

## DETAIL OF EQUIPMENT IN MAJOR EXISTING LABORATORIES/ WORKSHOPS

Workshops and laboratories are fully equipped with the latest state-of-the-art equipment, tools, instruments, apparatus and hand tools.

### 1. Material Testing Workshop

The present material testing consists of two separate workshops:

#### i). Major Pieces of Equipment for Destructive Testing Workshop:

-	Universal testing machine	01 No.
-	Fatigue testing machine	01 No.
-	Torsion testing machine	01 No.
-	Impact testing machine	01 No.
-	Vickers Hardness testing	01 No.
-	Rockwell Hardness tester	01 No.
-	Brinall Hardness tester	01 No.
-	Scratch and micro-hardness tester	01 No.
-	Shore Hardness tester	01 No.
-	Disc grinder and polishing machine	01 No.
-	Drill press bench type	01 No.
-	Grinder Bench type	01 No.
-	Hand Tools and Measuring Instruments	1 Lot.

#### ii). Major Pieces of Equipment for Non -Destructive Testing Workshop:

-	Metallurgical microscope	01 No.
-	Measuring microscope	06 Nos.
-	Toolmaker microscope	06 Nos.
-	Ultrasonic flow detector	01 No.
-	Alloy analyzer	01 No.
-	Profile Projector	01 No.
-	Electronic Comparator	01 No.
-	Hand Tools and Instruments	1 Lot.

### 2. Mechanical Production Workshop

Major Pieces of Equipment for Mechanical Production Workshop:

-	Lathe Machines	03 Nos.
-	Horizontal milling	01 No.
-	Vertical milling	01 No.
-	Gear Hobbing	01 No.
-	Jig Boring	01 No.
-	Copy milling	01 No.
-	Cylindrical Grinder	01 No.
-	Surface Grinder	01 No.
-	Shaper machine	01 No.
-	Bending machine	01 No.
-	Sheet cutter	01 No.

-	Rolling Machine	01 No.
-	Beading machine	01 No.
-	Eccentric press	01 No.
-	Are welder	02 Nos.
-	TIG, MIG, Spot, welder	01 each
-	CNC lathe Machines	02 Nos.
-	Drill Machines:	
	i) Bench type	01 No.
	ii) Pillar type	01 No.
-	Grinders:	
	i) Pillar type	01 No.
	ii) Bench Type	01 No.
-	Power heck saw	01 No.
-	Pipe and thread cutting machines	02 Nos.
-	Measuring Instruments	01 Lot
-	Wood working lathe	01 No.
-	Circular saw and Band Saw	01 No. each
-	Hand Tools and Instruments	1 Lot..

### 3. Civil Technology Laboratory

#### Major Pieces of Equipment for Civil Technology Lab:

-	Vicar	1 No.
-	Slum test Apparatus	1 No.
-	Seine shaker	1 No.
-	Seine salts	1 No.
-	Concrete mixer	1 No.
-	Compression testing machine	1 No.
-	Aggregate impact testing machine	1 No.
-	Los angles abrasion machine	1 No.
-	Soil automatic compaction apparatus	1 No.
-	Liquid limit device	1 No.
-	Theodolite	1 No.
-	Level	1 No.
-	Amby level	1 No.
-	Bos sextant	1 No.
-	Flow channel	1 No.
-	Hydraulic bench	1 No.
-	Impact jet apparatus	1 No.
-	Venturi meter	1 No.
-	Axial flow pump turbine	1 No.
-	Drafting machine with stand	6 Nos.
-	Drawing instruments set.	1 Lot.
-	Hand Tools and Instruments	1 Lot.

#### 4. Process Instrumentation/Chemical Laboratory

The following equipment is available in the lab:

- Air purge Set	1 No.
- Analog Volt Meters	1 Lot.
- Current to pneumatic converter	2 Nos.
- Air Compressor with accessories	1 Set.
- Analog to Digital Converter	2 Nos.
- Dead weight tester	1 No.
- Differential Pressure thermometer	1 Lot.
- Digital Hygrometer	1 No.
- Digital Volt meter	1 Lot.
- EMP to voltage converter	2 Nos.
- Filter Pressure regulator	2 Nos.
- Plate distillation column- complete unit	1 No.
- P.H. control system	1 Set.
- Engine speed control system	1 Set.
- Heat transfer bench	1 No.
- Optical pyrometer	1 No.
- Microprocessor based system	1 No.
- Programmable logic controlling system	
- Different types gauges	1 Lot.
- Power distributor	1 Lot.
- Pneumatic calibrator	2 Nos.
- Pneumatic strip chart recorder	2 Nos.
- Pneumatic differential pressure transmitter	1 No.
- Pneumatic indicating controller	1 No.
- Different types of control valve and actuators	1 Lot.
- RTD to voltage converter and recorder	1 Set.
- Different types of manometers	1 Lot.
- Hand Tools and Instruments	1 Lot.

#### 5. Electrical Laboratory

- Electrical Test Benches	3 Nos.
- Relays (Electronic, Digital and Electromagnetic)	1 Lot.
- Industrial Relays	1 Lot.
- Sequential Relays	1 Lot.
- Test Equipment HT & LT	1 Lot.
- A/C & D/C Motors	1 Lot.
- A/C D/C Motor starters and controls	1 Lot.
- Power Generator Test Equipment	1 Set.
- Power Distribution Test Equipment	1 Set.
- Power System Simulator	1 Set.
- Power Electronics	1 Set.
- Test benches	
a. Power Supply Panels	

- b. Motor Controls
- Motor Winding Equipment 1 Set.
- Temperature Controlled Electric Oven 1 Set.
- Power Transmission Simulators 1 Set.
- Hand Tools and Instruments 1 Lot.
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**6. Auto & Diesel Workshop**

- Chassis dynamometers/Brake Tester 1 No.
- Diesel fuel injection pump tester 1 No.
- Nozzle pump test 1 No.
- Nozzle testing machine 1 No.
- Cylinder boring bar 1 No.
- Cylinder precision boring machine 1 No.
- Brake lining machine 1 No.
- Connecting rod alignment tester and stringing 1 Set
- Variable compression engine test bed 1 No.
- Pneumatic governor tester 1 No.
- Gasoline engine diagnostic tester 1 No.
- Electronic wheel balancer 1 No.
- Tyre & tube Vulcaniser 1 Set.
- Petrol Engine Test Bed 1 No.
- Diesel Engine Test Bed 1 No.
- Vacuum analyzer & fuel pump tester 1 No.
- Exhaust gas analyzer 2 Nos.
- Electrical multi tester 1 Set.
- Pressure tester 1 No.
- Hand Tools and Instruments 1 Lot.
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**7. Refrigeration & Air-Conditioning Laboratory**

- Absorption Refrigeration Trainer 1 No.
- Air Conditioning Bench 1 No.
- Air Conditioning Bench with pre-conditioner 1 No.
- Air-cooled Condensing Unit 1 No.
- Air to water Heater Transfer Apparatus 1 No.
- Air to water Heat Transfer Trainer 1 No.
- Automotive Air Conditioning Trainer 1 No.
- Bench Cooling Tower 1 No.
- Vapour Compression Rankine Cycle 1 No.
- Contact Plate Freezer 1 No.
- Cross-flow Heat Exchange 1 No.
- Direct Expansion Coil Heat Transfer Element 1 No.
- Environment Control Apparatus 1 No.
- Centrifugal Fan test set 1 No.
- Finned Tube Liquid/Air Heat Transfer Element 2 Nos.
- Heat transfer apparatus 1 No.

-	Multi-purpose Air Duct	2 Nos.
-	Plain Tube Liquid/Air Heat Transfer Element	2 Nos.
-	Refrigeration Unit	1 No.
-	Trainer on the Domestic Refrigerator	1 No.
-	Hand Tools & Instruments	1 Lot.

## 8. Electronics Laboratory

-	Communication Boards	1 Set.
-	First 5 volume of Lab-volt equipment	1 Set.
-	Oscilloscopes	1 Lot.
-	Signal Generators	1 Set.
-	Function Generator	1 Set.
-	Pattern Generator	1 Set.
-	Power Supplies	1 Lot.
-	16 & 32 bit microprocessor trainer	1 Set.
-	Microwave Antenna trainers	3 Set.
-	Optical electronics devices	1 Set.
-	Artificial telephone line	1 Set.
-	Digital exchange	1 Set.
-	Digital Trainers	1 Set.
-	Wave guide & Transmission Line Trainers	1 Set.
-	Satellite trainer	1 Set.
-	Bio-Chemical instruments	1 Set.
-	Pressure and Temperature control	1 Lot.
-	TV Antenna installations	1 Set
-	Printed Circuit Board Apparatus	1 Set
-	Hand Tools & Instruments	1 Lot.

## 9. Chemistry Laboratory

### i) Major Chemistry Glass Ware Equipment

- Test tubes
- Glass Jars
- Thistle funnel
- Winchester bottles
- Beakers, 35ml, 100ml, 200ml, 500ml.
- Conical flask 100ml, 1000ml,
- Volumetric flask
- Glass tubing
- Watch glass
- Graduated cylinders
- Funnels round bottom flask.
- Simple physical balance]
- Spirit lamps
- Distillation plant
- Four-hood Apparatus

**ii) Chemicals**

- Nitric Acid
- Hydro-chlorine acid
- Sulphuric acid
- Xylem
- More than 20 Chemicals of different types

**10 Biology Laboratory**

- Microscope HG 21470
- Microscope Simple
- Microscope Dissecting
- Magnifying Lens
- Petty Dishes
- Dissecting Boards
- Dissecting Instruments
- Funnels
- Droppers
- Stop Watches
- Slides Boxes
- Cover Ships
- Stands, Tripods
- Permanent Stationed Sliders Box
- Test Tubes
- Plant Press Steel Wood Frame
- Thermometers
- Temperature controlled Ovens
- Clinostat For Demonstration of Heliotropism
- Dark Chambers Demonstration Of Experiment In Photo prism
- Photometer Ganongs For Demonstration of Transpiration
- Centro Gron Balance
- Digital Balance
- Triple Bean Balance
- Incubators
- Electric Centrifuge
- Water Bath Test Tube Rack
- Watch Glass
- Petridishes

**11. Physics Laboratory**

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|------------------------------------|---------|
| - Circuit board accessories        | 03 Set. |
| - Circuit kit                      | 02 Nos. |
| - Coil for demountable transformer | 03 Nos. |
| - Coil 25 Turns                    | 02 Nos. |
| - Current Balance Westminster type | 02 Nos. |

-	Electric Field	01 No.
-	Dynamo Assembly with lamp	02 Set.
-	Electrophoreses D metal	01 No.
-	Electrophoreses Student small	06 Nos.
-	Electrostatic pith ball set	06 Nos.
-	Axial Search coil	02 Nos.
-	Electric meters	13 Nos.
-	Compass plotting	12 Nos.
-	Magnetic Bar Alnico (75x15x10mm)	06 Nos.
-	Magnet bar (150x15x10mm)	12 Nos.
-	Magnet Bar 150x15x7mm)	06 Nos.
-	Magnet Horse show (45x35)	02 Nos.
-	Oersted Law apparatus	03 Nos.
-	Solenoid Magnetizing and demagnetizing	03 Nos.
-	Magnet needle with stand	02 Set.
-	Double C core and Clip	05 Set.
-	Van de Graff Generator (With connect Conductor)	01 Set.
-	Whetstone bridge (post office)	03 Nos.
-	Rheostat	16 Nos.
-	Electronic Circuit kit	06 Set.
-	Electroscope	06 Set.
-	Electronics digital kit	03 Set.
-	Electrical Digital Training Kit	02 Set
-	Large Electrolytic capacitor	01 No.
-	Parallel plate capacitor	01 No.
-	Pair of capacitor plate	02 Set.
-	Reed Switch	01 No.
-	Resistance Boxes	02 Set.
-	Capacitance Substitution Box	01 No.
-	Capacitance Decade Box	01 No.
-	Resistance Board (Demonstration set)	04 Nos.
-	Resistance Coil	05 Nos.
-	Resistance Set	01 No.
-	Whetstone Bridge	08 Nos.
-	Power supply (variable)	02 Nos.
-	Transformer, Lamp house Kit	02 Nos.
-	Silicon Diode	01 No.
-	A. C. and semi conductor exp. Kit	01 No.
-	Tubes (crooks, Magnets)	02 Nos.
-	Concave Mirror	06 Nos.
-	Convex Mirror	06 Nos.
-	Diffraction Spectroscope	03 Nos.
-	Glass Block Rectangular	24 Nos.
-	Lenses Holder	06 Nos.
-	Mirror Plane	12 Nos.
-	Lenses Holder	06 Nos.

-	Prisms glass	04 Nos.
-	Perplex block	06 Nos.
-	Tuning Forks	01 No.
-	Slit Plate Metal	06 Nos.
-	Periscope Model	06 Nos.
-	Pinhole camera kit	03 Nos.
-	Set of spectrum tubes	03 Nos.
-	Tubes (argon etc.)	08 Nos.
-	Spectrometer	03 Nos.
-	Ball Bearing (6mm)	01 No.
-	Callipers Gauge	12 Nos.
-	Hanger and Masses	06 Nos.
-	Micrometer screw gauge (0.25mm)	12 Nos.
-	Pulley single (plastic frame)	09 Nos.
-	Son meter simple	06 Nos.
-	Slinky Helical spring (Steel wire)	06 Nos.
-	Stroboscope	06 Nos.
-	Brownian Motion Apparatus	02 Nos.
-	Dynamic Irollies	26 Nos.
-	Free Fall Apparatus	02 Nos.
-	Ticker timer acceleration kit	10 Nos.
-	Run Way 2 Meter long for T.T.T.	10 Nos.
-	Linear Expansion Apparatus	03 Nos.
-	Linear Air Track	01 No.
-	Tape Roll	10 Nos.
-	Power Supply for T.T.T.(Step down transformer)	10 Nos.
-	Battery Dray Cell (6V)	18 Nos.
-	Battery Charger (6-12V)	01 No.
-	Battery Holder for 2D Size	10 Nos.
-	Test Clip alligator	10 Nos.
-	Oscilloscope (0C215) 15MHZ	05 Nos.
-	Signal Generator (FD 4)	01 No.
-	Meter, Electric, demonstration	01 No.
-	Electrode. Carbon round (150x6mm)	12 Nos.
-	Electrode, Copper flat 90x37mm	12 Nos.
-	Electrode, Zinc Flat, 90x37mm	12 Nos.
-	Accumulator, lead cell (6V)	05 Nos.
-	Accumulator, Lead Cell (12V)	10 Nos.
-	Charger Order (NOFW 40d)	05 Nos.
-	Meter Joule, and watt meter	01 No.
-	Meter Electric, Multimeter	03 Nos.
-	Voltmeter, Electric	05 Nos.
-	Bulbs (1.6V, 0.25A Torch)	14 Nos.
-	Bulbs (6V, 10W)	20 Nos.
-	Bulbs (3.5V, 0.3A, Torch)	10 Nos.
-	Bulbs (12V, 10W)	20 Nos.

-	Bulb Holder (5V)	10 Nos.
-	Bulb Holder, 12 V	10 Nos.
-	Fuses for electrical equipment	02 Nos.
-	Power supply, (SP Type)	13 Nos.
-	Hydrometer	03 Nos.
-	Calorimeter	06 Nos.
-	Latent heat of steam apparatus	02 Nos.
-	Steam Generator	02 Nos.
-	Specific Heat cylinder	02 Nos.
-	Thermostat	04 Nos.
-	Stirrup	06 Nos.
-	Ring and ball apparatus	06 Nos.
-	Specific Gravity Bottle	12 Nos.
-	Joules Calorimeter	02 Nos.
-	Compound bar	06 Nos.
-	Oscilloscope Type Model 2120	01 No.
-	Alpha Scattering Analogue Apparatus, ball, Gun	01 No.
-	Barometer	02 Nos.
-	Bounden Gauge	01 No.
-	Modules Apparatus	01 No.
-	Motor Solar Cell Unit	01 No.
-	Photo Voltaic Cell (Solar cell)	01 No.
-	Sphere meter	01 No.
-	Telescope Model (Astronomical)	01 No.
-	Convection in Air Apparatus	06 Nos.
-	Diffusion Cloud Chamber	01 No.
-	Light Source for cloud Chamber	01 No.
-	Laser Accessories Kit	01 No.
-	Laser helium neon	01 No.
-	Laser Accessories kit (com box)	01 No.
-	Expansion of Liquid Apparatus	02 Nos.
-	Radio Active source	01 No.
-	Spectrum Tube Power supply	03 Nos.
-	Spectra Lamp sodium	03 Nos.
-	Transformer Lamp house kit	02 Nos.
-	Deflection e/m tube	02 Nos.
-	Geiger Muller tube	01 No.
-	Ammeter electric	05 Nos.
-	Micrometer electric	05 Nos.
-	Galvanometer electric (eme142)	05 Nos.
-	Galvanometer electric	05 Nos.
-	Voltmeter electric (Transfer ED)	01 No.
-	Dry Battery (6V)	18 Nos.
-	Battery, Tester (Hydrometer)	02 Nos.

**12 Computer Laboratories (6 Nos.)**

-	File server	3 Nos.
-	Terminals	120 Nos.
-	Printer Dot Matrix	10 Nos.
-	Laser B&W	10 Nos.
-	Inkjet Colour Printer	2 Nos.
-	Plotter	1 No.

**13. Drafting Laboratory**

-	Magnetic type Drafting Boards	20 Set
-	Templates of various types and sizes	01 Lot.
-	Engineering, and Architecture scales	01 Lot.

**14. Computer Aided Drafting (CAD) Laboratory**

-	File server	01 No.
-	Terminals	20 Nos.
-	Laser B&W	01 No.
-	Digitiser	01 No.
-	Inkjet Colour Printer	01 No.
-	Plotter	01 No.
-	Colour Scanner	01 No.

**15. Computer Aided Engineering (CAE) Laboratory**

-	File server	01 No.
-	Terminals	20 Nos.
-	Laser B&W	01 No.
-	Inkjet Colour Printer	01 No.
-	Plotter	01 No.
-	Colour Scanner	01 No.

**16. Computer Integrated Manufacturing Laboratory**

-	Educational CIM Lab., manufactured by Feedback, UK	
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**17. Tech Prep Lab**

-	Electric Power Hack Saw	01 No
-	Welding Transformer	02 Nos
-	AC DC Rectifier	01 No
-	Portable Linear Gas Cutter	01 No
-	Black Smith Anvil	02 Nos
-	Portable Circular Gas Gutting	01 No
-	Combine Universal Wood Working Machine	02 Nos

- Band Saw 01 No
- Wood Turning Lathe 01 No
- Lathe Machine 06 Nos.
- Horizontal Milling Machine 02 No.

**18 Audio Video Production Lab**

The Audio Video Production Lab is equipped with all types of latest Audio Video recording, dubbing and copying equipment and teaching aids, required for formal, Informal (E-learning CBT) and micro-teaching, etc.