

Institute of Fuel Research & Development (IFRD)					
Sl. No	Name of Sample	Test Parameter	Instruments Name	Fee (Without VAT)	Working Days
1	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Acid value/TAN/TBN	ASTM D 974	5000	7
2	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Aromatics	Gasoline Analyzer	4000	7
3	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Ash content	ASTM D 482	4000	7
4	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Benzene	Gasoline Analyzer	7000	7
5	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Boiling range/Distillation	ASTM D 86	6000	7
6	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Calorific Value (Gross/Net)	Bomb Calorimeter	5000	7
7	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Carbon residue	ASTM D 189	3000	7
8	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Cetane improver	Diesel Analyzer	5000	7
9	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Cetane index	Diesel Analyzer	7000	7
10	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Cetane number	Diesel Analyzer	7000	7
11	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Color	Colorimeter	3000	7
12	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Corrosion	IP 154/59	5000	7
13	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Density/Specific/API gravity	ASTM D1298	3500	7
14	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	DIPE	Gasoline Analyzer	4000	7
15	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Ethanol	Gasoline Analyzer	6000	7
16	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	FAME	Diesel Analyzer	4000	7
17	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Fire point	ASTM D 92	5000	7



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18	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Flash point	ASTM D 93	5000	7
19	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Methanol	Gasoline Analyzer	4000	7
20	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	MTBE	Gasoline Analyzer	6000	7
21	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Olefin	Gasoline Analyzer	4000	7
22	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	PNA Aromatics	Diesel Analyzer	4000	7
23	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Pour point	ASTM D 97	4000	7
24	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Raw oil	Diesel Analyzer	4000	7
25	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	RON/MON	Gasoline Analyzer	10000	7
26	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	SAT	Gasoline Analyzer	4000	7
27	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Sediment/Insoluble matter	ASTM D 4000	3000	7
28	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Sulphur	ASTM D 129	6000	7
29	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	TAME	Gasoline Analyzer	4000	7
30	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Toluene	Gasoline Analyzer	6000	7
31	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Total Aromatics	Diesel Analyzer	5000	7
32	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Total xylene	Gasoline Analyzer	6000	7
33	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Viscosity (40 & 100°C)	ASTM D 445	5000	7
34	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Viscosity index	ASTM D 2270	6000	7



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35	Liquid fuel (Octane/Petrol/Kerosine/ Diesel/Biodiesel//Furnace oil/Pyrolysis oil	Water content	ASTM D 95	3500	7
36	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Acid value/TAN/TBN	ASTM D 974	5000	7
37	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Aniline point	ASTM D 611	5000	7
38	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Ash content	ASTM D 482	4000	7
39	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Boiling range/Distillation	ASTM D 86	6000	7
40	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Calorific Value (Gross/Net)	Bomb Calorimeter	6000	7
41	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Carbon residue	ASTM D 189	3000	7
42	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Color	Colorimeter	3000	7
43	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Cloud point	ASTM D 97	5000	7
44	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Corrosion	IP 154/59	5000	7
45	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Density/Specific/API gravity	ASTM D1298	3500	7
46	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Flash point	ASTM D 93	5000	7
47	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Fire point	ASTM D 92	5000	7
48	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	ISO viscosity Grade	ISO 3448	7000	7
49	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Loss on Evaporation	ASTM D 189	4000	7
50	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Lube oil condition monitoring (additive degradation)	ASTM E 2412	15000	7
51	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	pH	pH Meter	2500	7

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52	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Pour point	ASTM D 97	4500	7
53	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Sediment/Insoluble matter	ASTM D 4000	3500	7
54	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Sulphur content	ASTM D 129	6000	7
55	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Sulfated Ash	ASTM D 874	5000	7
56	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Viscosity (40 & 100 ⁰ C)	ASTM D 445	6000	7
57	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Viscosity index	ASTM D 2270	7000	7
58	Lubricating oil/Brake oil/Gear Oil/Transformer oil/Hydraulic oil/Engine oil	Water content	ASTM D 95	4000	7
59	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Ash content	ASTM D 3174	4000	7
60	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Bulk density	ASTM D1895	3000	7
61	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Calorific value	Bomb Calorimeter	6000	7
62	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	C-H-N-S	Elemental Analyzer	8000	7
63	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	C-H-N-S-O	Elemental analyzer	12000	7
64	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Classification (Coal)	ASTM D 388	15000	7
65	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Flue gas	Flue gas Analyzer	12000	7
66	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Fixed carbon	ASTM D 3172	6000	7
67	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Inherent moisture	ASTM D1412	4500	7
68	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Mesh Size	Sieve Analysis	5000	7
69	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Resistivity	Digital Impedance Analyzer	10000	7
70	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Self-heating value	EPA 1050	25000	7
71	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Sulphur	ASTM D 129	7000	7
72	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Sulfated Ash	ASTM D 874	5000	7
73	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Surface moisture	ASTM C70	4000	7
74	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Total moisture	Moisture Analyzer	4000	7
75	Solid fuel (charcoal/coal/coke/ briquette/Biomass)	Volatile matter	Muffle Furnace	5000	7
76	Grease	Corrosion	IP 154/59	5000	7
77	Grease	Dropping Point	IP 131/57	4500	7
78	Grease	Moisture/water content	ASTM D 95	4000	7

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Sl. No	Name of Sample	Test Parameter	Instruments Name	Fee (Without VAT)	Working Days
79	Grease	Penetration Test	IP 50/57	4000	7
80	Battery (IFRD)	Capacity Test	Digital Battery Analyzer	10000	10
81	Battery (IFRD)	Life Cycle	Digital Battery Analyzer	50000	30
82	Battery (IFRD)	Initial Current (Max)	Digital Battery Analyzer	5000	7
83	Battery (IFRD)	Load Test	Digital Battery Analyzer	5000	7
84	Battery (IFRD)	OHM Test/ Internal Resistance	Digital Battery Analyzer	5000	7
85	Solar Charge Controller	(System Voltage, MX Module Current, Mx Load Current) Package	Digital Power Analyzer	10000	7
86	Solar Panel/Module(1-50 watt)	Complete Panel Test (Efficiency, Pmax, Voc, Isc, Vmax, Imax, FF)	Digital Sun Simulator	10000	7
87	Solar Panel/Module(51-120 watt)	Complete Panel/Module Test (Efficiency, Pmax, Voc, Isc, Vmax, Imax, FF)	Digital Sun Simulator	12000	7
88	Electric Bulb (CFL/LED/	Electrical Parameter: Power, Current, voltage, Power Factor	Digital Power Analyzer	10000	7
89					
90	Incandescent)	Optical Parameter:	Digital spectral analyzer	10000	7
91		Lumen,Lux, Correlated Color Temperature (CCT), Color Rendering Index (CRI), Color Ratio, Full Color Spectrum			
92	Solid Materials (Coke breeze, Magnetic dielectric, etc)	Electrical properties (Individual: C, L, R, G, B,D,Q,Z,Y)	Impedance Analyzer	2000	7
93	Solid Materials (Coke breeze, Magnetic dielectric, etc)	Electrical properties (C, L, R, G, B, D, Q, Z, Y: All)	Impedance Analyzer	6000	7
94	Solid/Powder/Film Materials	EDX	130 eV EDX	3000	7
95	Solid/Powder/Film Materials	Film Resistance	Four Point Probe	3000	7
96	Solid/Powder/Film Materials	Hall Effect	0.55 Tesla	5000	7
97	Solid/Powder/Film Materials	SEM Analysis	30KV VP-SEM	4000	7
98	Solid/Powder/Film Materials	UV-VIS-NIR (%R)	190-2600 nm	3000	7
99	Solid/Powder/Film Materials	UV-VIS-NIR (%T)	190-2600 nm	3000	7
100	Solid/Powder/Film Materials	UV-VIS-NIR (ABS)	190-2600 nm	3000	7

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101	Solid/Powder/Film Materials	UV-VIS-NIR (E(S), E(R))	240-2600 nm	3000	7
102	Solid/Powder/Film Materials	UV-VIS-NIR (Specular, Diffuse and Total	240-2600 nm	5000	7
103		Reflectance)			
104	Solid/Powder/Film Materials	XRD	GBC XRD	5000 .00	7
105	Solid/Powder/Film Materials (Pharma)	XRD	GBC XRD	20000 .00	7
106	IPS/UPS	Back up time, Charge time, MX output power, Output Voltage, Output Frequency	Digital Power Analyzer, Digital Oscilloscope	10000	7
107	Improved Cook Stove	Thermal Efficiency (hot start, cold start)	WBT	25000	7
108	Improved Cook Stove	Performance	WBT	25000	7
109	Gas stove (Biogas/LNG/LPG)	Thermal Efficiency	WBT	25000	7
110	Biogas	CH ₄ , CO ₂ , H ₂ S, NH ₃	Biogas analyzer	12000	7
111	Natural Gas	CH ₄ , CO ₂ , H ₂ S, NH ₃	GC	15000	7

