

LAB.1 FOOD ANALYSIS LAB

FPPT-272: Food Microbiology,
 FPPT-282: Food Chemistry & Analysis,
 FPPT-342: Food Packaging

LIST OF MACHINERY & EQUIPMENT

S.NO	EQUIPMENTS / MACHINERY	SPECIFICATIONS	QTY
1.	AUTOClave	• Top-loading Sterilizers • Full Auto Sterilizer • Automatic over pressure release valve • Temp range 105-140 °C • Pressure range 1.2 to 1.3 Kg/cm² • Capacity 45-60 Liter UK,USA,JAPAN,EUROPE or equivalent	01
2.	AUTOMATIC KJELdHAL DIGESTION & DISTILLATION APPARATUS with complete accessories	Digestion system Use together with “Scrubber” does not need fume hood. Integrated support for sample tubes enabling an easier cooling. Sample size solids: 5 g (macro), 1 g (micro). Liquids: 15 ml(macro), 3 ml (micro). One tube holder rack with digestion tubes (tubes included) 42mm size. One fume collector, Capacity: 6-12 Places, Temperature: 450C Distillation system • LCD display EUROPE, USA, UK, JAPAN or equivalent	01
3.	Micro dispensers	Pipette holder Teflon Pipette types 1 – 100ml Plastic or Glass EUROPE, USA, UK, JAPAN or equivalent	30
4.	SOXHLET APPARATUS with heating system	• 250 ml round-bottom flasks • 100 ml Soxhlet extractors • Reflux condensers, • 5 extraction thimbles, • 05 units each glassware EUROPE, USA, UK, JAPAN or equivalent	10
5.	CONDUCTIVITY METER	• Range: 0.0 to 199.9 µS/cm; 0 to 1999 µS/cm	02

		• 199.9 mS/cm; 0 to 199.9 mS/cm • Temperature Compensation: automatic, 0 to 50°C (32 to 122°F) • GERMANY, UK,USA,JAPAN or equivalent	
6.	DIGITAL COLONY COUNTER	DIGITAL COLONY COUNTER • Digital screen up to a total of 300 counts. • Steady, (glare free) fluorescent illumination. • Clear wide view visibility EUROPE, USA, UK, JAPAN or equivalent	01
7.	DIGITAL ELECTRONIC BALANCE 4 DIGITS	• Capacity: 220 g • Power Supply: battery /mains 230 V, 50 Hz EUROPE, USA, UK, JAPAN or equivalent	02
8.	FLAME PHOTOMETER	• Fuels : natural gas or LPG • Range: 0 to 199.9ppm • Electrical supply: 190-250V @50/60Hz • Air supply: Moisture and oil free, EUROPE, USA, UK, JAPAN or equivalent	01
9.	HEATING MANTLE	• Temperature: ambient to 450°C • Electrical: 220VAC, 50 Hz • Accessories: as per manufacturer standard • Capacity: 250 ml, 500ml, 1000ml China Made/Local	04
10	HOT PLATE	• Cast Aluminum • Teflon coated top plate • Temperature: 300 °C • Thermostatic control • 220 V • 50 Hz China Made	02
11	INCUBATOR COOLING TYPE	• 8 CFT • -10 °C TO +50 °C • 220 V • 50Hz EUROPE, USA, UK, JAPAN	01
12	LABORATORY OVEN	• Capacity: 115 L • Temp range: 300°C • Display: LCD	02

		- Shelves: 2 Nos. (adjustable) - Electrical: 220 VAC, 50 Hz EUROPE, USA, UK, JAPAN or equivalent	
13	LAMINAR FLOW HOOD	- Display: LED digital display - Filter efficiency: > 99.999% at 0.3um - Airflow velocity: average of 0.3 to 0.5m/s - Fluorescent lamp: 28W - UV Lamp: 30W - Power: 220V, 50Hz EUROPE, USA, UK, JAPAN or equivalent	01
14	MAGNETIC STIRRER + HOT PLATE	- Voltage [VAC]: 200-240 - Speed range [rpm]: 0-1500 - Heating temperature range [°C]: RT-340 - Temperature display: LCD or digital EUROPE, USA, UK, JAPAN or equivalent	05
15	Desktop pH METER	- Measurement Range 0.00...14.00 pH - Display Liquid crystal EUROPE, USA, UK, JAPAN or equivalent	03
16	TDS METER	- Measurement ranges 0.0 μS/cm...199.9 mS/cm - Display White backlight liquid crystal - Input Mini-Din EUROPE, USA, UK, JAPAN or equivalent	02
17	UV-VISIBLE SPECTROPHOTO METER	- Wavelength range 190 to 1,100nm - Photometric range -3 to 3Abs - Display color LCD - Power supply 220, 230 or 240 V, 50/60Hz EUROPE, USA, UK, JAPAN or equivalent	01
18	Digital MICROSCOPES with camera and LED	- Magnification Range: 40x - 1000x. - Microscope Body: Sturdy, 270 x 250 mm - Nosepiece: Quadruple, Trinocular , LED - integrated iris diaphragm - Power supply in-built, 20W halogen bulb adjustable for 220V, 50Hz Digital CCD 5 Mega Pixel Camera with Accessories: Dust cover, blue filter, immersion oil.	02

		EUROPE, USA, UK, JAPAN or equivalent	
19	MUFFLE FURNACE	- Capacity : 8 liters - Temperature range : 1100°C - Set Error : $\pm 2^{\circ}\text{C}$ of the value selected - Resolution : 1 digit EUROPE, USA, UK, JAPAN	01
20	TURBIDITY METER	Range: 0.00 to 50.00 FTU; EUROPE, USA, UK, JAPAN or equivalent	01
21	POLARIMETER	- Measuring Range :- $\pm 45^{\circ}$ - Light source:- Sodium lamp 589 nm - Voltage(V) Freq.(Hz) 230V 50Hz UK,USA,JAPAN or equivalent	01
22	WATER BATH	- Easy-to-Clean Stainless Steel Tank - Capacity: 15 Litres - Temp Range: $+5 - 100^{\circ}\text{C}$ - Sensitivity: $\pm 0.1^{\circ}\text{C}$ - Uniformity: $\pm 0.2^{\circ}\text{C}$ Local made	02
23	VISCOMETER	Viscosity range: 20- 40.000.000 mPas/cP EUROPE, USA, UK, JAPAN or equivalent	01
24	BUNSEN BURNER	Metal based	
25	FORCED AIR OVEN	- Capacity 250 Liters - Voltage(V) Freq.(Hz) 230V 50Hz	01
26	FUME HOOD	- Material = fiber glass - Dimension= 5 feet	
27	Water distillery	- Capacity = 4 liters/hr - Voltage(V) Freq.(Hz) 230V 50Hz - UK,USA,JAPAN or equivalent	01
28	Grammage meter	- Capacity =300 gram - UK,USA,JAPAN or equivalent	01
29	Vacuum Packaging	- Capacity= Medium size - LCD display	01

	sealer	• Voltage(V) Freq.(Hz) 230V 50Hz • UK,USA,JAPAN or equivalent	
30	Rapid moisture analyzer	• Sample size 4-6gram • Infrared lamp • Voltage(V) Freq.(Hz) 230V 50Hz • UK,USA,JAPAN or equivalent	01
31	Portable pH meter	• Measurement range 0-14 • Voltage(V) Freq.(Hz) 230V 50Hz • UK,USA,JAPAN or equivalent •	02