



**AKS University, Satna**  
**Faculty of Agri. Sci. & Technology**  
**Department of Agri. Engineering & Food Technology**

Sherganj, Panna Road, Satna (M.P.) Pin 485001  
 Telephone No.: 08889537776 Extn. 262, Website: [www.aksuniversity.ac.in](http://www.aksuniversity.ac.in)

**Tractor and Power lab**

Sr. No.	Name of Equipment
1	Tractor
2	Power Tiller
3	Work bench
4	Grinder
5	Air compressor
6	Mechanical jacks
7	Tool kits with box (having tools: Ellen key set, Open end spanner set, Pliers, Nose pliers, Circlip pliers)
8	Welding machine
9	Feeler gauges
10	Piston ring expander
11	Piston ring compressor
12	Plastic mallet
13	Weighing balances ( mechanical and digital )
14	Oil pans
15	Grease gun
16	Bearing puller
17	Nozzle compression tester
18	Cylinder pressure gauge
19	Battery charger
20	Anvil
21	<b>Cut sections of:</b>
	• Tractor
	• Single cylinder engine
	• Multi cylinder engine
	• Air cleaner
	• Gear box
	• Differential
	• Battery
	• Fuel injection pump
22	<b>Models of:</b>
	• Electrical system
	• Lubrication system
	• Cooling system
	• Tractor hydraulic system



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23	<b>Engine for dismantling</b>
24	Display boards:
	• Fuel feed pumps
	• Oil pumps
	• Types of pistons
	• Fuel injection pumps



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**Farm Machinery Lab**

Sr. No.	Name of Equipment
1	Mould board plough
2	Soil Conditioner
3	Rotary tiller
4	Cultivator
5	Seed-cum fertilizer drill
6	Inclined plate planter
7	Vertical conveying reaper
8	Wheat thresher
9	Paddy thresher
10	Multicrop thresher
11	Hand tools including Khurpas, Sickles, spades, Scythe
12	Set of animal drawn implements : disc harrow and cultivator
13	Models of <ul style="list-style-type: none"><li>• Mould board</li><li>• Standard disc plough</li><li>• Oneway plough</li><li>• Different types of disc harrows</li><li>• Different types of agricultural discs</li><li>• Furrow openers</li><li>• Seed metering mechanism</li><li>• Seed drill calibration set-up</li><li>• Cutter bar cut section</li><li>• Tangential flow thresher</li><li>• Axial flow thresher</li><li>• Knap sack sprayer</li><li>• Sprayer nozzles</li><li>• Set of manually operated sprayer &amp; dusters</li></ul>
18	Hot air oven
19	Mechanical sieve shaker



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**Soil & Water Conservation Lab**

Sr. No.	Name of Equipment
1	Rain Gauge
2	50 kg capacity Weighing Balance
	1 kg capacity electronic balance
3	Models of Soil Water Conservation Structures ( Drop Spillway, Chute Spillway and Drop Inlet Spillway )
4	Stage Recorder
5	Coshocton Wheel runoff sampler
6	Multi slot runoff sampler
7	H flume, Hydraulic Flume and Parshall Flume



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**Irrigation and Drainage Lab**

Sr. No.	Name of Equipment
1	Oven
2	Tensiometer
3	Electrical Conductivity Meter
4	Distillation apparatus
5	Sprinkler Irrigation System (for one acre area)
6	Drip Irrigation System (for One acre area)
7	Double Ring Infiltrometer
8	pH Meter
9	Water Quality Testing Kit
10	Moisture Boxes
11	Augers
12	Current meter
13	Darcy Apparatus
14	Porous cup & Measuring Flask
15	Sieve shaker
16	Filters & Strainers
17	Cut section of centrifugal pump, submersible pump and Turbine pump
18	Positive displacement pump (Hand Pump)
19	Water level Indicator
20	Tachometer
21	Pump Testing Rig
1	Diesel Engine with Centrifugal Pump
2	Submersible Pump
3	Weather Station
4	Irrigation Water Measuring Devices (V-Notch, Parshall Flume, H-Flume, Orifice Plate)
5	Hydraulic Ram
6	Underground Pipeline system



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**Food Quality Analysis Laboratory**

Sr. No.	Name of Equipment
1	Weighing Balance
2	Autoclave
3	Blender
4	Centrifuge
5	Colony Counter
6	Desiccator
7	Heating Mental
8	Heating Plate
9	Manual Hand Juicer
10	Incubator
11	Induction
12	Kjeldahal Distillation Unit
13	Laminar Air Flow Chamber
14	Muffle Furnace
15	Moisture Analyzer
16	Milk Analyzer
17	Magnetic Stirrer
18	Microscope (Optical)
19	Refractometer
20	Cooking Thermometer
21	Water Bath
22	Vaccum Oven
23	Vortex Mixer
24	Vegetable Cleaner
25	Vernier Calliper
26	Refrigerator
27	Penetrometer
28	Garber Centrifuge
29	Cooling Centrifuge
30	Work Purity Bench
31	Weighing Scale
32	Bomb Calorimeter
33	Hot Air Oven



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**Food Engineering Laboratory**

Sr. No.	Name of Equipment
1	Weighing Balance
2	Texture analyzer
3	Apparatus for angle of repose, coefficient of friction measurement, anemometer, nitrogen analyzer
4	Apparatus for measurement of properties of milk and milk products
5	BoD incubator, ,
6	Seed germinator,
7	Autoclave
8	Mini Oil Expeller
9	Refrigeration and freezing tutor
10	Fruit penetrometer
11	Plate heat exchanger
12	Soxlet apparatus,
13	Boiler



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**Process Engineering Laboratory**

Sr. No.	Name of Equipment
1	Moisture meter
2	Hammer Mill
3	Bur Mill (Vertical & Horizontal Plate Type)
4	Aspirator Column
5	Vibratory Screen Cleaner With Aspirator
6	V – Mixer
7	Tyler Sieve Set
8	Manual sieve set
9	Ro – Tap Shaking Machine
10	Indented cylinder grader
11	Pneumatic Grader
12	Illuminated Purity Table





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**Agricultural Structures & Environmental Control Laboratory**

Sr. No.	Name of Equipment
1	Weighing Balance
2	Digital Thermo-hygrometer with data logger
3	Wet & Dry bulb Thermometer
4	Anemometer
5	Lux meter
6	Solar power meter
7	Muffle Furnace
8	Hot air Oven
9	Thermal conductivity apparatus
10	Thermal diffusivity apparatus
11.	Water Quality Test Kit



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**Renewable Energy Lab**

Sr. No.	Name of Equipment
1	Hot air oven
2	Muffle Furnace
3	pH meter
4	Bacteriological Incubator
5	Autoclave
6	Atomic Absorption Spectrophotometer
7	High Performance Liquid Chromatograph
8	Portable Gas Analyser
9	Glassware and chemicals
10	Models and cut-section of Fixed Dome and floating drum Type Biogas Plants 1
11	Biomass Gasifier Model
12	Thermo Gravimetric Analyser
13	Bomb Calorimeter
14	Biomass Pyrolyser
15	Moisture analyser
16	Fuel Cell Model and Testing kit
17	MHD Model
18	Biogas Engine Generator set and Testing Rig
19	Bio-diesel based engine Testing Rig
20	Improved Cook stoves Model and Testing set up
21	Solar Cooker - Box Type and Concentrating type
22	Solar Water Heating System 100-125 lpd - Flat Plate Collector and Evacuated Tube Collector Type
23	Natural Convection Solar Dryer - 5 kg capacity
24	Solar Photovoltaic panel



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25	Solar PV Testing kit
26	Atomic Absorption Spectrophotometer
27	High Performance Liquid Chromatograph
28	Gas Analyser
29	Glassware and chemicals
30	Solar Data Logger
31	Solar Radiations Measurement Equipments
32	Solar Thermal Testing kit
33	Solar Pump Demonstration Unit
34	Wind Turbine model
35	Cut model of Aero-generator
36	Wind Mapping Software
37	Automatic Weather Station



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**Physics Lab**

Sr. No.	Name of Equipment
1	Photocell kit
2	Energy Band Gap kit using PN Junction diode
3	Hysteresis curve (BH curve) set-up including CRO
4	Induced emf study (with simple harmonic motion of magnet fitted on semi-circular arc) as a function of velocity
5	Specific charge (e/m) set-up by Helical method
6	Desauty Bridge set-up including oscillator, diode etc
7	Carey Foster Bridge set-up including resistance boxes, resistance coils, galvanometer, jockey, connecting wires etc.
8	Electrical vibrator apparatus including weight box, pulley etc
9	Magnetometer (Stewart & Gee Tangent galvanometer) set-up with battery, reversing key, rheostat etc.
10	Probe kit



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### Chemistry Lab

Sr. No.	Name of Equipment
1	Viscometer
2	Stalagomometer
3	Refractrometer
4	Spectrophotometer
5	Plarimeter
6	FT-IR Spectroscopy
7	Fuel properties measuring apparatus : bomb calorimeter, gas calorimeter, flash and fire point apparatus, cloud point apparatus, etc



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Sr. No.	Name of Equipment
1	Venturimeter and an orifice meter setup
2	Bernoulli's Theorem Apparatus
3	Different vanes for measuring impact of water jet
4	Mouthpiece to determine the coefficient of discharge
5	Triangular and rectangular notches arrangement
6	Meta-centric height Apparatus
7	Pipes friction apparatus
8	Current meter



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Sr. No.	Name of Equipment
1	Wood Working Machine
2	Bend Saw (Small)
3	Wood Working Lathe
4	Wood Working Bench
5	Black Smith Hearth
6	Power Hammer
7	Work bench
8	Fitter's Table
9	Surface Plate
10	Power Hacksaw
11	Bench Grinder
12	Arc Welding Machines
13	Gas Welding Equipment
14	Resistance Welding Machine
15	Work Table
16	Shear (Manually Operated)
17	Bench Grinder
18	Cupola (Small Size)
19	Crucibles
20	Lathe
21	Shaper
22	Universal Milling Machine
23	Bench Drilling Machine
24	Radial Drilling Machine
25	Bench Grinder
26	Work Bench
27	Surface Plate
28	Power Hacksaw



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Sr. No.	Name of Equipment
1	Set up for determination of the coefficient of performance of vapour compression refrigeration system
2	Set up for determination of the coefficient of performance of vapour absorption (electrolux) refrigeration system
3	Set up for determination of humidifying efficiency
4	Set up for determination of dehumidifying efficiency
5	Set up for determination of the coefficient of performance of a domestic refrigerator
6	Set up for determination of the coefficient of performance of air conditioning system