



Institute of Physics

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Equipments for Biology Laboratory of NISER

Analytical instruments

1. UV-VIS-NIR Spectrophotometer (190-1800 nm, with multiple sample positioning, Peltier cooled cell block, research grade with scanning facility, with cuvettes both quartz and glass, PC based with compatible software)
2. UV-VIS Spectrophotometer (190-900 nm, with glass and quartz cuvettes, PC based, with multiple sample position, preferably with peltier cooled cell block)
3. Colorimeter (400-700 nm), with filters with sample cuvettes, (1- 3 ml),
4. Spectrofluorimeter,
5. Elisa Reader ,
6. Liquid Scintillation counter,
7. Refractometer

Centrifuges

1. High speed Centrifuge (20 000 g or above, microprocessor based refrigerated table top and floor model with various rotors and accessories) .
2. Ultra Centrifuge with Rotors,
3. Microcentrifuge (with rotors for 1.5 ml and 2.0 ml tubes, both cooling and non-cooling, 12000g and above with timer and safety interlock system)
4. Mini centrifuge around (6000 with rotors for 1.5 ml, 2.0 ml, 0.4 ml and 0.5ml tubes
5. Laboratory non-cooling centrifuge (with appropriate rotors and accessories)

(All centrifuges to be quoted with appropriate rotors and optional accessories separately)

Microscopes & Accessories

1. Light Microscope (Student type, 4x,10x, 40x and 100x (oil), binocular and trinocular with digital camera option and other accessories, camera to be quoted separately)
2. Stereo Zoom Dissection Microscope (min zoom ratio of 5, binocular and trinocular options with optional camera, transmission light illumination base, phase and filter options)
3. Inverted Microscope (binocular and trinocular options with accessories)
4. Research Fluorescence Microscope (Bright field, Dark field, Phase, options for DIC, fluorescence with G, B and UV filters, binocular, and trinocular option, digital/CCD camera (low noise) with real time imaging option, capture rate of more than 10 fps, PC interface and software). Various models with optional items may be quoted separately.
5. Clinical Microscope (Bright field, Dark Field and Phase contrast with accessories)

6. Haemocytometer
7. Micrometer

(Microscopes should be quoted with individual price for binocular, trinocular option. Digital camera/CCD attachments are to be quoted separately with PC interface with complete specifications.)

Incubators

1. CO₂ Incubator microprocessor based (capacity:150 lt or more, air or water jacketed with gas backup system and optional accessories with alarm system),
2. Shaker incubator microprocessor based (Bench type model, both ambient to 50 °C and refrigerated with good temp control, combo platform for 50-500 ml conical flask + tube adapter, 10-300 rpm, preferably programmable with optional accessories),
3. 37° Air incubator (with temp control),
4. Water Bath (circulation type with temp control up to 90°C , capacity 10 lt or higher),
5. Dry bath (temperature controlled, multiple cuvettes),
6. Shaking Water bath (microprocessor based temperature and shaker control along with accessories, around 20 lt capacity)

(Systems are to be quoted with optional accessories separately),

Tissue Culture

1. Laminar flow work station (vertical flow for bioscience applications, working area of 900 x 600 x 600 or similar, with accessories),
2. Liquid nitrogen storage tank (around 7.5 lt capacity with sample storage facilities)
3. 3. Pipette fixed and adjustable volume of different range (0.5-10,2-20,10-100, 20-200 and 100-1000 u lit) autoclavable with stands.
4. Liquid nitrogen carrier, around 3 to 5 lt capacity.
5. Multichannel adjustable volume autoclaveable pipettes (10 –100 ul),
6. Suction pump (100ml – 500ml, oil free),
7. Spirit lamp,
8. Gas burner.

Histological equipments

1. Microtome (Rocking type) with accessories , knives, and sharpener
2. Tissue processor and automatic staining equipment,
3. Cryo microtom Floor model –20 °C

Other Equipments

1. PH Meter (0-14 pH, resoln 0.01 and 0.001),
2. Vortex Mixer,
3. Magnetic Stirrer (100-1400 rpm, 5lt and 10 lit),
4. Dounce Homogenizer, (motor driven, with speed control, along with accessories)

5. Stirrer
6. Oven (SS, up to 250°C, accuracy 0.5°C, T)
7. Ice flaker, with more than 5kg/hr, capacity 100-300 lt
8. Refrigerators (300 Ltr Double door),
9. -20°C Freezer more than 120 litre capacity
9. -40°C Freezer more than 120 litre capacity
10. -80°C Freezer model more than 120 litre capacity.
11. Portable cold room/chamber,
12. Balances (10 gm, 500 gm, front loading),
13. Sonicator,(around 500 Watts, 20 kHz, probes for 250 mic lt to 250 ml with optional temperature control Probe, sound proof box and other accessories)
14. Autoclave (medium size, fully automatic, double body, 15-22 psi, automatic air purging, digital temp control with good accuracy,)
15. Fraction collector with columns

Electrophoresis Systems

1. Complete Electrophoresis Apparatus with all accessories and power packs (Horizontal, Vertical and submarine models)
2. Vacuum evaporator
3. Gel documentation system with accessories.
4. Blotting apparatus with all accessories, both wet and dry model
5. Binoculars Camera (For field work)
6. PCR Machine,
7. Ultra pure water system for molecular biology and other high precision chemical analysis work
8. Double distilled water plant (automated, glass and quartz, 1-5 lit /hr),

Sterile Plastic Tissue Culture Plates (96 Wells,24 Wells, 8 Wells),
 Pipette tips (Different Sizes corresponding to pipettes as above),
 Disposable Gloves,
 Test Tube Racks

Glass and Plastic Wares

Sl. No.	Item		Qty. Reqd.
1	Pipettes	Plastic & Glass	1,2,5,10 and 25ml
2	Beakers	Plastic & Glass	50,100,250,500, and 1000 ml
3	Conical Flasks	Plastic & Glass	25,50,100,250, 500 and 1000ml
4	Measuring Cylinders	Plastic & Glass	50,100,250 and 500ml
5	Volumetric	Flask Glass	50,100, and 250 ml

6	Test Tubes	Plastic & Glass	5 and 10 ml
7	Petri Plates	Different Sizes	
8	Microtiter Plates	Round Bottom	96 Wells,24 Wells and 8 Wells
9	Microtiter Plates	Flat Bottom	96 Wells,24 Wells, 8 Wells and 4 Wells
10	Staining Dish		
11	Coupling Jars		
12	Glass Capillaries		
13	Glass Slides		
14	Cover Slips		
15	Reagent Bottles		100,250 and500ml
16	Scissors		
17	Forceps		
18	Needles		
19	Dissection Boxes		
20	Camel Hair Brushes		
21	Razors		
22	Pipette Cones		
23	Syringes	(Tabrealin)	10, 5, 2 and 1ml
	Hypodermic needles	(Different Gauges)	