

Kanya Maha Vidyalaya (Autonomous) Jalandhar

Department of Food Science Quality Control and Microbiology

List of Equipments

Name of the Equipment : SEMI-AUTO CHEMISTRY ANALYZER

Model Number : BA-88A

Specifications : Light source Tungsten-halogen lamp (6V, 10W) , Filter Interferential filter.6 wavelengths (available): 340nm, 405nm, 510nm, 546nm, 578nm and 630nm.2 wavelengths (optional): 450nm and 670nm. Absorbance range 0~3.0A Readable range 0~3.5A Result resolution 0.001A Reaction container Flow colorimetric pool (32 ul) Reaction temperature 25°C, 30°C, 37°C and room temperature. Result storage capacity No less than 3000 results. Test storage capacity Up to 200 tests information,1000 control results Weight 7kg Dimension 420mm×350mm×158mm (length×width×height) Power supply 100V-240V~ (±10% fluctuation) , 50/60Hz (±3Hz fluctuation) .Input power 140VA

Usage/Application : Laboratory Use

The system consists of the analyzer, built-in microprocessor, popup keyboard, internal printer and LCD screen. This machinery is Semi-Automatic, bench-type that can be used for Laboratory use, research, in-vitro diagnosis, clinical tests, and hospital use. This analyzer consists of an embedded high-speed processor with a built-in thermal printer.

Actual Cost (in Indian Rupees): 1,10,000

Name of the grant under which it is purchased: FIST Program

Scanned Photograph of the Semi-Auto Chemistry Analyzer:



Name of the Equipment : **AUTO HAEMATOLOGY ANALYZER**

Model Number : BC-20

Specifications : CBC +3-DIFF, 19 Parameters (WBC, Lymph#, Mid#, Gran#, Lymph%, Mid%, Gran%, RBC, HGB, HCT, MCV, MCH, MCHC, RDW-CV, RDW-SD, PLT, MPV, PDW, PCT), +3 histograms (WBC, RBC and PLT, Throughput :- 40 samples per hour, Intuitive operation system with 84 inch TFT touch screen.

Usage/Application : Laboratory Use

Impedance method for WBC, RBC and PLT counting, Cyanide free reagent for haemoglobin test. Automated haematology analyzers can rapidly analyze whole blood specimens for the complete blood count (CBC). Results include red blood cell (RBC) count, white blood cell (WBC) count, platelet count, haemoglobin concentration, haematocrit, RBC indices, and a leukocyte differential.

Actual Cost (in Indian Rupees): 270000

Name of the grant under which it is purchased: FIST Program

Scanned Photograph of the Auto Haematology Analyzer:



Name of the Equipment : **UV- VIS SPECTROMETER**

Model Number : **117**

Specifications : Wavelength range 220 to 800 nm, resolution 0.1 nm, accuracy +/- 1nm, repeatability +/- 0.5 nm, Bandwidth 2nm, Photometric range 0-2.5 , accuracy +/- 0.005 A at 1A, repeatability +/- 0.002 A at 1A, stray light less than 0.1% T at 200 to 340 nm.

Usage/Application : **Laboratory Use**

SYSTRONICS UV - VIS SPECTROPHOTOMETER 117 is a micro controller based single beam scanning instrument. It provides three measuring modes: Percent Transmittance (%T), Absorbance (ABS) and Concentration (CONC). The available operating modes are Single-Wavelength, Multi-Wavelength, Spectrum Scan and Time Scan. All measurement results are available on the display except for the Spectrum Scan. A printer prints the scan besides providing hard copy of measurements. RS-232 is optional to enhance data processing ability through PC. This adds features like: spectrum storage/retrieve, Peak-Pick/Valley-Pick/Point Pick, Expansion of spectra, Averaging of scans, subtraction of two scans and Enzyme activity.

Actual Cost when purchased (in Indian Rupees): 1, 10,500

Scanned Photograph of UV- VIS Spectrometer:



Name of the Equipment : **AUTOCLAVE**

Model Number : **NSW-227**

Specifications : Working pressure-2.1kg/Sq.Cm (15 to 22 P.S.I), Design pressure- 2.2 Kg/Sq.Cm, Working Temperature- 121C at 15P.S.I, Electric Supply 220V/440V AC, Connected Load- 3 to 6 KW Max.

Usage/Application : Laboratory use (to sterilize media and lab ware)

Approximate sterilizer (exposure) period at 121 C temperatures or 15 P.S.I. is as under:

Culture media for microorganisms, glass petriplates, solutions (aqueous) or other lab ware for 15-20 minutes.

Actual Cost when purchased (in Indian Rupees): 74,080

Scanned Photograph of Autoclave:



Name of the Equipment : **BINOCULAR OLYMPUS MICROSCOPE**

Model Number : **CH20iBIMF**

Specifications : Optical Tube: Binocular Battery Backup: 6 to 8 hrs back-up on full charge Power Supply: 100-240 V Fine Focus Range: 0.2 mm Long Life: 30000 hrs Mechanical Stage: Co-axial low drive mechanical Stage (125mm x 145mm) with traverse area of 50mmx76mm (+/- 5mm) Lamp: 6V 20W halogen lamp (x2) Objective: 4x, 10x, 40x, 100x Eye Pieces: WF 10x (FN 20mm)

Usage/Application : Laboratory use

This Instrument used to magnify small objects. It is used to observe different microorganisms allowing students to see the shape of different microbial cells.

Actual Cost when purchased (in Indian Rupees): 31,240

Scanned Photograph of Binocular Olympus Microscope:



Name of the Equipment : **LAMINAR AIR FLOW**

Usage/Application : For laboratory use

It creates a controlled and clean workspace that helps protect the cell cultures from potential contamination. The controlled flow serves as a protective shield ensuring that the cell cultures remain uncontaminated.

Actual Cost when purchased (in Indian Rupees): 29,750

Scanned Photograph of Laminar Air Flow:



Name of the Equipment : **DRYING OVEN**

Specifications : Double walled, Digital temperature controller-cum-Indicator, Temperature controlled by thermostat with dial type thermometer, Forced air blower, Chamber MS, Dimension: Chamber Size (HxWxD) –(1500x900x900)mm, (60’’x36’’x36’’) inches.

Usage/Application : Laboratory Use

Drying Ovens are used for Drying and dehydrating foods. Drying items in these ovens improves their quality by preserving, preparing and extending their shelf life, contributing significantly to food safety and convenience.

Actual Cost when purchased (in Indian Rupees): 54,200

Name of the grant under which it is purchased: FIST

Scanned Photograph of Drying Oven:



Name of the Equipment : **HUMIDITY CABINET**

Specifications : Temperature 5 °C above ambient to 60°C, humidity 30-90%, Hygrometer (Humidity Indicator), Digital Temperature Controller-cum-Indicator, Microprocessor PID digital temperature Indicator-cum-Controller, Automatic electronic controller with digital display for Temperature & Humidity combined.

Usage/Application : Laboratory Use

Humidity Cabinets are used to test the capacity of food products to retain their quality when they get exposed to different climatic conditions like high temperatures and humid conditions. The control of relative humidity is critical in food as high humidity levels can promote bacterial growth and spoilage of food products, while low humidity levels can cause products to dry out and lose flavour.

Actual Cost when purchased (in Indian Rupees): 44,700

Scanned Photograph of Humidity Cabinet:



Name of the Equipment : **HOT AIR OVEN (Digital oven)**

Model Number : PLT-125

Specifications : Temperature Range 50°C to 250°C, Temperature is controlled by electronic digital temperature indicator cum controller from 50°C to 250°C ± 1°C fitted on the front panel for easy operations. Temperature Controller- By Microprocessor Based PID Digital Temperature Indicator cum Controller, Temperature is displayed by Digital LED with SV and PV display at front of the oven, Air Circulation- By forced convection system by motor & blowers fitted ensures good mixing, strong dispersion and maintains higher temperature uniformity inside the chamber & no cross contamination, Outer chamber is made of Mild Steel duly powder coated, Inner chamber made of aluminium or stainless steel sheet, has ribs for placing the shelves at convenient levels, Operating Voltage: 220 Volts AC (50 Hz).

Usage/Application : Laboratory Use

Hot Air Oven serves as versatile and essential tools in food laboratory, aiding in various experiments, tests and analyses related to food quality, safety, preservation, research and development. These are used to sterilize laboratory equipment, glassware and utensils to eliminate microbial contamination, ensuring aseptic conditions for food testing and experimentation. They facilitate the drying of various food samples, allowing moisture removal to analyse moisture content accurately or to prepare samples for further testing.

Scanned Photograph of Hot Air Oven:



Name of the Equipment : **WHEAT MILLER**

Specifications : Motor Power- 1 HP, Power Consumption- 0.75 Units/Hr, Operation Mode- Automatic, Material of Construction (Contact) - Stainless Steel

Usage/Application : Laboratory Use (Processing of wheat into flour)

Scanned Photograph of Wheat Miller:

