EP-50	Anaerobic Toxicity Assay	40 days	Lab Developed method	KLC
EP-51	Ash Analysis (SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , CaO, MgO, Na ₂ O, K ₂ O, TiO ₂ , SO ₃ , P ₂ O ₅)	10 days	Atomic Absorption Spectroscopy	LLC, KLC, PLC
EP-52	Ferric/Iron Oxide (Fe ₂ O ₃)	5 days	Atomic Absorption Spectroscopy	FRC, IL, PLC, KLC
EP-53	Calcium Oxide/Lime (CaO)	5 days	Atomic Absorption Spectroscopy	FRC, IL, PLC, KLC
EP-54	Magnesium Oxide (MgO)	5 days	Atomic Absorption Spectroscopy	FRC, IL, KLC
EP-55	Potassium Oxide (K ₂ O)	5 days	Atomic Absorption Spectroscopy	FRC, IL, PLC, KLC
EP-56	Sodium Oxide (Na ₂ O)	5 days	Atomic Absorption Spectroscopy	FRC, IL, PLC, KLC
EP-57	Manganese Di Oxide (MnO ₂)	5 days	Atomic Absorption Spectroscopy	FRC, IL, PLC, KLC
EP-58	Sulphur for Coal Sample	5 days	Atomic Absorption Spectroscopy	FRC, KLC ,LLC, PLC
EP-59	Gross Calorific Value (GCV for Coal Sample)	2-3 days	ASTM	FRC, PLC
EP-60	Sieve Analysis of Coal Sample	2-3 days	In House methods/ ASTM	FRC, KLC,LLC, PLC
Trace Elements/ Water Analysis				
EP-61	Lead (Pb)	01 day	APHA	FRC, IL, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EP-62	Zinc (Zn)	01 day	APHA	FRC, IL, KLC
EP-63	Copper (Cu)	01 day	APHA	FRC, IL, KLC
EP-64	Manganese (Mn)	01 day	APHA	FRC, IL, KLC
EP-65	Nickel (Ni)	01 day	APHA	FRC, IL, KLC
EP-66	Cadmium (Cd)	01 day	APHA	FRC, IL, KLC
Miscellaneous				
EP-67	Grinding Index of Coal (HGI)	2-3 days	ASTM	FRC
EP-68	True Sp Gravity	2-3 days	ASTM	FRC
EP-69	Apparent Density	2-3 days	ASTM	FRC
EP-70	Humic Acid Content	2-3 days	ISO-5073-1999	FRC, PLC
R&D Products				
EP-71	Environment Friendly Coal Briquettes	1 Ton per day	ASTM	FRC
EP-72	Humic Acid (Liquid)	200 Lt. per day	ISO-5073-1999	FRC
EP-73	Humic Acid (Solid)	1 Ton per day	ISO-5073-1999	FRC
EP-74	Ash Analysis (SiO ₂ , Al ₂ O ₃ , Fe ₂ O ₃ , CaO, MgO, Na ₂ O, K ₂ O, TiO ₂ , SO ₃ , P ₂ O ₅)	10 days	Atomic Absorption Spectroscopy/ASTM	LLC, KLC, PLC
Soil/ Sludge Analysis				
EP-75	pH (acidity/ basicity)	3 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-76	Conductivity	3 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-77	Moisture Content	3 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-78	Organic Matter	3 days	APHA/ AWWA/ WEF 2017	LLC, KLC, PLC, IL
EP-79	Texture Analysis	3 days	Lab developed method, ASTM	LLC, KLC, IL
EP-80	Heavy Metals Cation/ Anions i. (Chlorides, Sulphate, Sodium, Potassium, Nitrate, Nitrite, Silica, Phosphorus as P ₂ O ₅)	10-12 days	APHA/ AWWA/ WEF 2017 GUPTA	LLC, KLC, PLC, IL
EP-81	ii. Calcium, Magnesium, Boron, Iron	7-10 days	APHA, Gupta	KLC, IL, PLC
EP-82	P. Alkalinity (as CaCO ₃)	3 days	APHA, ASTM	LLC, KLC, IL, PLC
EP-83	M. Alkalinity (as CaCO ₃)	3 days	APHA, ASTM	LLC, KLC, IL, PLC
EP-84	Hydroxide Alkalinity	3 days	APHA, ASTM	LLC, KLC, IL, PLC
EP-85	Total Nitrogen	10 days	APHA, ASTM	LLC, KLC, IL, PLC
EP-86	Sodium Absorption Ratio (SAF)	10 days	APHA, ASTM	LLC, KLC, IL, PLC
EP-87	Cation Exchange Capacity CEC	10 days	APHA, ASTM	LLC, IL, KLC
EP-88	Residual Sodium Carbonate (RSC)	3 days	APHA, ASTM	LLC, KLC, IL
EP-89	Oil and grease	2 days	APHA	KLC, LLC, IL
EP-90	Organic Carbon in Soil	5 days	APHA, ASTM	LLC, IL, KLC
EP-91	Organic Matter in soil	5 days	APHA, ASTM	LLC, KLC, IL
EP-92	Salinity of Soil	2 days	APHA	KLC, IL
Industrial/ Generator Emission Gas Analysis				
EP-93	Sox/ Nox/ Cox/ Oxygen	3-4 days	Gas Analyzer/ US-EPA	LLC, KLC, PLC
EP-94	Temperature	3-4 days	Gas Analyzer/ US-EPA	LLC, KLC, PLC
EP-95	Noise Monitoring	3-4 days	Noise Meter/ US-EPA	LLC, KLC, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
EP-96	Particulate matters	3-4 days	US-EPA	LLC, PLC
Vehicular Exhaust Emissions Analysis				
EP-97	Smoke	3-4 days	US-EPA	LLC
EP-98	Carbon Monoxide	3-4 days	sr.carbonoxide,hydrtrocarbon, and smoke Combined 8000/ US-EPA/ Gas Analyzer	LLC, KLC
EP-99	Hydrocarbon	3-4 days	CHNS elemental analyzer	LLC, KLC, PLC
Environmental Monitoring				
EP-100	Ambient Air Monitoring with dust/ sound level	3-4 days	Dust analyzer/ Ambient Air Analyzer/ sound level meter	PLC,KLC
EP-101	Dust/ sound level	3-4 days	Sound Meter/ dust moniter	PLC,KLC
EP-102	Flue Gases Monitoring	3-4 days	Flue Gas Analyzer	KLC, PLC, FRC
EP-103	Tensile Strength, Bursting Strength, Tearing Strength, Opacity, Brightness	4 days	TAPPI	KLC
EP-104	Fiber Profile Analysis(paper & paper board)	4 days	TAPPI	KLC
EP-105	C:N Ration	3day	ASTM	KLC,LLC
EP-106	Density	2 days	ASTM/ TAPPI	KLC,LLC
EP-107	Ash Fusion	2 days	ASTM	KLC, IL
EP-108	Biodegradability Test	30-35 days	Lab Developed method/ ASTM	KLC,LLC
EP-109	Heavy Metals in Solid Waste	7 days	AAS/ ASTM	LLC, KLC, IL, PLC
EP-110	Chemical/ Microbiological analysis of Organic fertilizer	7 days	US-EPA	KLC
EP-111	Pesticide/ Herbicide/ Fungicide/ Insecticide	5 days	GC	KLC
EP-112	Chemical Sensitivity Test (security paper)	15 days	TAPPI	KLC
EP-113	Phytotoxicity Assay	10 days	US-EPA	KLC
EP-114	Water chemical Analysis	5 days	APHA	KLC, IL, PLC
EP-115	Hardness	5 days	APHA	KLC, IL
EP-116	Heavy Metals in Solid Waste	7 days	APHA	KLC, IL, PLC
EP-117	Salinity	5 days	APHA	KLC, IL
EP-118	Color and Odor of Drinking Water	5 days	ASTM	LLC , PLC
EP-119	Sulfide	5 days	ASTM	LLC , PLC
EP-120	Phosphate	5 days	ASTM	LLC , PLC
EP-121	Phosphorous	5 days	ASTM	LLC , PLC
EP-122	Silica (Dissolved)	5days	ASTM	LLC, KLC
EP-123	Noise Monitoring	1 Hr	ASTM	LLC,PLC
EP-124	Dust/Particulate Matter (PM ₁₀),	01 day	Dust analyzer	PLC
EP-125	Dust/Particulate Matter(PM _{2.5})	01 day	Dust analyzer	PLC
EP-126	Dust/ Particulate Matter (PM _{1.0})	01 day	Dust analyzer	PLC
EP-127	Ambient Air Monitoring (CO, CO ₂ , NO, NO ₂ , H ₂ S, NH ₃)	01 day	Ambient Air Analyzer	PLC
EP-128	Ambient Air, Dust & Sound Level	01 day	Ambient Air Analyzer	LLC,PLC
EP-129	Dust & Sound Level	01 day	Dust analyzer/ Ambient Air Analyzer	PLC, LLC
EP-130	Water Chemical Analysis	01 day	APHA/ AWWA/ WEF 2017	PLC, LLC
EP-131	Hardness as CaCO ₃	01 day	APHA/ AWWA/ WEF 2017	PLC, IL, *LLC
EP-132	Calcium as CaCO ₃	01 day	APHA/ AWWA/ WEF 2017	PLC, IL, *LLC
EP-133	Magnesium as CaCO ₃ ,	01 day	APHA/ AWWA/ WEF 2017	PLC, IL,*LLC
EP-134	SO ₂ , CO, O ₂ , NO ₂ , NO, H _x C _y , H ₂ S, CO ₂ , NOx, T. ambient, T. Gas	01 day	Stack Gas Analyzer	PLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
Engineering Services				
ES-01	Gas Water Heaters (30G-60G)	1 day	As per customer provided standard	LLC
ES-02	Gas Cooking Range (3 Burners-5 Burners)	1 day	As per customer provided standard	LLC
ES-03	Gas Fired Room Heaters (Single / Double Plate)	1 day	As per customer provided standard	LLC
ES-04	Gas Cooking Range / Stove (2 Burners)	1 day	As per customer provided standard	LLC
ES-05	Pressure Cooker	10 days	PS, IEC	KLC, LLC
For PVC Pipes as per ASTM 2241, 2444 & BS 3505/06 Class B, C, D, E (Hydrostatic test in KLC only)				
ES-06	1" Dimension, Impact, Hydrostatic pressure, base material identification, longitudinal heat reversion, resistance to delamination, fracture toughness	7 days	ASTM 2241, 2444 & BS 3505/06	PLC, KLC
ES-07	2" Dimension, Impact, Hydrostatic pressure, base material identification, longitudinal heat reversion, resistance to delamination, fracture toughness	7 days	ASTM 2241, 2444 & BS 3505/06	PLC, KLC
ES-08	3" Dimension, Impact, Hydrostatic pressure, base material identification, longitudinal heat reversion, resistance to delamination, fracture toughness	7 days	ASTM 2241, 2444 & BS 3505/06	PLC, KLC
ES-09	4" Dimension, Impact, Hydrostatic pressure, base material identification, longitudinal heat reversion, resistance to delamination, fracture toughness	7 days	ASTM 2241, 2444 & BS 3505/06	PLC, KLC
ES-10	5" Dimension, Impact, Hydrostatic pressure, base material identification, longitudinal heat reversion, resistance to delamination, fracture toughness	7 days	ASTM 2241, 2444 & BS 3505/06	PLC, KLC
ES-11	6" Dimension, Impact, Hydrostatic pressure, base material identification, longitudinal heat reversion, resistance to delamination, fracture toughness	7 days	ASTM 2241, 2444 & BS 3505/06	PLC, KLC
For HDPE Pipes as per DIN 8074/75 (Hydrostatic test in KLC only)				
ES-12	1 Dimension only	01 day	DIN 8074/75	PLC, KLC
ES-13	2 Dimension only	01 day	DIN 8074/75	PLC, KLC
ES-14	3" Dimension only	01 day	DIN 8074/75	PLC, KLC
ES-15	4 Dimension only	01 day	DIN 8074/75	PLC, KLC
ES-16	5 Dimension only	01 day	DIN 8074/75	PLC, KLC
ES-17	6 Dimension only	01 day	DIN 8074/75	PLC, KLC
Sample Preparation Charges				
ES-18	Polymer Pipes (HDPE, PPRC, UPVC, PVC) upto 7mm for UTM	01 day	ASTM D638	PLC, KLC
ES-19	Polymer Pipes (HDPE, PPRC, UPVC, PVC) greater than 7mm for UTM	01 day	ASTM D638	PLC, KLC
ES-20	Metallic Samples for UTM	01 day	ASTM A370	PLC, KLC
ES-21	Sample Preparation for Emission Spectrography	01 day	As per requirement	PLC
ES-22	Sample Preparation for Flattening Test	01 day	D1785	PLC
CNC Machines				
ES-23	CNC Vertical Machining Centre	no of hours as per assignment	CNC/ In-house	PLC, LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ES-24	CNC Turning Centre	no of hours as per assignment	CNC/ In-house	PLC, LLC, KLC
ES-25	CNC Laser Engraving Machine	no of hours as per assignment	CNC	PLC, KLC
Hardness Test on Time Hardness Tester				
ES-26	Steel, CWT steel, Stainless Steel, Gray Cast Iron, Normal Cast Iron, Cast Aluminum, Brass, Bronze, Copper	01 day	ASTM E110	PLC
PVC Pipes/Sheet Fiber glasssheet,PPR Pipe,HIDE Pipe/GI Pipe&MS Pipe				
ES-27	Tensile strength & elongation	01 day	ASTM D-638, A-370	PLC
ES-28	Size (Inner, Outer Dia & wall thickness)	01 day	ASTM D-1785, A-53	PLC
ES-29	Tensile strength & elongation	01 day	ASTM D-638, A-370	PLC
ES-30	Workshop cutting charges	01 day	Lab Developed method	PLC, KLC
ES-31	Weight of coating test	01 day	ASTM-A-90	PLC
ES-32	Flattening test	01 day	ASTM D-1785, A-53	PLC
ES-33	Unit weight	01 day	ASTM A-121	PLC
ES-34	Size (Dia & Gauge) of GI Wire	01 day	ASTM A-121	PLC, KLC
ES-35	Weight of coating test GI Wire	01 day	ASTM A-90	PLC, KLC
ES-36	Tensile strength & elongation test/cutting GI Wire	01 day	BS443	PLC
ES-37	Size (Dia & Gauge) of Concertina Wire	01 day	ASTM A-121	PLC
ES-38	Weight of coating test of Concertina Wire	01 day	ASTM A-90	PLC
ES-39	Tensile strength & elongation test/cutting of Concertina Wire	01 day	ASTM A-370	PLC
ES-40	Barb thickness of Concertina Wire	01 day	ASTM A-121	PLC
ES-41	Barb width of Concertina Wire	01 day	ASTM A-121	PLC
ES-42	Barb spacing of Concertina Wire	01 day	ASTM A-121	PLC
ES-43	Coil Dia of Concertina Wire	01 day	ASTM A-121	PLC
ES-44	Coil weight of Concertina Wire	01 day	ASTM A-121	PLC
ES-45	Dimensions	01 day	ASTM	KLC,PLC
ES-46	Impact (Charpy/ Izod/ DART)	01 day	ASTM E 23	KLC
ES-47	Longitudinal Heat Reversion	01 day	ISO 2505	KLC,PLC
ES-48	Delamination Test	01 day	ISO 20866	KLC
ES-49	Fracture Toughness Test	01 day	ISO 13586	KLC
ES-50	Tensile Strength	01 day	ASTM D 3039	KLC,PLC
ES-51	Elongation	01 day	ASTM D 3039	KLC,PLC
ES-52	Flexural Strength	01 day	ASTMC 78	KLC,PLC
ES-53	Thermal Stability	01 day	ISO 2505	KLC
ES-54	Identification and composition of material	5-7 days	FTIR TA Lab Developed	KLC,PLC
ES-55	Chemical Resistance (Acid/Base/Salt)	5-7 days	ASTM D 543	KLC,PLC
ES-56	Resistance to Methylene Chloride	01 day	Lab Developed method	KLC,PLC
ES-57	Density	01 day	ASTM D 4052	KLC,PLC
ES-58	Carbon Black	2 days	ASTM D 7633	KLC
ES-59	Bend Back Test	01 day	ASTM F 3183	KLC
ES-60	Carbon Black	01 day	ASTM D 7633	KLC
ES-61	Compression (@ various deflection)	01 day	ASTM D 695	KLC,PLC
ES-62	Melt Flow Index	2 days	ASTM D 1238	KLC
ES-63	Specific Gravity	01 day	ASTM D 4052	KLC,PLC
ES-64	Tensile Strength	01 day	ASTM D 3039	KLC,PLC
ES-65	4" (110 mm)	01 day	DIN8074/75	KLC
ES-66	6.2" (160 mm)	01 day	DIN8074/75	KLC
ES-67	7.0" (180 mm)	01 day	DIN8074/75	KLC
ES-68	9" (225 mm)	01 day	DIN8074/75	KLC
ES-69	10" (250 mm)	01 day	DIN8074/75	KLC
ES-70	12" (300 mm)	01 day	DIN8074/75	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ES-71	14" (355 mm)	01 day	DIN8074/75	KLC
ES-72	17" (440 mm)	01 day	DIN8074/75	KLC
ES-73	20" (500 mm)	01 day	DIN8074/75	KLC
ES-74	23.6" (600 mm)	01 day	DIN8074/75	KLC
ES-75	24.4" (620 mm)	01 day	DIN8074/75	KLC
ES-76	CMM for Design Verification	Depend upon product complexity & simplicity	Through Built in software of coordinate measuring machine	LLC
Computers & Instrumentation (CALIBRATION)				
CI-01	Voltmeter Single Phase	One Week	* LLC / APC&IC / LDM	LLC , *PLC
CI-02	Voltmeter Three Phase	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-03	Ampere Meter Single Phase	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-04	Ampere Meter Three Phase	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-05	Multimeter (AC/DC Voltage & Current, Resistance)	One Week	LLC / APC&IC / LDM	*LLC, *PLC
CI-06	Multimeter (AC/DC Voltage)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-07	Multimeter (AC/DC Current)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-08	CRO	One Week	EURAMET cg-15, Version 3.0 (02/2015)	PLC
CI-09	DC/ AC Power supply	One Week	LLC / APC&IC / LDM	*KLC, *LLC, PLC
CI-10	Capacitor	One Week	EURAMET cg-15, Version 3.0 (02/2015)	PLC
CI-11	Resistor	One Week	EURAMET cg-15, Version 3.0 (02/2015)	*KLC, *PLC
CI-12	Multimeter (Resistance)	One Week	LLC / APC&IC / LDM	LLC, *KLC, *PLC
CI-13	Resistance Meter	One Week	LLC / APC&IC / LDM	LLC, *KLC, *PLC
CI-14	Clampmeter (AC/DC Voltage & Current, Resistance)	One Week	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-15	Clampmeter (AC Voltage & Current, Resistance)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-16	Clampmeter (AC Current)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-17	Clampmeter (DC Current)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-18	Clampmeter (AC & DC Current)	One Week	LLC / APC&IC / LDM	LLC, KLC, *PLC
CI-19	Megger (up to10 G Ohm)	One Week	LLC / APC&IC / LDM	LLC, KLC, *PLC
CI-20	Megger (1 T Ohm)	One Week	LLC / APC&IC / LDM	LLC, KLC, *PLC
CI-21	Milliohm meter	One Week	LLC / APC&IC / LDM	LLC, *PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
CI-22	Decade Resistance Box	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-23	Standard Resistance	One Week	LLC / APC&IC / LDM	*LLC, *PLC
CI-24	Decade Milli Ohm Resistance Box	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-25	Standard Milli Ohm Resistance	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-26	RCL Meter	One Week	LLC / APC&IC / LDM	LLC
CI-27	RCL Meter (Inductance)	One Week	LLC / APC&IC / LDM	LLC
CI-28	RCL Meter (capacitance)	One Week	LLC / APC&IC / LDM	LLC
CI-29	RCL Meter (Resistance)	One Week	LLC / APC&IC / LDM	LLC
CI-30	Decade Capacitance Box	One Week	LLC / APC&IC / LDM	LLC
CI-31	Decade Inductance Box	One Week	LLC / APC&IC / LDM	LLC
CI-32	High Voltage Meter upto 10 kV	One Week	LLC / APC&IC / LDM	LLC
CI-33	High Voltage Meter upto 30 kV	One Week	LLC / APC&IC / LDM	LLC
CI-34	High Voltage Meter 50 kV and Above	One Week	LLC / APC&IC / LDM	LLC
CI-35	DC or AC Oil Dielectric Test Set	One Week	LLC / APC&IC / LDM	LLC, KLC
CI-36	DC Power Supply Calibration	One Week	LLC / APC&IC / LDM	LLC, *KLC, *PLC
CI-37	Transformer Turn Ratio Meter (Voltage Driven)	One Week	LLC / APC&IC / LDM	LLC, KLC
CI-38	Earth Resistance Meter (2 Pin)	One Week	LLC / APC&IC / LDM	LLC, *KLC, *PLC
CI-39	Earth Resistance Meter (4 Pin)	One Week	LLC / APC&IC / LDM	LLC, *KLC, *PLC
CI-40	Earth Tester	3 days	EURAMET cg-15, Version 3.0 (02/2015)	*KLC, *PLC
CI-41	Ductor Set	3 days	EURAMET cg-15, Version 3.0 (02/2015)	*PLC
CI-42	Power Meter Single Phase (Power Only)	One Week	LLC / APC&IC / LDM	*LLC, KLC, *PLC
CI-43	Power Meter Three Phase (Power Only)	One Week	LLC / APC&IC / LDM	LLC, KLC, *PLC
CI-44	Tachometer Contact Type	One Week	LLC / APC&IC / LDM	LLC, *KLC, PLC
CI-45	Tachometer Non Contact Type	One Week	LLC / APC&IC / LDM	LLC, *KLC, PLC
CI-46	RPM Measurement	One Week	LLC / APC&IC / LDM	*LLC, *KLC, PLC
CI-47	Multifunction Calibrator (Gen & Measurement) Per Parameter	One Week	LLC / APC&IC / LDM	LLC, *KLC, *PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
CI-48	Frequency Counter (Frequency per Channel)	One Week	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-49	Frequency Counter (Frequency & Time Period per Channel)	One Week	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-50	Frequency Generator (Frequency per Channel per wave shape)	One Week	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-51	Current Calibrator	01 day	EURAMET cg-15, Version 3.0 (02/2015)	*PLC
CI-52	Stopwatch (0.01 s Resolution)	One Week	LLC / APC&IC / LDM	*LLC, *KLC, PLC
CI-53	Stopwatch (0.001 s Resolution)	One Week	LLC / APC&IC / LDM	LLC, *KLC, PLC
CI-54	Meterscale	3 days	Direct Comparison	KLC, PLC
CI-55	LUX Meter	One Week	LLC / APC&IC / LDM	KLC, PLC
CI-56	Sound Level Meter	One Week	LLC / APC&IC / LDM	LLC, KLC, PLC
CI-57	Chain Block	01 day	Verification	PLC, LLC
CI-58	Colony Counter	01 day	Verification	PLC
CI-59	Polari Meter	01 day	Verification	PLC, KLC
CI-60	Hardness Tester	01 day	Calibaritation	PLC
CI-61	Tinto Meter	01 day	Calibaritation	PLC
CI-62	Moisture	01 day	E77-07, ASTM 2008	*PLC,LLC
CI-63	HPLC	01 day	E77-07, ASTM 2008	PLC,LLC
CI-64	Flame Photometer	01 day	Verification	PLC,LLC
CI-65	Hotplate	01 day	Verification	PLC,LLC
CI-66	Sound Level Meter Calibrator	One Week	LLC / APC&IC / LDM	LLC, KLC, PLC
CI-67	Oscilloscope (1 Channel- freq, Time period, AC / DC Voltage) Analogue	One Week	LLC / APC&IC / LDM	LLC, KLC, PLC
CI-68	Oscilloscope (2 Channel- freq, Time period, AC / DC Voltage) Analogue	One Week	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-69	PT VA Burden	One Week	LLC / APC&IC / LDM	LLC
CI-70	CT VA Burden	One Week	LLC / APC&IC / LDM	LLC
CI-71	Set of Mass	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-72	Mass upto 20 kg	One Week	LLC / APC&IC / LDM	*LLC, *PLC
CI-73	Weighing Scale (20 kg)	One Week	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-74	Weighing Scale (50 kg)	One Week	LLC / APC&IC / LDM	LLC, PLC
CI-75	Weighing Scale (100 kg)	One Week	LLC / APC&IC / LDM	LLC,PLC
CI-76	Friability Apparatus	01 day	Direct Measurement	PLC
CI-77	Force Gauge	3 days	LLC / APC&IC / LDM	LLC, KLC
CI-78	Measuring Tape (5m)	One Week	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-79	Line Length Standard	One Week	LLC / APC&IC / LDM	*LLC, *KLC, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
CI-80	Vernier Caliper (300 mm)	One Week	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-81	Micrometer (25 mm)	One Week	LLC / APC&IC / LDM	LLC, *KLC, PLC
CI-82	Angle Measurement	5 days	By comparison	KLC, PLC, LLC
CI-83	Gauge Block	3 days	LLC / APC&IC / LDM	*LLC, *KLC, PLC
CI-84	Dial Indicator	3 days	LLC / APC&IC / LDM	LLC, *KLC, PLC
CI-85	Spectrophotometer	3 days	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-86	pH Meter	3 days	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-87	Conductivity Meter	3 days	LLC / APC&IC / LDM	LLC, KLC, PLC
CI-88	Refractometer/ Brix meter	3 days	Direct Comparison	KLC, PLC
CI-89	Viscometer	01 day	Direct Comparison	PLC, LLC
CI-90	TDS Meter	3 days	LLC / APC&IC / LDM	LLC, PLC
CI-91	Measuring Flask	3 days	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-92	Measuring Cylinder	3 days	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-93	Measuring Beaker	3 days	LLC / APC&IC / LDM	*LLC, KLC, *PLC
CI-94	Measuring Pipette	3 days	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-95	Micropipette	3 days	BS EN ISO 8655-6:2002	KLC, *PLC, *LLC
CI-96	Measuring Burette	One Week	LLC / APC&IC / LDM	*LLC, KLC, *PLC
CI-97	Titration Flask	3 days	E 542-01, ASTM 2008, Vol: 14.04	*KLC, *PLC, *LLC
CI-98	Hydrometer	3 days	LLC / APC&IC / LDM	LLC, KLC, PLC
CI-99	Alcometer	3 days	LLC / APC&IC / LDM	LLC, KLC, PLC
CI-100	Liquid in Glass Thermometer	3 days	LLC / APC&IC / LDM	*LLC, *PLC
CI-101	Digital Thermometer	3 days	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-102	Thermocouple	3 days	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-103	RTD Probe	3 days	LLC / APC&IC / LDM	*LLC, *KLC, *PLC
CI-104	Potentiometer thermocouple	3 days	E 77-77, ASTM 2008, Vol: 14.03	*LLC, PLC
CI-105	Temperature Controller	3 days	LLC / APC&IC / LDM	*LLC, *PLC
CI-106	Hygrometer	3 days	LLC / APC&IC / LDM	*LLC, PLC
CI-107	Oven	3 days	LLC / APC&IC / LDM	LLC, *PLC
CI-108	Incubator	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-109	Furnace	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-110	Tumble Dryer	One Week	LLC / APC&IC / LDM	LLC, PLC
CI-111	Water Bath	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-112	Dry Bath Calibration	3 days	E 77-07, ASTM 2008, Vol: 14.03	KLC, *LLC, *PLC
CI-113	Oil Bath	01 day	E 77-77, ASTM 2008	*PLC, LLC
CI-114	Pressure Gauge(3000 psi)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-115	Pressure Gauge(5000 psi)	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-116	Pressure Gauge(10000 psi)	One Week	LLC / APC&IC / LDM	*LLC, *PLC
CI-117	Flexible House	01 day	User Manual of 1305D DWT	*PLC
CI-118	Safety valve	01 day	User Manual of 1305D DWT	*PLC
CI-119	Dead Weight Pressure Tester	One Week	LLC / APC&IC / LDM	*LLC, KLC, PLC
CI-120	Vacuum Gauge	3 days	LLC / APC&IC / LDM	*LLC, KLC, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
CI-121	Pressure Calibrator	3 days	LLC / APC&IC / LDM	*LLC,*KLC, PLC
CI-122	Torque Meters	3 days	Direct Comparison	KLC, PLC
CI-123	Centrifuge Machine	3 days	LLC / APC&IC / LDM	LLC, PLC
CI-124	Temperature Calibrator	3 days	E 77-07, ASTM 2008, Vol: 14.03	LLC, *PLC
CI-125	RTD Calibrator	3-5 days	E 77-07, ASTM 2008, Vol: 14.03	*PLC
CI-126	Washing Machine	One Week	LLC / APC&IC / LDM	LLC
CI-127	Wascator	01 week	LLC / APC&IC / LDM	LLC, *KLC
CI-128	Crock Meter	3 days	LLC / APC&IC / LDM	LLC, KLC
CI-129	Wrapping Reel	3 days	LLC / APC&IC / LDM	LLC
CI-130	Sample Cutter	1 day	LLC / APC&IC / LDM	LLC
CI-131	Light Box	1 day	LLC / APC&IC / LDM	LLC, PLC
CI-132	Twist Tester	1 day	LLC / APC&IC / LDM	LLC,
CI-133	Strength Testing Machine	1 day	LLC / APC&IC / LDM	LLC
CI-134	Universal Tensile Testing Machine(200 ton)	1 day	LLC / APC&IC / LDM	LLC
CI-135	Universal Tensile Testing Machine(100 ton)	1 day	LLC / APC&IC / LDM	LLC
CI-136	Universal Tensile Testing Machine(60 ton)	1 day	LLC / APC&IC / LDM	LLC
CI-137	Auto Falme Chamber	1 day	LLC / APC&IC / LDM	LLC
CI-138	Autoclave	1 day	LLC / APC&IC / LDM	LLC
CI-139	Disintegration Apparatus (Temp. time)	01 day	E 77-07, ASTM 2008, Vol: 14.03	*PLC,LLC, *KLC
CI-140	Dissolution Apparatus(Temp. time, RPM)	01 day	E 77-07, ASTM 2008, Vol: 14.03	*PLC,LLC
CI-141	Melting Point Apparatus	01 day	E 77-07, ASTM 2008, Vol: 14.03	*PLC,LLC
CI-142	Top Loading Balance	3 days	OIML R76-I, 2006 (E)	*PLC,*KLC,*LLC
CI-143	Analytical Balance	01 day	LLC / APC&IC / LDM	LLC, *PLC
CI-144	Weight/ Piece (1 mg – 500 g)	01 day	OIML R111-I, 2004 (E)	*PLC
CI-145	Weight/ Piece (1 kg – 20 kg)	01 day	OIML R111-I, 2004 (E)	*PLC, *LLC
CI-146	Weight/ Piece (30 kg– 200 Kg)	01 day	Direct Comparison	PLC
CI-147	Cement Mortar Mixer	One Week	LLC / APC&IC / LDM	LLC, PLC
CI-148	Charpy Impact Testing Machine	One Week	LLC / APC&IC / LDM	LLC
CI-149	Concrete Antipenetration Apparatus	One Week	LLC / APC&IC / LDM	LLC
CI-150	Batching plant	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-151	Continues Magnetic Field Coil	One Week	LLC / APC&IC / LDM	LLC
CI-152	Deep Freezer	One Week	LLC / APC&IC / LDM	LLC, *PLC
CI-153	Digital Elmendorf Tear Tester	One Week	LLC / APC&IC / LDM	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
CI-154	Mano Meter	One Week	LLC / APC&IC / LDM	LLC
CI-155	Micro Pipettor	One Week	LLC / APC&IC / LDM	*LLC, *PLC
CI-156	Pneumatic Stiffness Tester	One Week	LLC / APC&IC / LDM	LLC
CI-157	Dispensor	One Week	LLC / APC&IC / LDM	*LLC
CI-158	Feeler Gauge	3 days	LLC / APC&IC / LDM	LLC, *KLC
CI-159	Glow Wire Tester	3 days	LLC / APC&IC / LDM	LLC
CI-160	Wrinkle Tester	3 days	LLC / APC&IC / LDM	LLC, KLC
CI-161	Test of G.I wire tensile strength, elongation, galvanization (Zinc coating)	3-5 days	ASTM A-90, A-370	PLC
CI-162	Test of G.I wire (only Zinc coating)	3-5 days	ASTM A-90	PLC
CI-163	Performance Validation of Diathermy	01 day	Diathermy analyzer	KLC
CI-164	Performance Validation of Defibrillator	01 day	Developed method/ By comparison	KLC
CI-165	Performance validation of Multi (BP) Monitor	01 day	Developed method/ By comparison	KLC
CI-166	Performance Validation of Pulse Oxi meter	01 day	Developed method/ By comparison	KLC
CI-167	Performance Validation of ECG Machine	01 day	Developed method/ By comparison	KLC
CI-168	Performance Validation of Baby Warmer	02 days	Developed method/ By comparison	KLC
CI-169	Performance Validation of Baby Incubator	02 days	Developed method/ By comparison	KLC
Thermal Lab				
CI-170	Climatic Chamber	3-5 days	Developed method	*KLC,LLC, PLC
CI-171	Conditioning Unit	3-5 days	Developed method	*KLC,LLC
CI-172	Dry Block Calibrator	3-5 days	Developed method	*KLC,LLC, *PLC
CI-173	Gyro Wash	3-5 days	Developed method	*KLC,LLC
CI-174	Hot Plate Stirrer	3-5 days	Developed method/ APCIC/TCP/01	KLC,LLC
CI-175	Hygrometer	3-5 days	Developed method/ APCIC/TCP/01	*KLC,*LLC
CI-176	Incubator	3-5 days	Developed method/ APCIC/TCP/03	*KLC,*LLC
CI-177	Iron	3-5 days	Developed method/ PRESS	KLC,LLC
CI-178	Lab Air Conditioning & R.H Control Unit	3-5 days	Developed method/ APCIC/TCP/03	KLC,LLC
CI-179	Launder -0-meter	3-5 days	Developed method/ APCIC/TCP/04	*KLC,LLC
CI-180	Min / Max Thermometer	3-5 days	Developed method/ APCIC/TCP/05	*KLC,LLC
CI-181	Muffle Furnace	3-5 days	Developed method/ APCIC/TCP/06	*KLC,LLC
CI-182	Orbital Shaker	3-5 days	Developed method/ APCIC/TCP/07	*KLC,LLC
CI-183	Oven	3-5 days	Developed method/ APCIC/TCP/08	*KLC,*LLC
CI-184	Psychrometer	3-5 days	Developed method/ APCIC/TCP/09	*KLC,LLC
CI-185	Rotary Evaporator	3-5 days	Developed method/ APCIC/TCP/10	*KLC,LLC
CI-186	Stop watch/Timer upto 30 min	3-5 days	Developed method/ APCIC/TCP/11	*KLC,LLC
CI-187	Stop watch/Timer above 30 min	3-5 days	Developed method/ APCIC/TCP/12	KLC,*LLC
CI-188	Thermometer upto 100 c	3-5 days	Developed method/ APCIC/TCP/13	*KLC,LLC
CI-189	Thermometer upto 250 C	3-5 days	Developed method/ APCIC/TCP/14	*KLC,*LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
CI-190	Tumble Dryer/Meile Dryer	3-5 days	Developed method/ APCIC/TCP/15	*KLC,LLC
CI-191	Washing Machine	3-5 days	Developed method/ APCIC/TCP/16	*KLC,LLC
CI-192	MFI (Melt Flow Index) machine (Temp, Weight, Piston length) --	3-5 days	Developed method/ APCIC/TCP/17	KLC,LLC
Whiropool washer Vortex Washer				
CI-193	Water Level	3-5 days	By comparison/ APCIC/FCP/01	KLC,LLC
CI-194	Agitation Speed	3-5 days	By comparison/ APCIC/FCP/02	KLC,LLC
CI-195	Washing Time	3-5 days	By comparison/ APCIC/FCP/03	*KLC,LLC
CI-196	Final Spin Speed	3-5 days	By comparison/ APCIC/FCP/04	*KLC,LLC
CI-197	Final Spin Time	3-5 days	By comparison/ APCIC/FCP/05	*KLC,LLC
Whirlpool Dryer Opti and Kenmore Dryer				
CI-198	Exhaust Temp	3-5 days	By comparison/ APCIC/TCP/01	KLC,LLC
CI-199	Temperature	3-5 days	By comparison/ APCIC/TCP/02	*KLC, *LLC
CI-200	RPM	3-5 days	By comparison/ APCIC/TCP/03	*KLC
CI-201	Stainless steel container	3-5 days	By comparison/ APCIC/TCP/04	KLC
CI-202	Bottom of container	3-5 days	By comparison/ APCIC/TCP/05	KLC
Wascator				
CI-203	Inner drum (Net Volume)	3-5 days	By comparison/ APCIC/TCP/01	KLC,LLC
CI-204	Outer drum (Diameter)	3-5 days	By comparison/ APCIC/TCP/02	*KLC
CI-205	Outer drum (Wash) With load & water	3-5 days	By comparison/ APCIC/TCP/03	*KLC
CI-206	Drum Speed(Hydroextraction) Low Spin	3-5 days	By comparison/ APCIC/TCP/04	*KLC
CI-207	Drum Speed(Hydroextraction) High	3-5 days	By comparison/ APCIC/TCP/05	*KLC
CI-208	Temp / Liquor level /Wash time	3-5 days	By comparison/ APCIC/TCP/06	*KLC
CI-209	Main Wash (Water added to dry) (Water level / Volume	3-5 days	By comparison/ APCIC/TCP/07	KLC
Accudry				
CI-210	Drum (Volume)	3-5 days	By comparison/ APCIC/TCP/09	KLC,LLC
CI-211	Controlled Exhaust Temp (normal temp)	3-5 days	By comparison/ APCIC/TCP/10	KLC
CI-212	Controlled Exhaust Temp (Lower temp)	3-5 days	By comparison/ APCIC/TCP/11	KLC
CI-213	Cool- down period	3-5 days	By comparison/ APCIC/TCP/12	*KLC
Crockmeter				
CI-214	Downward force	3-5 days	By comparison/ APCIC/DCP/01	KLC,LLC
CI-215	Track length	3-5 days	By comparison/ APCIC/DCP/02	KLC
CI-216	Finger cylinder diameter	3-5 days	By comparison/ APCIC/DCP/03	KLC
Tearing Tester				
CI-217	Heavy Duty Elmendorf	3-5 days	By comparison/ APCIC/DCP/05	KLC
CI-218	Digital Elmendorf	3-5 days	By comparison/ APCIC/DCP/06	KLC
Minerals and Advanced Engineering Materials				
ME-01	Chemical Analysis (complete)	3-5 working days	ASTM E1476	*LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ME-02	Purity Test: Optical Emission Spectrometer, Micro XRF, Hand Held XRF (X-MET), Carbon Sulphur Determinator (LECO)	3-5 working days	ASTM E1476	*LLC, KLC
ME-03	XRF Analysis	10 days	XRF	LLC, KLC, PLC
ME-04	XRD Analysis	10 days	XRD	KLC
ME-05	Nano-Indentation	3-5 working days	Oliver & Phhar	LLC
Microstructural Study				
ME-06	Micro Examination (With Prints)	3-5 working days	ASTM E407	*LLC
ME-07	Macro Examination	3-5 working days	ASTM E340	*LLC
ME-08	Coating Thickness Measurement (by Microscopic or any other method)	3-5 working days	ASTM B487	*LLC, KLC
ME-09	Coating Weight Measurement (by Microscopic or any other method)	3-5 working days	Chemical Method	KLC, *LLC
ME-10	Non Destructive Testing * Minimum Job Accepted Ultrasonic Testing, Eddy Current Testing, X-Rays (Radiography) Testing, Magnetic Testing, Dye Penetrant Testing	3-5 working days	ASME Sec-V	LLC
ME-11	Seamless Test (Macro Examination)	3-5 working days	ASTM E340	*LLC
Hardness Testing				
ME-12	Brinell Hardness Tester	3-5 working days	ASTM E 10	LLC, KLC, PLC
ME-13	Rockwell hardness tester	3-5 working days	ASTM E18	*LLC, KLC, PLC
ME-14	Vicker Hardness Tester	3-5 working days	ASTM E92	LLC, KLC, PLC
ME-15	Micro Vicker Hardness Tester	3-5 working days	ASTM E384	LLC, KLC
ME-16	Portable Hardness Tester	2-3 working days	ASTM E110	LLC , PLC
ME-17	Case Depth (Hardness Profile & Micro Examination)	3-5 working days	ASTM E407, E384, E18	LLC
ME-18	Shore Hardness Tester	3-5 working days	ASTM D2240, D1415	LLC, KLC, PLC
ME-19	Thermal Analysis: Differential Scanning Calorimeter (DSC/TGA)	3-5 working days	ASTM E793,794	LLC, KLC
ME-20	Corrosion Analysis Potentiostat	3-5 working days	ASTM G102	LLC
Tensile Testing				
ME-21	Steel Samples (More than 1"Dia)	3-5 working days	ASTM A370	*LLC, PLC, KLC
ME-22	other soft materials (Paper, Textile, Rubber etc)	3-5 working days	ASTM 370, 638,828, 5035	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ME-23	Bend Testing	3-5 working days	ASTM A370	LLC, PLC, KLC
ME-24	For below Room Temperature test the Liquid Nitrogen Gas will be client's responsibility	3-5 working days	ASTM A370	LLC
ME-25	Density Measurement	3-5 working days	ASTM D792	LLC, KLC
ME-26	Coefficient of Linear Thermal Expansion (Dilatometer)	3-5 working days	ASTM C372	LLC, KLC
ME-27	Laser Particle Size Analyzer (For Dry & Wet Analysis)	3-5 working days	Not in working	LLC
ME-28	Scanning Electron Microscopy (SEM/EDX) Analysis	3-5 working days	SEM/EDX technique	LLC
ME-29	Wear & Friction Properties (Tribology Study)	2-3 working days	ASTM G99	LLC
ME-30	Surface Roughness (By Profilometer)/ Surface hardness portable	3-5 working days	JIS 94	LLC, PLC
ME-31	Nano-Identification Test	15 working days	Oliver & Phhar	LLC
ME-32	Pressure Proof Test (Hydrostatic Presure)	2-3 days	BS 3506, ISO 4427	KLC, PLC
ME-33	*Reclamation Re-Metallization (Thermal Spraying)	5-10 Working days	Thermal spraying technique	LLC
ME-34	*Failure Investigation / Consultancy	15-20 Working days	Depending on Tests involved	LLC
LPG Composite Cylinder Testing				
ME-35	Torque Test	3-5 working days	ISO 11119-3	*LLC
ME-36	Leak Test	3-5 working days	ISO 11119-3	*LLC
ME-37	Burst Pressure	3-5 working days	ISO 11119-3	*LLC
ME-38	Cyclic Test	3-5 working days	ISO 11119-3	*LLC
ME-39	Hydraulic Proof Test	3-5 working days	ISO 11119-3	*LLC
ME-40	High Velocity Impact Test	3-5 working days	ISO 11119-3	LLC
ME-41	Drop Test	3-5 working days	ISO 11119-3	*LLC
ME-42	Exposure to Elevated Temperature	Approx. 83 days	ISO 11119-3	*LLC
ME-43	Fire Test	3-5 working days	ISO 11119-3	LLC
ME-44	Permeability	3-5 working days	ISO 11119-3	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ME-45	Flaw Test	3-5 working days	ISO 11119-3	*LLC
Note: All tests are conducted according to ISO 11119-3/EN 14427 standard				
Melting & Casting				
ME-46	Development of Grey Cast Iron Grades	Depending upon casting	Alloy Casting	LLC
ME-47	Development of steel alloy	Depending upon casting	Alloy Casting	LLC
ME-48	Development of Aluminum alloys	Depending upon casting	Alloy Casting	LLC
ME-49	Alloys (emission spectrography without sample preparation)	3-5 days	Emission Spectrograph	PLC
ME-50	Alloys (emission spectrography with sample preparation)	3-5 days	Emission Spectrograph	PLC
ME-51	Complete Evaluation of the Material / Part (depending upon the nature of job)	3-5 days	AAS/ Vogel text book	LLC
ME-52	Coating PVD	5 days	Not in working	LLC
APPLIED CHEMISTRY				
Pritning Paper/ Box Board/ Duplex Board/ Bleach Board/ Carbon Paper/ Z-Fold Braille Paper				
ACR-1	Grammage	3 days	ASTM D 646/TAPPI-410-om-19	*LLC, PLC
ACR-2	Burst factor / Burst Strength	3 days	ASTM D 774/D 774M/TAPPI-403-om-15	*LLC, PLC
ACR-3	Brightness	3 days	ASTM D 985, 989/TAPPI-452-om-18	LLC, PLC, KLC
ACR-4	Opacity	3 days	ASTM D 589/TAPPI-425-om-16	LLC, PLC, KLC
ACR-5	Thickness	3 days	ASTM D 645/D 645M/ TAPI/ TAPPI-411-om-15	LLC, PLC
ACR-6	Gloss / Glazed	3 days	TAPPI-653-om-22	LLC
ACR-7	Quality / Paper Texture	3 days	TAPPI-575-om-07	LLC
ACR-8	Density	3-4 days	TAPPI-410-om-19	LLC, KLC
ACR-9	Bulk	3 days	TAPPI-410-om-19	LLC, PLC
ACR-10	Tear factor / Tear strength	3 days	TAPPI-414-om-15	LLC, PLC
ACR-11	Ash content	3 days	TAPPI-413-cm-17	LLC, KLC, PLC
ACR-12	Coating Layer Percentage in paper board (Front & Back)	3-4 days	Lab Developed method	KLC
ACR-13	Number of Layers in paper board	3-4 days	Lab Developed method	KLC
Glue				
ACR-14	Test of Glue (solid contents, viscosity, density, pH, sea salt)	3 days	Flame Photometry, ASTM D-1583, Rotaional Viscometry, ASTM D 1582	LLC, KLC, PLC
Wax content / Bitumen content CBS / Security Check Paper				
ACR-15	Complete testing	5 days	BS	LLC, PLC
ACR-16	Fineness by 200 mesh	3 days	BS	LLC, PLC
ACR-17	Specific gravity	3 days	BS	LLC, PLC
ACR-18	Consistency	3 days	BS	LLC, PLC
ACR-19	Initial and final setting time	3 days	BS	LLC, PLC
ACR-20	3 days compressive strength	3 days	BS	LLC, PLC
Fine spray / Water proofing Insulating Material				
ACR-21	Moisture	3 days	PS/ ASTM/IEC-60641-3-1	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-22	Ash content	3 days	PS/ ASTM/IEC-60641-3-1	LLC, KLC
ACR-23	Conductivity of Aqueous extract	3 days	PS/IEC-60641-3-1	LLC
ACR-24	pH value of aqueous extract	3 days	PS/ ASTM/IEC-60641-3-1	LLC, KLC
ACR-25	Oil absorption	3 days	PS/IEC-60641-3-1	LLC
ACR-26	Density	3 days	PS/ ASTM/IEC-60641-3-1	LLC, KLC
Leather				
ACR-27	Tensile strength:	4 days	ISO 3376-220	*LLC, *LRC, PLC
ACR-28	Elongation	4 days	ISO 3376-220	*LLC, *LRC, PLC
ACR-29	Tear resistance (Double edge)	3 days	ISO 3377-2-2016	*LLC
ACR-30	Water vapour permeability	5 days	EN ISO 21420:2020	*LLC, LRC
ACR-31	Water vapour absorption	4 days	EN ISO 21420:2020	LLC, LRC
ACR-32	Shrinkage temperature	2 days	ISO 3380, IUP-24	*LLC, LRC
ACR-33	Abrasion resistance	3 days	EN ISO 388:2016 + A1 2018	*LLC, LRC
ACR-34	Adhesion to Finish	3 days	ISO 11644	LRC
ACR-35	Sole of adhesion	3 days	EN 20344	LLC
ACR-36	Dexterity (Protective gloves)	2 days	EN ISO 21420:2020	LLC, *LRC
ACR-37	Tear resistance (Single edge)	2 days	EN ISO 388:2016 + A1 2018	*LLC,*LRC
ACR-38	Tear Strength/ Stitch Tear Strenght	3 days	ISO 3377-1	LLC, LRC
ACR-39	Colour fastness to rubbing (wet & dry)	2 days	SLF 5, ISO 11640	*LLC, LRC
ACR-40	ASTM color	2 days	ASTM	LRC
ACR-41	Colour fastness to perspiration	3 days	ASTM, ISO 11641	LLC, LRC
ACR-42	Colour fastness to washing	3 days	ASTM, ISO 15702	LLC, LRC
ACR-43	Colour fastness to water	3 days	ISO 11642	LLC,LRC
ACR-44	Colour fastness to dry cleaning	3 days	ISO 11643	LLC
ACR-45	Colour Fastness to day Light	7 days	ISO 605 B01	LRC,LLC
ACR-46	Colour Fastness to Petroleum Spirit	2 days	ISO 105	LRC,LLC
ACR-47	Softness	2 days	ISO 17235	LRC,LLC
ACR-48	Color	2 days	APHA, ASTM	LRC,LLC
ACR-49	Oil & Grease	3 days	ASTM 1293-65 (APHA)	LRC,LLC
ACR-50	Hardness of Water	3 days	ASTM 1293-65 (APHA)	LRC,LLC
ACR-51	Biological Oxygen Demand	7 days	TNO	LRC,LLC
ACR-52	Flexing Endurance (Wet/ Dry)	2 days	ISO 5402-1	LRC,LLC
ACR-53	Sizing of Working Glove	2 days	EN ISO 21420:2020	*LRC,LLC
ACR-54	Puncture Test	2 days	EN ISO 388:2016 + A1 2018	LRC,LLC
ACR-55	Water Penetration	2 days	EN 21420	LRC,LLC
ACR-56	Bursting Strength	2 days	ISO 3379	LRC,LLC
ACR-57	Crock Test	2 days	ISO 11640	LRC,LLC
ACR-58	Fiber Identification	2 days	ISO 17131	LRC,LLC
ACR-59	Thickness	2 days	ISO 2589	LRC,LLC
Chemical Testing of Leather:				
ACR-60	Disperse Dye from Leather & Textile	5 days	ISO 16373	LRC,LLC
ACR-61	Formaldehyde in Leather	5 days	ISO 17226	*LRC,*LLC
ACR-62	Ammonia (NH ₃)	5 days	APHA	LRC,LLC
ACR-63	Azo dyes	5 days	Cobination of CLRI & Freiburgs Method, ISO 17234	LLC, LRC
ACR-64	Pentachlorophenol (PCP)	5 days	ISO 17070	*LLC, LRC
ACR-65	Formaldehyde	5 days	ISO 17226+H1707:H1709, IUC-19 (SLC) 23	*LLC, *LRC
ACR-66	Elongation at Break of Leather	2 days	ISO 3376	*LRC
ACR-67	Fatliquor ApILcation / Fatliquor Quality	3 days	TNO	LRC
ACR-68	Chromium VI (without ageing)	3 days	ISO 17075	LRC,*LLC
ACR-69	Chromium-VI (with ageing)	4 days	ISO 17075	LLC,LRC
ACR-70	Chromic oxide	3 days	IUC 8, ISO 5398	LLC,*LRC, IL
ACR-71	Basicity	3 days	IUC 8, TNO	LLC,LRC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-72	Chromium & Basicity	3 days	ISO 4045, TNO	LRC
ACR-73	pH	2 days	EN 21420	*LLC,*LRC
ACR-74	pH & TDS	2 days	ASTM 1293-65 (APHA)	LRC
ACR-75	Ash content	2 days	SLC 6	LLC,LRC, IL
ACR-76	Fat content	4 days	ISO 4048	LLC,LRC, IL
ACR-77	Water soluble	2 days	SLC 5	LLC,LRC, IL
ACR-78	Hide substance	6 days	SLT 3	LLC,LRC, IL
ACR-79	Volatile matter	4 days	PS , SLC 3	LLC,LRC
ACR-80	Determination of Active Matter	4 days	ASTM	LRC
ACR-81	Solid Content	4 days	SLC 2/3c	LRC,LLC
ACR-82	Heavy Metals (Pb, Cd, Ni, Co, Cu, Mg, etc)	10 days	ISO 17072	LLC, KLC
ACR-83	Water Chemical Testing	4 days	ASTM 1293-65 (APHA)	LRC, IL,LLC
ACR-84	Suspended Solid in Water	4 days	ASTM 1293-65 (APHA)	LRC, IL,LLC
ACR-85	Biological Oxygen Demand	6 days	TNO	LRC, IL
ACR-86	ApLLcation of Chemical in Leather Processing	2 days	K.T.Sarkar	LRC
ACR-87	Saponification Value of Oil	2 days	PS , SLO 1/4	LRC, IL, LLC
ACR-88	Sulfide Content in commercial Sodium Sulfide	2 days	ASTM , SLM 1	LRC, LLC
ACR-89	Stitch tear Strength of Leather	2 days	ISO 23910	LRC, LLC
ACR-90	Tanning Agents apLLcation / Tanning Agents Quality	2 days	SLT2/3 e	LRC, LLC
ACR-91	Tape Test	2 days	ASTM	LRC, LLC
ACR-92	Tear Strength of Leather (Double Edge)	2 days	ISO 3377-2	LRC
ACR-93	Yarn Count Ne (Textile)	2 days	ASTM	LRC, LLC
ACR-94	Minimum Clearance under Toecap at Impact	3 days	EN 20344	LRC
ACR-95	Hydrolysis of Out Sole	6 days	EN 20345	LRC
ACR-96	Minimum Internal Length of Toecaps	4 days	EN 20346	LRC
ACR-97	Interlayer Bond Strength	4 days	EN 20347	LRC
ACR-98	Resistance to Fuel	4 days	EN 20348	LRC
ACR-99	Whole Footwear Penetration Force	4 days	EN 20349	LRC
ACR-100	Water Resistance to Hydrostatic Pressure	4 days	EN 20350	LRC
ACR-101	Impact Resilience	2 days	EN 20351	LRC, LLC
ACR-102	Chlorides in water & waste water	2 days	TNO	LRC,LLC
ACR-103	Dissolved Oxygen in water	2 days	APHA	LRC,LLC
ACR-104	Electric Conductivity	2 days	APHA	LRC,LLC
ACR-105	Iron in Water	4 days	APHA	LRC,LLC
ACR-106	Magnesium in water	2 days	APHA	LRC,LLC
ACR-107	M (Methyl Orange) Alkalinity	2 days	APHA	LRC,LLC
ACR-108	Nitrite (NO2) as Nitrogen	2 days	APHA	LRC,LLC
ACR-109	Permanent Hardness	2 days	APHA	LRC,LLC
ACR-110	P (Phenolphthalene) Alkalinity	2 days	APHA	LRC,LLC
ACR-111	Potassium in water	2 days	APHA	LRC,LLC
ACR-112	Sodium in water	2 days	APHA	LRC,LLC
ACR-113	Sulfate in water & waste water	2 days	APHA	LRC,LLC
ACR-114	Sulfide in water & waste water	2 days	APHA	LRC,LLC
ACR-115	Temporary Hardness	2 days	APHA	LRC,LLC
ACR-116	Temperature or Temperature increase	2 days	APHA	LRC,LLC
ACR-117	Total Alkalinity of water & waste water	2 days	APHA	LRC,LLC
ACR-118	Total Chlorine in water & waste water	2 days	APHA	LRC,LLC
ACR-119	Total Chrome in water	2 days	TNO	LRC,LLC
ACR-120	Total Dissolved Solids in water & waste water	2 days	APHA	LRC,LLC
ACR-121	Total Kjeldahl Nitrogen (TKN)	4 days	TNO	LRC,LLC
ACR-122	Total Solids in water & waste water	2 days	APHA	LRC,LLC
ACR-123	Benzidine Free	-	Based on IUC 20-1	LRC,LLC
ACR-124	Dimethyl Fumarate	4 days	Lab Developed Method	LRC,LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-125	Total Alkalinity of Sulphated Oil	4 days	ASTM	LRC, LLC
ACR-126	Total Alkalinity of Lime	4 days	TNO	LRC, LLC
ACR-127	Percentage of Fixed Tannins in Leather	4 days	SLT 2/3e	LRC, LLC
ACR-128	Acid Value of Oil	4 days	TNO	LRC, LLC
ACR-129	Activity of Enzyme Bate Powder	10 days	Lohlein-volhard Standard	LRC, LLC
ACR-130	Microbiological Analysis for Drinking Water	4 days	APHA	LRC, LLC
ACR-131	Anti-Fungal Activity	15 days	AATCC	LRC
ACR-132	Bacterial Count/ Microbiological analysis	4 days	APHA	LRC, LLC
Leather Processing				
ACR-133	Fleshing (Hand)	01 day	Mechanical Operation	LRC, LLC
ACR-134	Fleshing (Machine)	01 day	Mechanical Operation	LRC, LLC
ACR-135	Sammying	1 day	Mechanical Operation	LRC, LLC
ACR-136	Wet Shaving (Manual / Auto)	01 day	Mechanical Operation	LRC, LLC
ACR-137	Dry Shaving	1 day	Mechanical Operation	LRC, LLC
ACR-138	Blue Trimming	01 day	Mechanical Operation	LRC, LLC
ACR-139	SiLting	1 day	Mechanical Operation	LRC, LLC
ACR-140	SiLting of sILt	1 day	Mechanical Operation	LRC, LLC
ACR-141	Piling	1 day	Mechanical Operation	LRC, LLC
ACR-142	Hanging	1 day	Mechanical Operation	LRC, LLC
ACR-143	Toggle (dry)	1 day	Mechanical Operation	LRC, LLC
ACR-144	Vacuum Drying	1 day	Mechanical Operation	LRC, LLC
ACR-145	Sammying /Setting	1 day	Mechanical Operation	LRC, LLC
ACR-146	Vibration Staking (single pass)	1 day	Mechanical Operation	LRC, LLC
ACR-147	Buffing (Manual)	1 day	Mechanical Operation	LRC, LLC
ACR-148	Hydraulic	-	Mechanical Operation	LRC
ACR-149	a) Press Embossing (Zug grain)	1 day	Mechanical Operation	LRC, LLC
ACR-150	b) Plain	1 day	Mechanical Operation	LRC, LLC
ACR-151	c) Crocodile Press	1 day	Mechanical Operation	LRC, LLC
ACR-152	d) Embossing (Other than Zug Grain)	1 day	Mechanical Operation	LRC, LLC
ACR-153	e) Sarama (Head), cut pieces upto 3 sq.ft	1 day	Mechanical Operation	LRC, LLC
ACR-154	Hand spray (single coat)	1 day	Mechanical Operation	LRC, LLC
ACR-155	Auto spray (single coat)	1 day	Mechanical Operation	LRC, LLC
ACR-156	Trimuning (dried leather)	1 day	Mechanical Operation	LRC, LLC
ACR-157	Polishing	1 day	Mechanical Operation	LRC, LLC
ACR-158	Stonning	1 day	Mechanical Operation	LRC, LLC
ACR-159	Toggle (wet)	1 day	Mechanical Operation	LRC, LLC
ACR-160	Glazing (one time)	1 day	Mechanical Operation	LRC, LLC
ACR-161	Shaving of sILt on Auto Machine	1 day	Mechanical Operation	LRC, LLC
ACR-162	Shaving of sILt (manual)	1 day	Mechanical Operation	LRC, LLC
ACR-163	Hand staking	1 day	Mechanical Operation	LRC, LLC
ACR-164	Trimming of wet blue sILt	1 day	Mechanical Operation	LRC, LLC
ACR-165	Wet toggle	1 day	Mechanical Operation	LRC, LLC
ACR-166	Wheel staking	1 day	Mechanical Operation	LRC, LLC
ACR-167	Labor Charges	1 day		LRC, LLC
Polymer, Plastic & Rubber:				
ACR-168	Material Evaluation for identification of base polymer (high and low density polyethylene polypropylene, polystyrene, nylon etc.)	5 days	Easy Identification of Plastic & Rubber	LLC, , PLC
ACR-169	Heat Reversion for PVC and PPRC	3 days	ASTM	LLC , PLC, KLC
ACR-170	Quality (virgin/recycled) for polyethylene & polypropylene	5-10 days	ASTM D 5576	LLC, PLC, KLC
ACR-171	Mass per unit area of Polymeric sheet	2 days	Lab Developed method	LLC, PLC, KLC
ACR-172	Melting range for thermoplastic only	02 days	Melting Point Apparatus	LLC, , PLC, KLC
ACR-173	Composition of Polymers/ Composite materials	5-10 days	Easy Identification of Plastic & Rubber	KLC, LLC, , PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-174	Identification of Polymer	2-3 days	Easy Identification of Plastic & Rubber/ Lab Developed method	LLC, KLC, PLC
ACR-175	Test of Water Absorption	2 days	Lab Developed method/ ASTM	LLC, KLC
ACR-176	Chemical Composition of Material	5-7 days	Lab Developed method/ ASTM, FTIR, TGA	KLC, PLC, LLC
ACR-177	Food grade polymer	10-12 days	ASTM/ ASS/ Lab Developed method	PLC, KLC
ACR-178	Density of Polymers, Plastic & Polymers	5 days	Lab Developed method	LLC
ACR-179	Hydrostatic pressure testing of pipes	7-9 days	DIN	KLC
ACR-180	Density / Sp. Gravity: Plastic Granules, Pipes	5 days	ISO 1183-1	*LLC
ACR-181	Softening Point of Plastics and Polymers	2 days	Lab Developed method	LLC
ACR-182	Quantification of Inorganic Additives / Filler in Plastics	5 days	Lab Developed method	LLC
ACR-183	Heat Response of Polymeric Materials through DSC	5 days	Lab Developed method	LLC
ACR-184	Quantification of Metals in Polymers & Surface Coatings Paints	5 days	Lab Developed method	LLC
ACR-185	Evaluation of Mechanical Properties, i- Tensile strength and percentage Elongation, ii- Tear Strength of Plastic & Rubber	3 days	Lab Developed method	LLC
ACR-186	Polymer additives as	5 days	Lab Developed method	LLC
	i Filler Content (%age by weight)		Lab Developed method	
	ii Plasticizer content (%age by weight)		Lab Developed method	
	iii Qualitative Evaluation of Polymeric additives (BHT, Phthalates, UV Stabilizers etc. by GC-MS	7 days	Lab Developed method	LLC
ACR-187	Dimension of Pipes (Outer, Inner Diameter & wall Thickness)	2 days	Lab Developed method	LLC
ACR-188	Grammage of Plastic Sheets / Pins	7 days	Lab Developed method	LLC
ACR-189	Glass Reinforced Plastics (Percentage of Resin, Glass Fiber, Inorganic Additive	3 days	Lab Developed method	LLC
ACR-190	%age of Volatile content: [Polymeric Resin]	1 day	Lab Developed method	LLC, KLC
Plastic				
ACR-191	Filler content (%age by weight)	3 days	Lab Developed method	LLC, PLC, KLC
ACR-192	Plasticizer content (%age by weight)	5 days	Lab Developed method	LLC, KLC
ACR-193	Qualitative estimation of BHT by Gcms in polyolefin	10 days	Lab Developed method	LLC
ACR-194	Quantification of trace metals (Pb, Cd, Cr etc.)	5 days	Lab Developed method	LLC, PLC
ACR-195	Qualitative Evaluation of Phthalates by GC-MS	10 days	Lab Developed method	LLC
ACR-196	Plastic pipes: Tensile Strength %age Elongation	2 days	ASTM D 638	LLC, KLC, PLC
ACR-197	Plastic sheets: Thickness of plastic sheets	1 day	Lab Developed method	LLC, PLC
ACR-198	[GRP Pipes] Glass reinforced plastics: %age of Resin + %age of Glass fiber + %age of Inorganic Filler	5 days	Lab Developed method	LLC
Evaluation of road marking Chlorinated Rubber/ Thermoplastic Paints				
ACR-199	Pigment percentage; Drying time; %age of Volatile contents; %age of Non Volatile contents, Viscosity (Chlorinated Rubber)	10 days	Lab Developed method	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-200	%age of binder (Resin & oil); %age of Aggregate pigment , and ballotini; Softening point (Resin flakes); Density of Thermoplastic Paint)	7 days	BS 3262	LLC
ACR-201	Total solid contents ; Drying time (Surface dry Hard dry); %age of Volatile contents ; Specific gravity; Mass per liter; Hiding power of Enamel Paint	5 days	ASTM D 1475, D 5125-10, D 3335-85	LLC, KLC, PLC
Rubber				
ACR-202	Identification of Rubber	5 days	Easy Identification of Plastic & Rubber	LLC,PLC, KLC
ACR-203	Composition of Rubber	2 days	Easy Identification of Plastic & Rubber	LLC,PLC, KLC
ACR-204	Compounding of Rubber	2 days	Easy Identification of Plastic & Rubber	PLC,LLC
ACR-205	Density & Specific Gravity of Rubber	1 day	ISO 1183	KLC,LLC,PLC
ACR-206	Compression Set @ 67 °C for 22 hrs	3 days	ASTM	KLC, LLC
ACR-207	Effect of Chemicals (Acid/Base/Solvent/Salt)	3 days	ASTM	KLC, LLC
ACR-208	Elongation at Break	1 day	ASTM	KLC, LLC
ACR-209	Filler Content	2 days	ASTM	KLC, LLC, PLC
ACR-210	Hardness Shore A° (Durometer A)	1 day	ASTM	KLC, LLC, PLC
ACR-211	Identification of Material	3-4 days	ASTM	KLC, LLC
ACR-212	Oil Deterioration, ASTM Oil No. 3, for 70 hrs @ 100°C	4 days	ASTM	KLC, LLC
ACR-213	Tear Strength, Die C	1 day	ASTM	KLC, LLC
ACR-214	Tensile Strength	1 day	ASTM D-412	PLC, LLC, KLC
Petrochemical Section				
ACR-215	Bitumen (60/70): Chemical Analysis (Each metal)	3 days	ASTM D-5, D-113, D-70	LLC, PLC
ACR-216	Emulsified asphalt (RS): Chemical analysis	3days	ASTM D 140	LLC
ACR-217	Asphalt : Complete analysis	3days	AASHTO M20	LLC
ACR-218	Lubricating oil: Complete analysis	5 days	ASTM D92, D70, D445, D2270 etc	LLC
ACR-219	Diesel / Furnace oil: Dielectric strength	3 days	ASTM	LLC
ACR-220	Hydraulic oil: Chemical analysis	1 days	ASTM	LLC
ACR-221	Diesel: Complete Analysis Quality without sulphure & calorific value	5-7 days	ASTM & GC	LLC
ACR-222	Flammability / inflammability / non-inflammability	1 day	ASTM	LLC
ACR-223	Creosote Oil (Furnace)	4 days	ASTM	LLC
ACR-224	Specific gravity	1 days	ASTM	LLC, PLC
ACR-225	Kinematic viscosity @ 40°C or 100°C	1 days	Falling Ball method/ ASTM	LLC, KLC, PLC
ACR-226	Viscosity index@ 40°C & 100°C	2 days	ASTM	LLC, KLC, PLC
ACR-227	Ash petroleum productctsar	2 days	ASTM	LLC
ACR-228	Flash point (General solvent)	1 day	Pensky Marten/ ASTM	*LLC,KLC
ACR-229	Flash point (General solvent) – sticky / polymer	1 day	Open cup/ ASTM	LLC,KLC
ACR-230	Flash point (closed up)	1 day	Pensky Marten	KLC
ACR-231	Cloud point / Pour point	3 days	ASTM	PLC, FRC
ACR-232	Softening point bitumen (Ring & Ball Method)	1 day	Ring & Ball method/ ASTM	LLC, PLC, KLC
ACR-233	Carbon conrandson residue	1 day	ASTM	LLC
ACR-234	Sulphated residue	2 days	ASTM	LLC
ACR-235	Cone/Neddele penetration of petroleum waxes	1 day	ASTM	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-236	Penetration of bituminous materials	1 day	ASTM	LLC
ACR-237	Total acid number	1 day	ASTM	LLC, KLC
ACR-238	Distillation of petroleum products	1 day	ASTM	LLC, KLC
ACR-239	Distillation Temperature	1 day	ASTM	LLC, KLC
ACR-240	Water in petroleum products and bituminous materials	1 day	ASTM/ In-house	LLC, KLC
ACR-241	Benzene in insoluble (wear metals) in petroleum products	1 day	ASTM	LLC
ACR-242	Foot Oil	1 day	ASTM	QL
ACR-243	Base Oil	1 day	ASTM	QL, PLC
ACR-244	Test of Oil (Lubricant, rifle etc. (for pH, viscosity and density))	3-4 days	ASTM D 445, ASTM 1298, ASTM 1293, ASTM D 97	LLC, KLC, PLC
ACR-245	Oil deterioration	4 days	ASTM	KLC
ACR-246	Test of Organic compound/ hydrocarbon/ graphite (C, H, N, S-O by CHNS analyzer)	5 days	CHNS Analyzer	PLC, LLC
ACR-247	Viscosity at different temperatures	1 day	ASTM/ Falling Ball method	LLC, KLC, PLC
ACR-248	Diethylene Glycol	2 days	ASTM/ HPLC	QL, KLC, LLC
ACR-249	Glycerin	1 day	ASTM/ HPLC	QL, KLC, LLC
ACR-250	Isobutanol	2 days	ASTM/ HPLC/ GLC	QL, LLC
ACR-251	Mono Ethlene Glycol	2 day	ASTM/ HPLC	QL, KLC, LLC
ACR-252	Methanol	2 days	ASTM/ GLC	QL, KLC, LLC
ACR-253	Methyle Methacrylate Monomer	2 days	ASTM/ GLC	QL, LLC
ACR-254	Paraffin Wax	1 day	ASTM/ PS	QL, LLC
ACR-255	Phthalic Anhydride	2 days	ASTM/ GLC	QL, LLC
ACR-256	Polypropylene	1 day	ASTM/ GLC	QL, LLC
ACR-257	Rubber Processing Oil	1 day	ASTM/ GLC	QL, LLC
ACR-258	Slack Wax	1 day	ASTM	QL
ACR-259	Trichloromethane (Chloroform)	1 day	ASTM/ PS	QL, LLC, KLC
ACR-260	White Oil	1 day	ASTM/ PS/ GCMS	QL, LLC, KLC
ACR-261	Wood Naphta	1 day	ASTM/ GCMS	QL, LLC, KLC
ACR-262	Toluene di isocyanate	1 day	ASTM	QL
ACR-263	Mix Carbon Solvent	1 day	ASTM/ GCMS	QL, KLC
ACR-264	White Sprit	1 day	ASTM/ PS/ GCMS	QL, LLC, KLC
ACR-265	Raw Shampoo	2 days	ASTM/ PS	QL, LLC, KLC
ACR-266	Acetic Acid (A.A)	1 day	ASTM/ AOAC/ Titration	QL, LLC, KLC
ACR-267	Iron Sulfide (I.S)	1 day	ASTM/ AOAC	QL, LLC
ACR-268	Sodium Sulfate (S.S)	1 day	ASTM/ AOAC	QL, LLC
ACR-269	Polyethylene Glycol (PEG)	1 day	ASTM/ HPLC	QL, LLC
ACR-270	Cattle Trotter	3 days	ASTM	QL
ACR-271	Ethylene dichloride (EDC)	2 days	ASTM/ GCMS/ GC	QL, LLC, KLC
ACR-272	Sulphur	5 days	ASTM	KLC, LLC
ACR-273	Melting point	2 days	ASTM	LLC
ACR-274	Petroleum Products test perform on CHNS elemental analyzer	3-5 days	CHNS elemental analyzer	PLC
Industrial Chemical				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-275	Phthalates	3 days	AOAC	LLC
ACR-276	Pesticides(Farmulation, active ingredient)	2-3 days	AOAC	LLC, KLC
ACR-277	Water: Chemical Analysis	5 days	BS	LLC, KLC
ACR-278	Poultry water: Complete analysis	3 days	BS	LLC
ACR-279	Industrial water: Complete analysis	5 days	BS	LLC
ACR-280	Agriculture water: Complete analysis	4 days	BS	LLC
ACR-281	Construction water : [Boiler water / Washing purposes] Complete analysis	5 days	BS	LLC
ACR-282	Water: Metal	7 days	BS	LLC, KLC,
ACR-283	Temperature	1 day	AOAC	LLC, KLC,
ACR-284	Total dissolved solids (TDS)	1 day	AOAC	LLC
ACR-285	TSS	1 day	AOAC	LLC
ACR-286	Grease & Oil	3 days	AOAC	LLC, KLC
ACR-287	Phenolic compounds	3 days	AOAC	LLC, KLC
ACR-288	Heavy Metals/ Cations/ Anions (Chloride, Fluoride, Cyanide, Sulphate, Sulphide, Ammonia, Cadmium, Chromium, Copper, *Lead, Nickle, Zinc, Barium, Iron, Manganese, Sodium, Potassium, Phosphorous, Calcium, Magnesium, Phosphate, Nitrate, Aluminium, Silica, CaSO ₄ , P ₂ O ₅)	2-5 days	AAS	*LLC, KLC
ACR-289	Anionic detergents	3 days	AOAC	LLC, KLC
ACR-290	Colour / Description	1 day	AOAC	LLC
ACR-291	pH value	1 day	AOAC/ pH meter	LLC, KLC, PLC
ACR-292	Specific gravity	1 day	AOAC	LLC, KLC, PLC
ACR-293	Total hardness as CaCO ₃	1 day	AOAC	LLC
ACR-294	Calcium hardness as CaCO ₃	1 day	AOAC	LLC
ACR-295	Magnesium hardness as CaCO ₃	1 day	AOAC	LLC
ACR-296	Total alkalinity as CaCO ₃	1 day	AOAC	LLC
ACR-297	Salt (Sodium chloride): Complete analysis	5-7 days	AOAC	LLC, KLC, PLC
ACR-298	Solubility of Chemicals, Salt, Misc.	5 days	AOAC	LLC, KLC, PLC
ACR-299	Purity of Sodium Chloride in Salt	2 days	AOAC	LLC, KLC, PLC
ACR-300	Solids sample: Assay of metals	2-3 days	AOAC	LLC
ACR-301	Pesticide Purity	5 days	AOAC/ HPLC (CIPAC)	LLC, KLC
ACR-302	Pesticide in liquid formulation, DDVP, chloropyriphos, solid formulation	2 days	AOAC	LLC
ACR-303	Pesticide in rice, wheat, vegetable, fruits etc.	5 days	AOAC/ GC	*LLC, KLC
ACR-304	Acids: %age of purity	3-4 days	ASTM	LLC, KLC, PLC
ACR-305	Ammonium nitrate: Assay	3 days	Lab Developed method	LLC
Physical parameter				
ACR-306	Density	1 days	Pcynometer/ AOAC	LLC, KLC, IL, *PLC
ACR-307	Insoluble matter	2 days	AOAC	LLC, IL, KLC
ACR-308	Moisture	2 days	AOAC	LLC, IL, KLC
ACR-309	Inorganic chemicals Purity	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
ACR-310	Organic chemicals	4 days	AS	LLC, PLC
ACR-311	P ₂ O ₅ contents Phosphate Rock	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC,PLC, KLC
ACR-312	P ₂ O ₅ contents Phosphate Rock + complete analysis	4 days	PS	LLC, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-313	Lithium Bromide solution (Coolant for absorption chiller) Density, alkalinity, lithium bromide as LiBr, Copper, Iron, Alcohol, SPECIFIC gravity inhibitor.	5 days	AR Vogel, GC, AAS	LLC, KLC
ACR-314	Aluminium hydroxide	3 days	AR Vogel	LLC
ACR-315	Soap / Detergents (5 parameters)	5 days	ASTM D 501	LLC, PLC, KLC
ACR-316	Sulphur (only purity)	3-5 days	ASTM	LLC, KLC
ACR-317	Soda ash (purity)	4 days	AR Vogel	KLC, LLC, PLC
ACR-318	Fertilizers NPK	10-12 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition/ Pakistan Standard	*LLC, PLC, KLC, IL, FRC
ACR-319	Fertilizer DAP	10 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition/ Pakistan Standard	LLC, PLC, PLC, KLC
ACR-320	Fertilizer test for Urea (nitrogen, moisture ammonia formaldehyde, crushing strength)	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition/ Pakistan Standard	PLC, KLC, IL, FRC
ACR-321	Formaldehyde in Urea	2-3 days	AOAC	KLC, LLC
ACR-322	Ammonia in Urea	2-3 days	Pakistan Standard	KLC, LLC
ACR-323	Harmful Substances as lead in Urea	5 days	N.H. Furman, Standard Methods of Chemical Analysis/ AAS	KLC, LLC
ACR-324	Moisture in Urea	2 days	AOAC	KLC, LLC, PLC
ACR-325	Carbonate in Chemicals Misc.	2 days	AOAC	KLC, LLC
ACR-326	Liquid fertilizer (boron, humic acid, K, S, SO ₄ , N, P, Zn, Mn, Cu, Mg)	7-10 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition, AAS, Vogel	PLC, KLC, IL, FRC
ACR-327	Test of Kidney stone (qualitative analysis)	3-5 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC
ACR-328	Test of gall stone (qualitative analysis)	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC
ACR-329	Micronutrients (per test)	5 days	N.H. Furman, Standard Methods of Chemical Analysis	LLC, KLC
ACR-330	Test of fumigant tablets (aluminum phosphate)	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC
Dyes				
ACR-331	Azo dye analysis (Dyes) Qualitative	3 days	HPLC/ AOAC	LLC
ACR-332	Formaldehyde content	2 days	UV/ AOAC	LLC, KLC
ACR-333	Formaldehyde release	2 days	AOAC	LLC
ACR-334	pH	2 days	AOAC	LLC, IL, KLC
ACR-335	Cadmium	3-4 days	AOAC	LLC, KLC, IL
ACR-336	Carcinogenic dyes	2 days	AOAC	LLC
ACR-337	Allergenic dyestuff	3 days	AOAC	LLC
ACR-338	Surfactant (DDAC)	3 days	AOAC	LLC
ACR-339	Visual Inspection	1 day	AOAC	LLC
ACR-340	Particle Size in Urea	1 day	Lab Developed method	KLC
ACR-341	Physical Appearance in Urea	1 day	Lab Developed method	KLC
ACR-342	Biurate in Urea	2 days	Lab Developed method	KLC
ACR-343	Nitrogen Content in Urea	5 days	Lab Developed method	KLC, PLC
Cosmetics				
ACR-344	Saponifiable Value	2 days	Digestion, Titration/ PS	LLC, IL, KLC
ACR-345	unsaponifiable Matter	2 days	Titration/ PS	LLC, IL KLC
ACR-346	Iodine Value	2 days	Titration/ PS	LLC, IL KLC
ACR-347	GLC	5 days	PS	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-348	RM Value	2 days	PS	LLC
ACR-349	BR Value	2 days	PS	LLC
ACR-350	Erucic Acid	5 days	GC/ PS	LLC, KLC
ACR-351	Oil Products	5 days	PS	LLC
ACR-352	PH	1 day	pH meter	LLC , IL, KLC
ACR-353	Microbiology	7 days	PS/ USP/ BP	LLC , IL, KLC
ACR-354	Lard and Lard Derivatives	5 days	PS/ FTIR	LLC , IL, KLC
ACR-355	Ash and Non-Volatile Matte	2 days	PS/ Furnace	LLC , IL
ACR-356	Stability	2 days	PS/ Thermal	LLC, KLC
ACR-357	Calcium Thioglycolate Content	2 days	PS/ Titration	LLC, KLC
ACR-358	Sulphide Content	2 days	PS	LLC
ACR-359	Total Contents of Fatty Substances	2 days	PS/ Extraction	LLC/ KLC
ACR-360	Heavy Metals	2 days	PS/ AAS	LLC , IL, KLC
ACR-361	Rancidity	2 days	PS	LLC , IL, KLC
ACR-362	Moisture / Volatile Contents	2 days	PS/ Oven-dry	LLC , IL, KLC
ACR-363	Acid Value	2 days	PS/ Titration	LLC , IL, KLC
ACR-364	Peroxide Value	2 days	PS/ Titration	LLC , IL, KLC
ACR-365	Loss on Ignition	2 days	PS/ Furnace	LLC , IL
ACR-366	Fineness	2 days	PS/ Seive	LLC
ACR-367	Total Matter Insoluble in Alcohol	2 days	PS/ Extraction	LLC , IL, KLC
ACR-368	Matter insoluble in Water	2 days	PS/ Extraction	LLC , IL, KLC
ACR-369	Total Fatty Matter	2 days	PS/ Extraction	LLC, KLC
ACR-370	Hydroquinone Content	3-4 days	PS/ HPLC	LLC, KLC
ACR-371	Corticosteroid Content	3 days	BP/ TLC	LLC, KLC
ACR-372	Mercury	3 days	BP/ AAS	LLC, KLC
ACR-373	Cold Water Extract	2 days	BP/ Extraction	LLC, KLC
ACR-374	Acid Insoluble ash	2 days	AOAC/ Furnace	LLC , IL, KLC
ACR-375	Lawsone Pigment	3-4 days	AOAC/ HPLC	LLC, KLC
ACR-376	Dye identification/ Percentage Purity/ dispersed dyes	3 days	AOAC/ TLC/ HPLC	LLC, KLC
ACR-377	Antioxidant Activity	05 days	AOAC/ DPPH	KLC
ACR-378	Tyrosinase Activity	05 days	Enzymatic	KLC
ACR-379	Stability (Accelerated)	1-3 months	Thermal	KLC
ACR-380	Preservative Challenge Test	30 days	USP/ BP	KLC
ACR-381	Anti microbial activity	05 days	USP/ BP	KLC
Soap				
ACR-382	Soap analysis	5 days	PS	LLC
ACR-383	Soap (complete with GLC)	5 days	PS	LLC, KLC
ACR-384	Oil (Blended)	5 days	PS	LLC
ACR-385	Oil (complete with GLC)	5 days	PS	LLC, KLC
ACR-386	Oil only GLC	5 days	PS	LLC
ACR-387	Different items from ITS	-	PS	LLC
ACR-388	Nature of detergents	-	PS	LLC, KLC
ACR-389	Foamability	2 days	PS	LLC, KLC
ACR-390	Volatile matter	2-3 days	PS	LLC, KLC
ACR-391	Insolubles	2 days	PS	LLC
ACR-392	pH	1 day	PS/ pH meter	LLC, KLC
ACR-393	Bulk Density	1 day	PS	LLC
ACR-394	Bleaching earth	3 days	PS	LLC
ACR-395	Cosmetic products	5 days	PS	LLC
ACR-396	Personal care products	5 days	PS	LLC
ACR-397	Essential oils with GC	3 days	PS/ GCMS	LLC, KLC
ACR-398	Essential oils with GCMS	3 days	PS/ GCMS	LLC, KLC
ACR-399	Melamine in Food samples/ commodities	3-5 days	HPLC	KLC
ACR-400	Para Red in food samples	3-5 days	HPLC	*KLC
ACR-401	Household products	5 days	PS	LLC
Textile and Fabrics				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
Composition & Analytical Tests				
ACR-402	Resistance to water Penetration (Hydrostatic pressure test)	1 day	AATCC/ ISO 7854	PLC, KLC, LLC
ACR-403	Identification of a class of dye applied on fabric	1 day	Lab Developed method	PLC
ACR-404	Fiber Analysis Quantitative upto 2 Fibers	1 day	AATCC/ ISO 1833	LLC, PLC, *KLC
ACR-405	Each additional	5 days	AATCC/ ISO 1834	LLC, PLC, KLC
ACR-406	Fiber Analysis Qualitative upto 2 Fibers	1 day	AATCC-20/ ISO	LLC, PLC, KLC
ACR-407	Each additional	5 days	AATCC-21/ ISO	LLC, PLC, KLC
ACR-408	Moisture Content	1 day	ASTM/ Lab Developed method	LLC, KLC, PLC
ACR-409	Moisture Regain	2 days	ASTM/ Lab Developed method	LLC, KLC
ACR-410	Mercerization in Cotton	1 day	AATCC-89	LLC, KLC
ACR-411	% of Finishing Materiel	2 days	Lab Developed method	LLC , KLC
ACR-412	% of Sizing / Starching	1 day	Lab Developed method	LLC, KLC
Construction Analysis Tests				
Fabric weight:				
ACR-413	Per unit area	1 day	ISO-3801/ASTM D 3776	*LLC, PLC, *KLC
ACR-414	Per running Length	1 day	ASTM D 3773	LLC, PLC, KLC
ACR-415	Ends & picks (Woven Fabric)	1 day	ISO-7211-2/ASTM D 3775	*LLC, PLC, *KLC
ACR-416	Wales & courses (Stitch Density) Knitted Fabric	1 day	ISO	LLC, KLC
ACR-417	Fabric Width	1 day	ASTM	LLC, PLC, KLC
ACR-418	Fabric Thickness	1 day	ASTM D 1777	PLC, KLC
ACR-419	Cotton Wool	1 day	Lab Developed method/ KS/ ASTM	KLC
ACR-420	Yarn count (per yarn):	1 day	ASTM D 1059/ASTM D 1907	*LLC,PLC , *KLC
ACR-421	Woven	1 day	ASTM	LLC, KLC
ACR-422	Knitted	1 day	ASTM	LLC, KLC
ACR-423	Yarn Twist	1 day	ASTM	LLC, KLC
ACR-424	Length of Woven Fabric	1 day	ASTM	LLC, PLC, KLC
ACR-425	Width of Woven Fabric	1 day	ASTM	LLC
Fabric & Garment Shrinkage (Dimensional Stability) & Related Tests				
ACR-426	Fabric shrinkage/Dimensional change (After 1 wash)	2 days	ATCC 135	*LLC, PLC , KLC
ACR-427	Each additional wash (Fabric)	1 day	ATCC 135	LLC , KLC
ACR-428	Garment shrinkage/Dimensional change (After 1 wash)	2 days	AATCC/ISO	*LLC , KLC
ACR-429	Each Additional Wash (Garment)	1 day	AATCC	LLC , KLC
ACR-430	Appearance	1 day	AATCC	LLC , KLC
ACR-431	Fabric (AATCC 124) per wash cycle	1 day	AATCC	LLC , KLC
ACR-432	Print durability	1 day	AATCC	LLC , KLC
ACR-433	Seam / Crease	1 day	AATCC	LLC , KLC
ACR-434	Skewness/Twisting after Laundering	1 day	AATCC	LLC , KLC
ACR-435	Dimensional restoration of knitted & woven fabrics after laundering	1 day	ISO	, KLC
ACR-436	Low to Medium Temp. (30°C to 60°C)	1 day	AATCC/ ISO/ Lab Developed method	LLC , KLC
ACR-437	High temp. (60°C to 70°C-95°C)	1 day	AATCC/ ISO/ Lab Developed method	LLC , KLC
ACR-438	Washing with soap or soap & soda	1 day	AATCC/ ISO	LLC , KLC
ACR-439	Perspiration (Acidic & Alkaline)	1 day	ISO 105 E04	*LLC , KLC
ACR-440	Dry & wet crocking/rubbing	1 day	AATCC/ ISO	*LLC , KLC
ACR-441	Color Coordination	1 day	ISO	KLC
ACR-442	Grade 4 or below	1 day	AATCC-EP1	KLC
ACR-443	Grade 5	1 day	AATCC-EP1	KLC
ACR-444	Grade 6	1 day	AATCC-EP1	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-445	Grade 7/8 (Upon Special Request)	1 day	AATCC-EP1	KLC
ACR-446	Abrasion of Fabric/ 5000 Cycle	1 day	ISO-12947-2	*KLC
Light by Exposure to Xenon (Water Cooled)				
ACR-447	20 Fading units or below	1 day	AATCC-16	KLC
ACR-448	40 Fading units	2 days	AATCC-16	KLC
ACR-449	80 Fading units	4 days	AATCC-16	KLC
ACR-450	150 Fading units (Upon Special Request)	10 days	AATCC-16	KLC
ACR-451	Water	1 day	ISO-105-EO1	*LLC , *KLC
ACR-452	Chlorinated Water	2 day	ISO-105-NO1	LLC , KLC
ACR-453	Sea Water	1 day	ISO-105-EO2	*LLC , KLC
ACR-454	Dry Cleaning	1 day	ATCC-158/ ISO	*LLC , KLC
ACR-455	Actual laundering using chlorine bleach	1 day	AATCC-61	LLC , KLC
ACR-456	Hypochlorite	1 day	ISO-105-NO1	LLC , KLC
ACR-457	Peroxide	1 day	ISO-105-NO2	LLC, KLC
ACR-458	Non-Chlorine Bleaching	1 day	ISO-105-NO2	LLC, KLC
ACR-459	Hypochlorite bleach in home Laundering	1 day	ISO-105-NO1	LLC, KLC
ACR-460	Organic Solvents	1 day	ISO-105-DO2	LLC, KLC
ACR-461	Water Spotting	1 day	ISO-105-EO7	LLC, KLC
ACR-462	Acid Spotting	1 day	ISO-105-EO5	LLC, KLC
ACR-463	Alkaline Spotting	1 day	ISO-105-EO6	LLC, KLC
ACR-464	Color fastness to domestic & commercial laundering oxidative bleach	1 day	BS 1006	LLC,PLC, KLC
ACR-465	Color Fastness to Water/ Sea Water	1 day	ISO	KLC, LLC
ACR-466	Dye Transfer in Storage Fabric to Fabric	1 day	Lab Developed method	KLC
ACR-467	Hot Pressing	1 day	AATCC	LLC, KLC
Tensile Strength				
ACR-468	Grab Method	1 day	ASTM	LLC, KLC
ACR-469	Strip Method	1 day	ISO/ ASTM	LLC, PLC, *KLC
ACR-470	In addition to tensile strength Elongation at break	1 day	ISO/ ASTM	LLC, PLC, KLC
Seam Performance				
ACR-471	Slippage	1 day	ISO	LLC, KLC
ACR-472	Seam Strength	1 day	ISO	LLC, KLC
ACR-473	Garment Seam (Per seam)	1 day	ISO	LLC, KLC
Tearing Strength				
ACR-474	Elmendorf/ Elmatear	-	ISO	PLC
ACR-475	Tongue Tear/ Trouser Tear	1 day	ISO	LLC, *KLC
ACR-476	Wing Rip	1 day	ISO	KLC
ACR-477	Trapezoid	1 day	ISO	LLC, KLC
ACR-478	Loop Strength	1 day	ISO	KLC
Fabric/ Garment Performance & Flammability Tests				
Water Repellency				
ACR-479	Spray Rating Test	1 day	AATCC-22	LLC, *KLC
ACR-480	Hydrostatic Head Pressure Test	1 day	ISO-7854	LLC, KLC
ACR-481	Soil Release	1 day	AATCC	LLC, KLC
ACR-482	Oil Repellency	1 day	AATCC	LLC, KLC
ACR-483	Absorbency of Bleached Textile	1 day	AATCC	LLC, KLC
Abrasion Resistance Martindale				
ACR-484	Upto 10,000 rubs	2 days	ISO-12947-2	*KLC,*LLC
ACR-485	Subsequent 10,000 rubs	1 day	ISO-12947-2	*KLC,LLC
ACR-486	Shade Change (Additional)	1 day	ISO-12947-2	*KLC,LLC
Pilling Resistance Martindale				
ACR-487	Upto 5,000 cycles	2 days	ASTM/ISO	KLC,*LLC
ACR-488	Upto 7,000 cycles	2 days	ASTM/ISO	KLC,*LLC
Pilling Resistance [ICI Pilling Box]				
ACR-489	Upto 10,000 cycles	2 days	ASTM/ISO	KLC,*LLC
ACR-490	Upto 20,000 cycles	2 days	ASTM/ISO	KLC,*LLC
ACR-491	Subsequent 5,000 cycles	1 day	ASTM	KLC,LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-492	Wrinkle/ Crease Recovery (Appearance Method)	2 days	AATCC-66	KLC,LLC
ACR-493	Stiffness	1 day	AATCC	KLC,LLC
Flammability 45° Test				
ACR-494	Textile and clothing	1 day	AATCC	KLC,LLC
Accessories				
a. Zipper				
ACR-495	Zipper strength	1 day	AATCC	KLC,LLC
ACR-496	Each Additional Test	1 day	AATCC	KLC,LLC
Colour Fastness of Zipper Tapes to:				
ACR-497	Dry Cleaning	1 day	AATCC	KLC
ACR-498	Washing/Laundering	1 day	AATCC	KLC
ACR-499	Water	1 day	AATCC	KLC
Dyes & Chemicals Testing				
ACR-500	Sulphuric Acid (Strength / Purity)	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, , PLC, KLC
ACR-501	Nitric Acid (purity only)	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC, KLC
ACR-502	Hydrochloric Acid (HCl) (Strength / Purity)	2 days	ANALAR Standard for Laboratory Chemicals, Titrimetric Analysis	LLC, PLC, KLC
ACR-503	Oxalic Acid (Strength / Purity)	2-3 days	ANALAR Standard for Laboratory Chemicals, Titrimetric Analysis	LLC, KLC
ACR-504	Formic Acid (Strength / Purity)	2-3 days	Titrimetric Analysis	LLC
ACR-505	Benzoic Acid Strength / Purity)	2-3 days	Titrimetric Analysis	LLC
ACR-506	Acetic Acid (Strength / Purity)	2-3 days	ANALAR Standard for Laboratory Chemicals, Titrimetric Analysis	LLC, KLC
ACR-507	Hydrogen peroxide (Strength / Purity)	2-3 days	Titrimetric Analysis	LLC
ACR-508	Sodium Hydroxide (Strength / Purity)	2-3 days	ANALAR Standard for Laboratory Chemicals, Titrimetric Analysis	LLC, KLC
ACR-509	Sodium Silicate (purity only)	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC, KLC
ACR-510	Sodium Carbonate (Strength / Purity)	2-3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, KLC, PLC
ACR-511	Sodium Bicarbonate (Strength / Purity)	2-3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
ACR-512	Sodium Perborate (Strength / Purity)	2-3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC
ACR-513	Calcium Hypochlorite % of Cl	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC, KLC
ACR-514	Sodium Hypochlorite % of Cl	2 days	Titrimetric Analysis	LLC, PLC, KLC
ACR-515	Sodium Silicate (appearance, Sp. Gravity, pH (1% Solution), Matter Insoluble in water, Alkalinity as Na ₂ O, Silica as SiO ₂ , Total Solids, Ratio of Na ₂ O to SiO ₂)	8 days	Vogel, Flamephotometer	PLC, KLC
Detergent				
ACR-516	Wetting Power	2 days	ASTM	LLC, PLC, KLC
ACR-517	pH (1% solution)	1 day	ASTM D 501, AATCC Standard Reference detergents 1993	PLC, KLC
ACR-518	Moisture (110°C)	1 day	ASTM D 501, AATCC Standard Reference detergents 1993	PLC, KLC
ACR-519	Staining Change in Shade	2-3 days	ASTM	PLC, KLC
ACR-520	Stability Change in Shade	2-3 days	ASTM	PLC, KLC
Colour difference				

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-521	Visual Assessment per pair	1 day	AATCC, Lab developed method	LLC, KLC
ACR-522	Data color	1 day	AATCC, ISO	LLC, KLC
Other Testing				
ACR-523	Ash content	1 day	AOAC	LLC, KLC
ACR-524	Insoluble Matter	2 days	AOAC	LLC, KLC
ACR-525	pH	1 day	AOAC	LLC, KLC
ACR-526	Absorbency	1 day	AOAC	LLC
ACR-527	Sinking time (at pH -7 & 9)	2-3 days	AOAC	LLC
ACR-528	Foaming behavior (at 25 °C, 65 °C, 90 °C)	2-3 days	AOAC	LLC
ACR-529	Cloud Point (at pH-9)	2-3 days	ASTM	LLC
ACR-530	Impurity	1 day	Lab Developed Method	KLC
ACR-531	Sulfated Ash	1 day	Lab Developed Method	KLC
ACR-532	Blend Ratio	1 day	ISO	KLC
ACR-533	Density	1 day	ISO	KLC
ACR-534	Lithium Hydroxide in Lithium Bromide	4 days	Vogel	KLC
ACR-535	Color Fastness by Crocking	1 day	ISO	KLC
ACR-536	Color Fastness by Perspiration	1 day	ISO	KLC
ACR-537	Color Fastness by Washing	1 day	ISO	KLC
ACR-538	Color Fastness to Acid Spotting	1 day	ISO	KLC
ACR-539	Color Fastness to Alkali Spotting	1 day	ISO	KLC
ACR-540	Color Fastness to Chlorinated Water	1 day	ISO	KLC
ACR-541	Color Fastness to Dry-Cleaning	1 day	ISO	KLC
ACR-542	Color Fastness to Hot Pressing	1 day	ISO	KLC
ACR-543	Color Fastness to Peroxide Bleach	1 day	ISO	KLC
ACR-544	Color Fastness to Sea Water	1 day	ISO	*KLC
ACR-545	Color Fastness to Water Spotting	1 day	ISO	KLC
ACR-546	Color Strength	1 day	ISO	KLC
ACR-547	Crease Recovery of Fabric	1 day	AATCC	KLC
ACR-548	Dimensional Change (Dry-Cleaning)	1 day	AATCC	KLC
Dimensional Change (Washing)		-		
ACR-549	Three Wash	1 day	AATCC	KLC
ACR-550	Five Wash	1 day	AATCC	KLC
ACR-551	Additional	2 days	AATCC	KLC
ACR-552	Dye Strength Testing on Fabric Surface	2 days	ISO	KLC
ACR-553	Dyestuff Identification on Fabric	2 days	Lab developed method	KLC
ACR-554	Ends/Pick	1 day	ISO	*KLC
ACR-555	Fabric Absorbency Test	1 day	AATCC	KLC
ACR-556	Fabric Bursting Strength	1 day	ISO	KLC
ACR-557	Fabric Construction (Count)(Woven)(Knitted)	1 day	ISO	KLC
ACR-558	Fabric Width	1 day	ASTM	KLC
ACR-559	Fiber Analysis	-	ISO	
ACR-560	(Binary Mix)	1 day	ISO	KLC
ACR-561	(Addition)	1 day	ISO	KLC
ACR-562	G.S.M. (Weight of Fabric)	1 day	ASTM	*KLC
ACR-563	Identification of Mask Fabric (FTIR + Microscopic)	3 days	FTIR, Microscopic	KLC
ACR-564	CMC Color Difference	2 days	ISO	KLC
ACR-565	Dry & wet crocking after 1 wash	2-3 days	ISO	LLC
Mattress, Foam Metrial				
ACR-566	Density	1 day	ASTM D3574	PLC
ACR-567	Size, length, width, thickness	1 day	ASTM D3574	PLC
ACR-568	Tensil strength & Elongation	1 day	ASTM D3574	PLC
ACR-569	Hardness Shore-A	1 day	ASTM 2240	PLC
Pharmaceutical / Drugs				
ACR-570	Steroids analysis (Qualitative) Steroids analysis (Quanitative)	2-4 days	B.P	LLC, KLC
ACR-571	Narcotics	3-5 days	B.P	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-572	Pharmaceutical samples analysis (spectroscopy)	2 days	B.P	LLC, KLC
ACR-573	Pharmaceutical samples analysis (HPLC)	2 days	GCMS	LLC, KLC, PLC
ACR-574	Pharmaceutical/ Cosmetics active ingredients	2 days	B.P	KLC
ACR-575	Allyl Isothiocynate in Meal	2 days	B.P	KLC
ACR-576	Nicotine	5 days	B.P	KLC, PLC
ACR-577	Ascorbic Acid (Vit. C)	2 days	B.P	KLC, PLC, IL
ACR-578	A-Tocophenol (Vit. E)	7 days	B.P	KLC, PLC
ACR-579	Benzyl Benzoate	2 days	B.P	KLC, PLC
ACR-580	Captopril	5days	B.P	KLC, PLC
ACR-581	Chloramphenicol	5days	B.P	KLC, PLC
ACR-582	Chlorpheniramine Maleate	5days	B.P	KLC, PLC
ACR-583	Ciprofloxacin hydrochloride	5days	B.P	KLC, PLC
ACR-584	Dexamethasone	5days	B.P	KLC, PLC
ACR-585	Diazepam	5days	B.P	KLC, PLC
ACR-586	Diloxanide flourate	5days	B.P, HPLC	KLC, PLC
ACR-587	Famotidine	5days	HPLC Method	KLC, PLC
ACR-588	Flurometholoneg	5days	B.P	KLC, PLC
ACR-589	Metronidazaole	5days	B.P	KLC, PLC
ACR-590	Piroxicam	5days	B.P	KLC, PLC
ACR-591	Prednisolone acetate	5days	B.P	KLC, PLC
ACR-592	Sulphacetamide sodium	5days	B.P	KLC, PLC
ACR-593	Purity of organic compounds	5-10 days	B.P	KLC, PLC, LLC
ACR-594	Drug testing for purity (BP grading)	5-10 days	B.P	LLC, KLC
ACR-595	Enzyme analysis in various substances	-	B.P	LLC, KLC
ACR-596	Acute toxicity test (Oral / Parenteral)	7-14 days	B.P/USP, OECD 423	LLC, KLC
ACR-597	Disintegesation	2 days	B.P/USP	LLC, KLC
ACR-598	Dissolution	5-7 days	B.P/USP	LLC, KLC
ACR-599	Acute Dermal irritant test	5 days	B.P/USP OECD 404	LLC, KLC, PLC
ACR-600	Guinea pig maximization test	01 month	B.P/USP, ISO 10993-10	KLC
ACR-601	Intracutaneous reactivity test	15 days	B.P ISO -10993-10	KLC
ACR-602	Pharmaceutical grade test	15 days	B.P	KLC, LLC
ACR-603	Microbial limit test/ Antimicrobial activity/ Sterility test	14 days	B.P	KLC, LLC
ACR-604	Pyrogen test in ijectable drugs	14 days	B.P USP	KLC
ACR-605	Bioburden test	14 days	B.P	LLC, KLC
ACR-606	Artemether Lumefantrine	5 days	B.P	KLC
ACR-607	Organo Metallic Compound test on CHNS elemental analyzer	5 days	B.P	PLC
ACR-608	Drug residues testing	7 days	B.P	*LLC, KLC
ACR-609	Estimation of herbal active ingredients	7-10 days	B.P	LLC, KLC
ACR-610	Preparation of herbal extract	15 days	B.P	LLC, KLC
ACR-611	Henna/ Cosmetics/ Herbal Products	5 days	B.P, KSA Standard	LLC, KLC
ACR-612	Chloranphenicol in shrimps/ fish/ meat/ animal casing	5 days	B.P	*LLC, KLC
ACR-613	Quinolones	3 days	B.P	KLC, LLC
ACR-614	Benzyl Benzoate	2 days	B.P	PLC, LLC
ACR-615	FTIR spectra/ analysis	1-2 days	FT-IR	LLC, KLC, PLC
ACR-616	Amino Acid Profile	5 days	Quantitative and Qualitative Test on Amino Acid Analyzer	KLC, PLC
ACR-617	Chemical composition – Material including Elastomers, Thermoplastic, Thermoset composites	6-7 days	ASTM	LLC, KLC
ACR-618	Bend Back Test	01 day	B.P, ASTM	KLC
ACR-619	Melt Flow Index	01 day	ASTM	KLC
ACR-620	Low Temperature Brittleness	1-2 days	ASTM	KLC
ACR-621	Ozone Test	5 days	ASTM	KLC
ACR-622	Trans fat and fatty acid profile	4 days	AOAC, GC, PS	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-623	Free Fatty Acid	01 day	AOCS, PS	KLC, LLC
ACR-624	Adulteration of Sildenafil Citrate	2 days	B.P	KLC, LLC
ACR-625	Histamine	2-3 days	B.P	KLC, LLC
ACR-626	Antibiotic Testing by Microbial Method	7 days	B.P	KLC, LLC
ACR-627	Endotoxin Assay	7 days	B.P	KLC, LLC
ACR-628	Ethylene Oxide/ Ethylene Glycol/ Ethylene Chlorhydrin Residual	3-5 days	B.P	KLC, LLC
ACR-629	Invitro Bio availability	5 days	B.P	KLC, LLC
ACR-630	Assay of Solvents (GC)	3-5 days	B.P	KLC, LLC
ACR-631	Malachite Green and Leuco Malachite Green	3-5 days	B.P, LCMS-MS	KLC, LLC
ACR-632	AOZ, AMOZ, SEM and Antibiotics in Honey and Fish (LCMS-MS)	3-5 days	B.P	KLC
ACR-633	Residual Solvent by GC-MS	3-5 days	B.P/USP	KLC, LLC
ACR-634	Residual Solvent by GC	3-5 days	B.P/USP	KLC
ACR-635	Residual ana. And Assay of Active ingredients in Pharma and Food	5 days	AAS Method, HPLC	LLC, KLC, PLC
ACR-636	Calcium content	3 days	B.P, AAS	KLC, LLC
ACR-637	Total Polyphenols	2-3 days	B.P	KLC, LLC
ACR-638	Enzyme inhibition/antioxidant activity	5 days	B.P	KLC, LLC
ACR-639	Active pharmaceutical ingredients by UV	3 days	B.P	KLC, LLC
ACR-640	Raw Material (IR)	5 days	B.P	KLC, LLC
ACR-641	Sudan I-IV in spices & assay of active ingredient in medicines (UV)	5 days	B.P (AOAC 922-2088 2000)	*KLC, LLC
ACR-642	Titration Citric Acid	3 days	B.P	LLC.KLC
ACR-643	Titration Benzoic Acid	5 days	B.P/USP	LLC
ACR-644	Viscosity in pharmaceutical/ nutraceutical/ cosmaceuticals	2 days	B.P	LLC, KLC
ACR-645	Specific Gravity Scorpion Venom	01 day	B.P	LLC, KLC
ACR-646	Industrial Coating	3-4 days	FT-IR	LLC, KLC
ACR-647	Quality control of shampoo & conditioner (Physico-chemical Parameters & Microbial Limit Test)	15 days	Harrys Cosmeticnology, AOCS	LLC, KLC
ACR-648	Quality control of Soap (Physico-chemical Parameters)	15 days	PS	LLC, KLC
ACR-649	Quality control of Cream & Lotion (Physico-chemical Parameters & Microbial Limit Test) (KLC includes heavy metals)	15 days	PS	LLC, KLC
ACR-650	Quality control of Face Wash (Physico-chemical Parameters & Microbial Limit Test)	2 days	Harrys Cosmeticnology, AOCS	LLC, KLC
ACR-651	Quality control of Face Mask (Physico-chemical Parameters & Microbial Limit Test)	7 days	Harrys Cosmeticnology, AOCS, Lab developed method	LLC, KLC
ACR-652	Quality control of Mouth Wash (Physico-chemical Parameters)	2-3 days	Lab Development Method	LLC, KLC
ACR-653	Quality control of Tooth Powder (Physico-chemical Parameters)	2-3 days	Lab Development Method	LLC, KLC
ACR-654	Quality control of Tooth Paste (Physico-chemical Parameters)	7 days	PSQCA	LLC, KLC
ACR-655	Quality control of Henna Paste (Physico-chemical Parameters)	2-3 days	PSQCA	LLC, KLC
ACR-656	Quality control of Henna Powder (Physico-chemical Parameters)	2-3 days	PSQCA	LLC, KLC
ACR-657	Quality control of Aloe vera Gel (Physico-chemical Parameters)	7 days	Lab Development Method	LLC, KLC
ACR-658	Quality control of Aloe vera Oil (Physico-chemical Parameters)	7 days	Lab Development Method	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-659	Quality control of Nutraceutical Syrups (Physico-chemical Parameters)	2-3 days	HPLC/G.C profiling	LLC, KLC
ACR-660	Quality control of Herbal Syrups (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-661	Quality control of Herbal Medicines (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-662	Quality control of Herbal Raw Material (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-663	Quality control of Herbal Extracts (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-664	Quality control of Herbal Tea (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-665	Quality control of Herbal Tablets (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-666	Quality control of Herbal Capsule (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-667	Quality control of Herbal Oil (Physico-chemical Parameters)	7 days	HPLC/G.C profiling	LLC, KLC
ACR-668	Chloramphenicol in fish, meat, food, milk, drugs and animal casing etc.	7 days	HPLC Profiling	LLC, KLC
ACR-669	Chemical analysis of Semi carbazide in fish, meat, food, milk, drugs and animal casing etc.	7 days	HPLC Profiling	LLC
ACR-670	Chemical analysis of Nitro furan in fish, meat, food, milk, drugs and animal casing etc.	7 days	HPLC Profiling	LLC, KLC
ACR-671	Chemical analysis of Quinolones in fish, meat, food, milk, drugs and animal casing etc.	7 days	HPLC Profiling	LLC, KLC
ACR-672	Chemical analysis of Residual pesticide in fish, meat, *food, *milk, drugs and animal casing etc.	7 days	G.C.	*LLC, KLC
ACR-673	Chemical analysis of Residual antibiotics in fish, meat, food, milk, drugs and animal casing etc.	7 days	Kit Method	LLC, KLC
ACR-674	Chemical analysis of Malamine in fish, meat, food, milk, drugs and animal casing etc.	7 days	HPLC	LLC, KLC
ACR-675	Chemical analysis of formaldehyde in fish, meat, food, milk, drugs and chemicals etc.	2-3 days	UV	LLC, KLC
ACR-676	Chemical analysis of nicotine in Tobacco, cigarette and raw material	7 days	HPLC	LLC, KLC
ACR-677	Chemical analysis of Ambrine in fish	7 days		LLC, KLC
ACR-678	Chemical analysis of Zinc in syrup, capsule and tablets	2-3 days	Titration	KLC, IL, LLC
ACR-679	Chemical analysis of Iron in syrup, capsule and tablets	2-3 days	Titration	KLC, IL, LLC
ACR-680	Chemical analysis of Folic acid in syrup, capsule and tablets	7 days	HPLC	LLC, KLC
ACR-681	Chemical analysis of Vitamins (any one test) in syrup, capsule, tablets and raw	7 days	USP	KLC, IL, LLC
ACR-682	Chemical analysis of Allopathic drugs in chemical and medicine	7 days	USP	LLC, KLC
ACR-682	Optical rotation in Oil	2-3 days	Polarimeter	LLC, KLC
ACR-684	Analysis of gum base content in confectionary	7 days	EAS 352/2019	LLC, KLC
ACR-685	Antioxidant Assay (Plant extracts/compounds)	7 days	DPPH	LLC, KLC
ACR-686	Chemical analysis of Aspartame in powder, syrup, capsule & tablet	7 days	HPLC	LLC, KLC
ACR-687	Chemical analysis of Sulphonic acid (LABSA) in chemical and raw material	7 days	Titration	LLC, KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-688	Chemical analysis of Maleic anhydride in chemical and raw material	7 days	HPLC	LLC, KLC
ACR-689	Chemical analysis of Metronidazole in chemical, drug and raw material	7 days	HPLC	LLC, KLC
ACR-690	Chemical analysis of dexamethazone in chemical, drug and raw material	7 days	HPLC	LLC, KLC
ACR-691	Chemical analysis of dexamethaphin in chemical, drug and raw material	7 days	HPLC	LLC, KLC
ACR-692	Chemical analysis of mosquito repellent in coil, oil, lotion and cream	7 days	HPLC	KLC, IL, LLC
ACR-693	Assay method/standard material required in analysis of medicine for the confirmation of pharmacopoeial grade	7 days	HPLC	LLC, KLC
ACR-694	Physico chemical test in Mouth wash	7 days	Lab Development Method	KLC, IL, LLC
ACR-695	Physico chemical test in Detergents / soap	7 days	PSQCA	KLC, IL, LLC
ACR-696	Physico chemical test in Glycerin	7 days	GC-FID	KLC, IL, LLC
ACR-697	Physico chemical tests in Thinner	7 days	GC-FID	KLC, IL, LLC
ACR-698	Physico-chemical Parameters of aloe vera gel / oil	7 days	Lab Development Method	KLC, IL, LLC
ACR-699	Physico-chemical Parameters of herbal syrups / tablets / tea	5-7 days	Lab Development Method	KLC, IL, LLC
ACR-700	Physico-chemical Parameters of Henna paste / powder	2-3 days	Lab Development Method	KLC, IL, LLC
ACR-701	Physico-chemical Parameters of Tooth paste / Tooth powder	2-3 days	Lab Development Method	KLC, IL, LLC
ACR-702	Physico-chemical Parameters & Microbial Limit Test of shampoo / conditioner / cream / lotion / face wash / face mask	7 days	Lab Development Method	KLC, IL, LLC
ACR-703	Physico chemical test in ZaitHayee	2-3 days	Lab Development Method	LLC, KLC
ACR-704	Glycerin in Hand Sanitizer	2-3 days	GC-FID	KLC, IL, LLC
ACR-705	Organic solvents Assay	2-3 days	GC-FID	LLC, KLC
ACR-706	Organic chemicals Assay	2-3 days	GC/HPLC	LLC, KLC
ACR-707	Verification of base material in Musk perfume	2-3 days	GCMS	LLC, KLC
ACR-708	Determination of composition in Fusel oil	5-7days	GCMS	LLC, KLC
ACR-709	Physical tests of Tooth powder	2-3 days	PSQCA	LLC, KLC
ACR-710	ASTM, FTIR in Gases	2-3 days	ASTM	LLC, KLC
ACR-711	Butylated hydroxyl toluene in Polyethylene Bags	2-3 days	HPLC	LLC, KLC
ACR-712	Methi in Drug/Ban items	2-3 days	HPLC	LLC, KLC
ACR-713	Choline chloride Assay	7 days	AOAC	LLC
ACR-714	Pesticide in Water content	7 days	AOAC, GC	LLC, KLC
ACR-715	Complete analysis of Joshanda	7 days	WHO Standards	LLC, KLC
ACR-716	Identification test FTIR in raw materials of drugs	1-2 days	TIR	LLC, KLC
ACR-717	Identification test HPLC in raw materials of drugs	7 days	HPLC	KLC, IL, LLC
ACR-718	Caffeine in medicines	7 days	HPLC	KLC, IL, LLC
ACR-719	Azo dye in Leather/Textile	1-2 days	HPLC	LLC, KLC
ACR-720	Complete analysis of Ethyl alcohol	7 days	GC	LLC, KLC
ACR-721	Related substances in Isopropyl alcohol	7 days	GC	LLC, KLC
ACR-722	Sodium bicarbonate & Citric acid in ENO fruit powder	7 days	USP	LLC, KLC
ACR-723	Viscosity in Fabric softener	1-2 days	VISCO Meter	LLC, KLC
ACR-724	Moisture content in Sodium cyclamate	1 day	Snell method	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-725	Organic impurities in Water	2-3 days	GCMS	KLC
ACR-726	Cortisones in herbal medicines+Neutraceutical medicine	2-3 days	TLC	LLC, *KLC
ACR-727	Cortisones in commercial products	2-3 days	TLC	LLC, KLC
ACR-728	Cortisone, Quantitative in medicines	7 days	HPLC	LLC, KLC
ACR-729	Nicotine in Menpuri tobacco	7 days	HPLC	LLC, KLC
ACR-730	Choline in Milk sample	7 days	AOAC	LLC
ACR-731	Physical testing of Veet cream	2-3 days	Lab Development Method	LLC, KLC
ACR-732	Moisture in liquid samples	2 days	Moisture Analyser	LLC, KLC
ACR-733	Malachite green in fish & feed samples	5-7 days	HPLC	KLC, LLC
ACR-734	Leuco Malachite green in fish & feed samples	5-7 days	HPLC	KLC
ACR-735	Sudan-I,II,III & IV in Spices or Sauce	3-5 days	HPLC	KLC
ACR-736	Auramine in spices	7 days	HPLC	KLC, LLC
ACR-737	Bactericidal test (Bactericidal test for Hand Sanitizer/ Disinfectants)	7 days	USP	LLC, KLC
ACR-738	Complete analysis in Rifampicin	7 days	USP	KLC
ACR-739	Thiophanate methyl 70% (w/w) Assay	7 days	USP	KLC
ACR-740	Viscosity in Toothpaste	2-3 days	Visco Meter	KLC
ACR-741	Distillation ranges	2-3 days	ASTM	LLC, KLC
ACR-742	Melting point	1-2 days	Melting Point Apparatus	KLC, IL, LLC
ACR-743	Boiling point	1-2 days	ASTM	KLC, IL, LLC
ACR-744	Soxhlet extraction	2-3 days	SOXHLET	LLC, KLC
ACR-745	Moisture / Volatile Matter	2-3 days	AOCS-2017	KLC, IL, *LLC
ACR-746	Ash	2-3 days	ASTM	KLC, IL, LLC
ACR-747	Acid value	1 day	AOAC	KLC, IL, *LLC
ACR-748	Peroxide value	1 day	AOAC	KLC, IL, *LLC
ACR-749	Saponification value	1 day	AOAC	KLC, IL, *LLC
ACR-750	Refractive index	1 day	Refractro Meter	*LLC, KLC
ACR-751	Specific gravity	1 day	ASTM	KLC, IL, LLC
ACR-752	Thermal stability	1 day	Oven	LLC, KLC
ACR-753	Fineness(mesh size)	1 day	SEIVE	LLC, KLC
ACR-754	Complex Sample Preparation	1-2 day	Lab Development Method	LLC, KLC
ACR-755	Testing Charges for MSDS testing	15 days	As per MSDS requirements	LLC, KLC
ACR-756	Microbial limit test	5-7 days	USP	LLC, KLC
ACR-757	Sorbitol Assay	2-3 days	G.C.	LLC, KLC
ACR-758	Food grade test in Plastic/Aluminum/ Material used for food/water packing/ transmission	7 days	USP	KLC
ACR-759	Caffeine test in herbal teas/drugs	5 days	HPLC	KLC, IL, LLC
ACR-760	Pharmaceutical/ injectable grade in Drug/material for injection synthetic toxicity	7 days	BP, USP	KLC
ACR-761	LD ₅₀ test Acute oral toxicity in any oral drug/product	20 days	OECD-423	KLC, IL
ACR-762	Pyrogen test in injectable and Medical Devices	15 days	ISO-10993/11, BP, USP	KLC
ACR-763(a)	Skin Sensitization Test (Patch Test) in Topical Drug / material	01 month	OECD-406	KLC
ACR-763(b)	Water Activity in Pharma (Non Sterile Pharmaceutical products)	5 days	USP 1112-2020	*KLC
Biological Evaluation of Medical Devices				
ACR-764	In Vitro Cytotoxicity test	12-20 days	ISO 10993-5	LLC, KLC
ACR-765	Skin Senitization	90 days	ISO 10993-10	LLC, KLC
ACR-766	Dermal Irritation/ Intracutaneous reactivity test	10-20 days	ISO 10993-10	LLC, KLC
General & Electro Surgical Instruments/Material/Devices/Implants etc				
ACR-767	Microbiology limit test	05 days	BP, USP	KLC
ACR-768	Bioburden	05 days	ISO, 11737-1, USP-61	KLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
ACR-769	Sterility	15 days	ISO, 11737-2, USP-71	KLC
ACR-770	In-vitro-Cytotoxicity Assay	30 days	ISO, 10993-5	KLC
ACR-771(a)	Bacterial Endotoxin Test	03 days	USP-85	KLC
ACR-771 (b)	Hemolysis test in medical devices	5-7 days	ISO 10993-4	KLC
Mineral Processing				
Minerals / Ores / Rocks etc.				
MP-01	Chemical Analysis (Complete)	10 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC,IL
MP-02	Purity of Ores	5 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC,KLC, IL
MP-03	Loss on ignition	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, KLC, PLC, IL
MP-04	Identification test in Rock samples	1-2 days	XRD	KLC
Sieve Analysis of Grounded Material				
MP-05	Upto 200 #	2 days	Wills Mineral Processing Technology	LLC
MP-06	After 200 #	3 days	Wills Mineral Processing Technology	LLC
MP-07	Grindability Test (Bond Work Index)		Wills Mineral Processing Technology	LLC
MP-08	Potential Alkali Reactivity	7 days	ASTM	LLC
MP-09	Preparation of Specific Size Fractions up to one size	3 days	ASTC	LLC
MP-10	Fractions	3 days	ASTM	LLC
MP-11	Preparation of Specific Size Fractions	3 days	ASTM	LLC
MP-12	Grinding of Material up to 325#		Wills Mineral Processing Technology	LLC
MP-13	Alumina	2 days	Vogels Text Book of Chemical Analysis	KLC, LLC
MP-14	Phosphate Rock	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, LLC
Bench-Scale Beneficiation Studies on Minerals and Ores				
MP-15	Gravity based	7 days	Wills Mineral Processing Technology	LLC
MP-16	Gravity + Magnetic based	10 days	Wills Mineral Processing Technology	LLC
MP-17	Gravity + Magnetic + Flotation	15 days	Wills Mineral Processing Technology	LLC
MP-18	Bench Scale Study for single mineral	3 months	Wills Mineral Processing Technology	LLC
Pilot-Plant Beneficiation Studies on Minerals & Ores				
MP-19	Gravity based	3 months	Wills Mineral Processing Technology	LLC
MP-20	Magnetic based	3 months	Wills Mineral Processing Technology	LLC
MP-21	Gravity + Magnetic + Flotation	4 months	Wills Mineral Processing Technology	LLC
MP-22	Traffic Road Marking Paint	3 months	Wills Mineral Processing Technology	LLC
MP-23	Other paint samples	4 months	Wills Mineral Processing Technology	LLC
MP-24	Pilot Plant Study for Single Mineral	5 months	Wills Mineral Processing Technology	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
Coal: Moisture, Ash, Fixed Carbon, Volatiles				
MP-25	Proximate Analysis	7 days	ASTM D-5142	*LLC, PLC
MP-26	Gross Calorific Value	3 days	ASTM	LLC
MP-27	Total Sulphur Content	5 days	ASTM	*LLC
MP-28	Ammonium Bisulphite (percentage)	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC
MP-29	Sodium Sulphate (purity)	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC
MP-30	Test of Calcium fluoride (complete chemical test)	5 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, LLC
MP-31	Test of Match (Cr, Pb, Mn, Sb, Cd)	1 day	Atomic absorption spectrophotometry	PLC
MP-32	Test of Gunny Bags (Dimension, Weight end picks, breaking load etc.	2 days	PS 1436, 143, 161, 1553	PLC
MP-33	Test of Chromite (Chromium only)	2 days	Atomic absorption spectrophotometry	KLC, PLC
MP-34	Chromite Ore (Chromite complete analysis) Purity Cr ₂ O ₃ , Al ₂ O ₃ , CaO, Na ₂ O, K ₂ O	10-12 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, KLC, LLC
MP-35	Test of Bentonite (Chemical analysis) S	5 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, KLC
MP-36	Test of Manganese ore (Complete analysis)	5 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	KLC, PLC
Test of Soil/ Coal				
MP-37	Humic Acid	2 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, IL
MP-38	Plant Nutrients	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, IL
MP-39	Humic Dew	3 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, IL
MP-40	Soil (Heavy metals, organic matter, chloride, content, sulfate content, phosphate, nitrate, electric conductivity, bicarbonate, carbonate)	15 days	GUPTA	IL, KLC
Pilot Plant services charges				
MP-41	Grinding/ chopping/ crushing of plant Material	5kg / day	Grinding/ crushing machine	PLC, KLC
MP-42	Mixing/ Homogenizing	1 day	Homogenizer	PLC, KLC, LLC
MP-43	Capsulation	1 day	Wills Mineral Processing Technology	PLC, KLC
MP-44	Tableting	1 day	Tableting machine	PLC, KLC
MP-45	Strip packing	1 day	packing machine	PLC, KLC
MP-46	Table/ Jars Filling	1 day	Filling machine	PLC
MP-47	Bottle Filling	1 day	Filling machine	PLC, KLC
MP-48	Extraction	1 day	Extractor	PLC, KLC
MP-49	Crushing rock and minerals (Jaw crusher, Hammer Mill)	50 kg /day	Crusher	PLC, KLC
MP-50	Grinding rock and minerals	50 Kg /day	Ball Mill	PLC
MP-51	Rotary Kiln (Temp. Upto 800 °C)	1 day	Rotary Kiln	PLC
MP-52	Rotary Kiln (Temp. above 800 °C)	1 day	Rotary Kiln	PLC
MP-53	Lightweight Aggregate (with Raw Material)	50 Kg /day	Rotary Kiln	PLC
MP-54	Lightweight Aggregate (Without Raw Material)	50 Kg /day	Rotary Kiln	PLC
MP-55	Ore beneficiation study on pilot plant	3 months	Wills Mineral Processing Technology	LLC
MP-56	Analysis of Minerals by XRF	5 days	XRF	PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
MP-57	Grindability Test (Bond Work Index)	5 days	Wills Mineral Processing Technology	LLC
MP-58	Crushing of Material	5 days	Wills Mineral Processing Technology	LLC
MP-59	Grinding of Material upto 100 Mesh	20 kg /day	Wills Mineral Processing Technology	LLC
MP-60	Grinding of Material upto 325 Mesh	20 kg /day	Wills Mineral Processing Technology	LLC
MP-61	Ore/ Mineral (Cu, Al, Ba, Fl, Si, Cl, Fe, Mn, Sb, Cd, Pb, Ni, Ag, Pt, Cr, Zn, Co, Sn, Li, Na, K, Au, Hg, Tin, Antimony, Molybdenum, Titanium, Vanadium, Phosphorous, Sulphate)	5 days	Atomic absorption spectrophotometry	LLC, KLC, PLC
MP-62	Alkali (Equivalent Na ₂ O)	2 days	Flame photometry/ AOCS	KLC, LLC
MP-63	Chromium	5 days	Quantitative Inorganic analysis by Arthur I Vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-64	Copper	5 days	Quantitative Inorganic analysis by Arthur I Vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-65	Iron	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-66	Lead	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-67	Magnesium	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-68	Moisture	2 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ ASTM	KLC, IL, LLC
MP-69	Phosphorous	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ PS	KLC, LLC
MP-70	Silica	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-71	Specific Gravity	1 day	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ ASTM	KLC, IL, LLC
MP-72	Sulphur	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ Gravimetric	KLC, LLC
MP-73	Tin	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, IL, LLC
MP-74	Titanium Di Oxide	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ HPLC	KLC, LLC
MP-75	Vanadium	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, LLC
MP-76	Zinc	5 days	Quantitative Inorganic analysis by Arthur I vogel, 3rd Edition/ AAS	KLC, IL, LLC
Glass & Ceramics				
Ceramic Raw Material Limestone, Feldspar, Quartz, Dolomite, Clays, Marble, Sand				
GC-01	Complete Chemical Analysis	05 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
GC-02	Fineness of Marble	02 days	Particle size analyzer	PLC
GC-03	Sulfur sample	02 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, KLC
GC-04	Hardness of Marble	02 days	Moh's Scale	PLC
GC-05	Loss on ignition	02 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, KLC, PLC
GC-06	Partial Chemical analysis	02 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC
GC-07	Loss Angeles Abrasion test	02 days	ASTM C-131	PLC
GC-08	ISO 17025 Conformance Marble	05 days	Marble Granite	*LLC
GC-09	ISO 17025 Conformance Limestone	05 days	Liimestone	*LLC
GC-10	Tensile strength and elongation test/cutting	2 days	Universal Testing Machine	KLC, PLC, LLC
Tile, Bricks, Refractory, bauxite , Gypsum				
GC-11	Complete Chemical Analysis	5 days	ASTM	LLC, PLC
GC-12	Moisture Contents	02 days	ASTM	LLC, KLC, PLC
GC-13	Water Absorption	02 days	ASTM C-67	*LLC, PLC, KLC
GC-14	Porosity	02 days	ASTM C-67	LLC, PLC
GC-15	Bulk density	02 days	ASTM C-67	PLC, LLC, KLC
GC-16	Specific Gravity	02 days	ASTM C-67	KLC, LLC, PLC
GC-17	Compressive strength	02 days	ASTM C-67	LLC, PLC
GC-18	Refractoriness (service Temperature)	03 days	ASTM	LLC
GC-19	Crazing resistance	02 days	ASTM	*LLC
GC-20	Chemical effect	02 days	ASTM	*LLC
GC-21	Certification of Tiles for Customs Declaration	03 days	ISO-17025 evaluation	LLC
GC-22	Colour measurement	02 days	ASTM	LLC
GC-23	Light Transmission	02 days	ASTM	LLC
Cement				
GC-24	Chemical Analysis (Purity) (LOI, IR, CAO, MGO, SiO2, Al2O3, SO3, K2O)	10-12 days	ASTM C-114	KLC, *LLC, PLC
GC-25	Setting Time	02 days	ASTM C-191	*LLC, PLC
GC-26	Alkalies	02 days	ASTM	*LLC, PLC
GC-27	Borosilicate (Pyrex etc.)	3 days	ASTM	PLC
GC-28	Crushing Strength	1 day	ASTM C-109	PLC
GC-29	Crushing Strength (3 days, 7 days, 28 days)	4-30 days	ASTM C-109	PLC
GC-30	Whiteness	02 days	JSZ	LLC
GC-31	Brightness	02 days	JSZ	LLC
GC-32	Fineness	2-3 days	ASTM C-786	PLC
GC-33	Comprehensive strength (3 to 7 days)	4-10 days	ASTM C-109	PLC
GC-34	Soundness	7 days	ASTM C-204	PLC
GC-35	Soil: In-Situ density and Moisture (Compaction Test)	7 days	ASTM	PLC
GC-36	Sieve Analysis of Material (3 sieves)	02 days	ASTM C-33	LLC, PLC, IL
Aggregate / Sand				
GC-37	Soundness	1 day	ASTM C-88	LLC, PLC, LLC
GC-38	Coarse/ fine aggregates analysis (Chemical and Physical)	7 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, IL, LLC
GC-39	Alkali Silica Reactivity (ASR)	15-20 days	ASTM C-1260	PLC
GC-40	Organic Impurities of sand	01 day	ASTM C-33	PLC, LLC
GC-41	Bulk density of sand	1 day	ASTM C-29	PLC, IL, LLC
GC-42	Specific gravity	1 day	ASTM C-29	PLC, IL, LLC
GC-43	Unit weight/Bulk density	1 day	ASTM C-29	PLC, LLC
GC-44	Test of Admixture in liquid (Chloride, specific gravity, pH value)	3-5 days	ASTM C-494	KLC, LLC, PLC, IL
GC-45	Sanitary SASO Certification	05 days	SASO	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
GC-46	Mortar: Cement Sand Ratio	05 days	ASTM C-270	LLC, PLC
GC-47	Concrete, Mortar	5 days	ASTM C-270	PLC, IL
GC-48	Cement Sand / Aggregate Ratio	5 days	ASTM C-270	LLC, PLC, IL
GC-49	Test of Concrete Mixture (Chemical and Physical analysis)	5 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	PLC, KLC, IL
Glass				
GC-50	Chemical Analysis (SiO ₂ , Al ₂ O ₃ , Na ₂ O)	05 days	ASTM	LLC, IL
GC-51	Thermal shock Resistance	02 days	ASTM	LLC
GC-52	Firing Shrinkage	05 days	ASTM	LLC
GC-53	Thermal Conductivity	3 days	ASTM	LLC, KLC
GC-54	Light Transmission	3-5 days	ASTM	LLC
GC-55	Viscosity of glass at particular temperature (10-10poise)	3-5 days	ASTM	KLC
GC-56	Clay: Chemical Analysis	05 days	ASTM	LLC, IL
Soil / Rock				
GC-57	Atterberg Limit	10-15 days	ASTM	PLC
GC-58	Proctor Compaction Test	07 days	ASTM	PLC
GC-59	Porosity	2 days	ASTM	LLC
GC-60	Bulk density / Specific gravity	2 days	ASTM	LLC,KLC
GC-61	Sieve analysis / Gradation curve	03 days	ASTM	LLC
GC-62	Liquid limit / Plastic limit	5 days	ASTM	LLC
Test of Silica Sand				
GC-63	Complete Chemical analysis	05 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
GC-64	Soda Lime Silica Glass	05 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
GC-65	Soda Lime Silica Glass (container sheet)	05 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
GC-66	Test of Boro Silicate Glass (Complete analysis)	05 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
GC-67	Silica Sand Chemical Analysis per element	05 days	N.H. Furman, Standard Methods of Chemical Analysis, 6th edition	LLC, PLC
GC-68	Conformance Evaluation of Limestone	10 days	ISO 17025	LLC
GC-69	Moisture Content	02 days	AOAC	KLC, LLC, IL, PLC
GC-70	Resistance to Acid	03 days	AOAC	KLC, LLC, PLC
GC-71	Specific Gravity	1 day	ASTM	KLC, LLC, IL, PLC
Evaluation of Aggregates used for Dms,Road,Canals,Bridges,Flyover,Rail, tracks and pilling purpose				
GC-72	Alkali Carbonate Reactivity (Rock Cylinder Method)	28 days	ASTM	LLC , IL, PLC
GC-73	Specific Gravity	3 days	Gravimetric method	LLC , IL, PLC
GC-74	Water Absorption Capacity	3 days	ASTM	LLC , PLC
GC-75	Unit Weight	2 days	ASTM	LLC , PLC
GC-76	Sieve Analysis (Coarse Aggregate)	2 days	ASTM	LLC , PLC
GC-77	Sieve Analysis (Fine Powder)	2 days	ASTM	LLC , PLC
GC-78	Loss Angeles Abrasion Test	3 days	ASTM	LLC , PLC
GC-79	Sodium Sulfate Soundness Tes	7 days	ASTM	LLC , PLC
GC-80	Aggregate Drying Shrinkage	28 days	BS-812	LLC
GC-81	Aggregate Durability Test	7 days	ASTM	LLC
GC-82	Chloride Content	3 days	ASTM	LLC , IL, PLC
GC-83	Sulfate Content	3 days	ASTM	LLC , IL, PLC
GC-84	Aggregate Particle Shape (Flakiness and Elongation)	3 days	D-4791	LLC , PLC
GC-85	Clay Lumps and Friable Particles in Aggregate	3 days	ASTM	LLC , PLC
GC-86	Light Weight Particles in Aggregate	3 days	ASTM	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
GC-87	Material Finer than 200 sieve in Aggregate by washing	3 days	ASTM	LLC
GC-88	Specific Gravity of Powdered Material	3 days	Gravimetric method	LLC
GC-89	Preparation of Sp. Size Fractions upto one fraction	2 days	ASTM	LLC
GC-90	Preparation of Sp. Size Fractions ASTM C-1260	2 days	ASTM	LLC

Centre for the Development of Laboratories Equipment

	Name Of Equipments with Model #	Aprox Time Line		
DLE-1	Centrifuge, Centrifuge Machine (CG-1/07)	90 days	According to the client specifications	LLC
DLE-2	Crucible Furnace(CF-1/02)	90 days	According to the client specifications	LLC
DLE-3	Cylindrical Furnace(CF-1/05)	90 days	According to the client specifications	LLC
DLE-4	Cylindrical Water Bath / Coliform Bath(CB-1/02)	90 days	According to the client specifications	LLC
DLE-5	Digital Cylindrical Water Bath(DCW-1/06)	90 days	According to the client specifications	LLC
DLE-6	Digital Hot Plate(DHP-1/10)	90 days	According to the client specifications	LLC
DLE-7	Digital Magnetic Stirrer Hot Plate(DMSHP-1/11)	90 days	According to the client specifications	LLC
DLE-8	Digital Melting Point Apparatus(DMP-1/07)	90 days	According to the client specifications	LLC
DLE-9	Digital Oil Bath Magnetic Stirrer(DOBMS-1/11)	90 days	According to the client specifications	LLC
DLE-10	Digital Orbital Shaker(DOS-1/11)	90 days	According to the client specifications	LLC
DLE-11	Digital Over Head Stirrer(DOHS-1/11)	90 days	According to the client specifications	LLC
DLE-12	Digital Rotamantle 1 L (DRM-1/11)	90 days	According to the client specifications	LLC
DLE-13	Digital Rotamantle 500 mL (DRM-1A/11)	90 days	According to the client specifications	LLC
DLE-14	Digital Rotamantle 250 mL(DRM-1B/11)	90 days	According to the client specifications	LLC
DLE-15	Drying Oven 105 L. Digital(DO-1-105/03)	90 days	According to the client specifications	LLC
DLE-16	Drying Oven 108 L. 300 °c (HTDDO-1/04)	90 days	According to the client specifications	LLC
DLE-17	Digital Drying Oven 130 L.(DOD-1-130/09)	90 days	According to the client specifications	LLC
DLE-18	Digital Drying Oven 256 L. (DOD-1-256/06)	90 days	According to the client specifications	LLC
DLE-19	Drying Oven 30 L. Analogue	90 days	According to the client specifications	LLC
DLE-20	Digital Drying Oven 30 L. (DOD-1-30/05)	90 days	According to the client specifications	LLC
DLE-21	Drying Oven 60 L. Analogue(DO-1-60/02)	90 days	According to the client specifications	LLC
DLE-22	Digital Drying Oven 60 L. (DOD-1-60/05)	90 days	According to the client specifications	LLC
DLE-23	Electromantle for Soxhlet Extraction 1 L. (SE-1/02)	90 days	According to the client specifications	LLC
DLE-24	Electromantle for Soxhlet Extraction 250 mL (SE-1B/05)	90 days	According to the client specifications	LLC
DLE-25	Electromantle for Soxhlet Extraction 500 mL (SE-1A/03)	90 days	According to the client specifications	LLC
DLE-26	Four in one Precision Hot Plate (4-PHP/07)	90 days	According to the client specifications	LLC
DLE-27	General Purpose Utility Bath (GPUB-1/06)	90 days	According to the client specifications	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
DLE-28	Heated Circulating Bath 100 L (HCB-1/04)	90 days	According to the client specifications	LLC
DLE-29	Heating Mantle 1 L. (HM-1/02)	90 days	According to the client specifications	LLC
DLE-30	Heating Mantle 2 L. (HM-1C/05)	90 days	According to the client specifications	LLC
DLE-31	Heating Mantle 250 mL (HM-1B/04)	90 days	According to the client specifications	LLC
DLE-32	Heating Mantle 500 mL (HM-1A/03)	90 days	According to the client specifications	LLC
DLE-33	Heavy Duty Hot Plate 300 °c Analogue (HDHP-1/02)	90 days	According to the client specifications	LLC
DLE-34	Heavy Duty Hot Plate 300 °c Analogue (HDHP-1A/04)	90 days	According to the client specifications	LLC
DLE-35	Heavy Duty Hot Plate 400 °c Digital (DHDHP-1/06)	90 days	According to the client specifications	LLC
DLE-36	Horizontal Shaking Water Bath (Large) (HSW-1/06)	90 days	According to the client specifications	LLC
DLE-37	Horizontal Shaking Water Bath (Large) (HSW-1A/09)	90 days	According to the client specifications	LLC
DLE-38	Hot & Cold Heavy Duty Water Bath 800 L. (HDWB-1/06)	90 days	According to the client specifications	LLC
DLE-39	Hot and Cold Water Bath 35 L. (CS-1/06)	90 days	According to the client specifications	LLC
DLE-40	Magnetic Stirrer Hot Plate (Large) (MSHP-1/02)	90 days	According to the client specifications	LLC
DLE-41	Melting Point Apparatus Analogue (MP-1/02)	90 days	According to the client specifications	LLC
DLE-42	Mini Magnetic Stirrer Hot Plate (MSHP-1A/05)	90 days	According to the client specifications	LLC
DLE-43	Muffle Furnace-1000 °c (MF-1/02)	90 days	According to the client specifications	LLC
DLE-44	High Temp Muffle Furnace-1200 °c (HTMF-1/07)	90 days	According to the client specifications	LLC
DLE-45	Orbital Shaker (OS-1/02)	90 days	According to the client specifications	LLC
DLE-46	Over Head Stirrer (OHS-1/06)	90 days	According to the client specifications	LLC
DLE-47	Rectangular Water Bath (RW-1/02)	90 days	According to the client specifications	LLC
DLE-48	Rotamantle 1 L (RM-1/02)	90 days	According to the client specifications	LLC
DLE-49	Rotamantle 500 mL (RM-1A/02)	90 days	According to the client specifications	LLC
DLE-50	Rotamantle 250 mL (RM-1B/03)	90 days	According to the client specifications	LLC
DLE-51	Thermostatic Dry Bath (TDB-1/02)	90 days	According to the client specifications	LLC
DLE-52	High Temp Tube Furnace -1200 °C (HTTF-1/06)	90 days	According to the client specifications	LLC
DLE-53	Tube Furnace Ø 40x400 mm – 1000 °c (TF-1/02)	90 days	According to the client specifications	LLC
DLE-54	Tube Furnace Ø 65x800 mm – 1000 °c Large (TF-1A/05)	90 days	According to the client specifications	LLC
DLE-55	Vortex Mixer (VM-1/07)	90 days	According to the client specifications	LLC
DLE-56	Digital Heavy Duty Hot Plate 300°C (DHDHP-1A/12)	90 days	According to the client specifications	LLC
DLE-57	Digital Steam Water Bath (DCB-1/11)	90 days	According to the client specifications	LLC
DLE-58	Two Stage Orbital Shaking Water Bath (TSDOS-1/12)	90 days	According to the client specifications	LLC
DLE-59	3 Zone Tube Furnace 1000°C (3ZF-1/12)	90 days	According to the client specifications	LLC
DLE-60	CSTR, UV Cabinet, COD Apparatus V(CSTR-1/12)	90 days	According to the client specifications	LLC
DLE-61	High Temp Muffle Furnace 1400°C (HTMF-1A/13)	90 days	According to the client specifications	LLC
DLE-62	Rectangular Water Bath (Digital) (DRW-1A/13)	90 days	According to the client specifications	LLC
DLE-63	Vertical Tube Furnace 1000°C (VTF-1/13)	90 days	According to the client specifications	LLC
DLE-64	Muffle Furnace (Incinator) 1000°C (MF-1A/14)	90 days	According to the client specifications	LLC

Sr. #	Description of Services	Approx. Timeline	Testing Method	Service Available at
DLE-65	Vertical Muffle Furnace 1200°C (VMF-1/14)	90 days	According to the client specifications	LLC
DLE-66	Hand Held Metal Detector (HMD-02)	90 days	According to the client specifications	LLC
DLE-67	Digital Auto Drying Oven 30L (ADO-1/15)	90 days	According to the client specifications	LLC
DLE-68	Shaking Enviromental Chamber (SEC-1/17)	90 days	According to the client specifications	LLC
DLE-69	Hot & Cold Shaking Water Bath (HCSB-1/15)	90 days	According to the client specifications	LLC
DLE-70	Auto Clave (AC-1/18)	90 days	According to the client specifications	LLC
DLE-71	Humidity Chamber Growth Chamber (HC-1/18)	90 days	According to the client specifications	LLC
DLE-72	Bomb Calorimeter (BC-1/18)	90 days	According to the client specifications	LLC
DLE-73	OZONE Generator (OZ-1/18)	90 days	According to the client specifications	LLC
DLE-74	Hot & Cold Calibrator(HCC-1/19)	90 days	According to the client specifications	LLC
DLE-75	Water Distillation Unit (WDU-1/19)	90 days	According to the client specifications	LLC
DLE-76	Gas Blowing Furnace 1800°C (GBF-1/20)	90 days	According to the client specifications	LLC
DLE-77	Protien Digester(PD-1/20)	90 days	According to the client specifications	LLC
DLE-78	Digital Drying Oven 140L (DDO-1-140/19)	90 days	According to the client specifications	LLC
DLE-79	Digital Drying Oven 140L (DDO-1-140/19)	90 days	According to the client specifications	LLC
DLE-80	Oluform Bath	90 days	According to the client specifications	LLC