

5 RESEARCH RESOURCES

THE NATURE OF RESEARCH

University research primarily emphasizes experimental investigations over theoretical concepts, as experimental research is often regarded as more practical and reliable. This focus on practicality highlights the importance of producing tangible outcomes and real-world solutions.

Beyond academia, research is an integral part of daily life. Whether making significant decisions like purchasing a car, selecting a book, or choosing a job, school, or college, individuals engage in continuous research. This process involves gathering information, analyzing options, and evaluating data to make informed choices. The universal nature of research underscores its vital role in both academic discovery and everyday decision-making, ensuring optimal outcomes across various aspects of life.

Research plays a crucial role in expanding knowledge and developing critical skills. Key aspects of research include investigating and understanding new information, forming informed opinions based on findings, engaging in discussions with scholars, and effectively utilizing primary and secondary sources. Through research, individuals gain a broader foundation for thinking and writing, allowing them to develop expertise beyond their daily experiences. The process cultivates essential skills such as critical questioning, data collection and interpretation, analytical reading, and evaluating conflicting evidence. By mastering these skills, researchers not only become experts in their chosen fields but also enhance their ability to make well-informed decisions in various aspects of life. Moreover, documenting and sharing research findings fosters credibility and encourages intellectual discourse, further contributing to knowledge advancement.



MAJOR RESEARCH FACILITIES AT RABINDRANATH TAGORE UNIVERSITY

CIVIL ENGINEERING

- | | |
|---------------------------------------|--|
| • Los Angels Abrasion Testing Machine | • Briquette Testing Machine |
| • Marshall Stability Testing Machine | • Aggregate Crushing Test Apparatus |
| • Ductility Testing Machine | • Aggregate Impact testing Machine |
| • Benkelman Beam Appratus | • Rebound Hammer |
| • Flexural testing machine | • Casagrandes Appratus |
| • Conctere mixers | • CBR Testing App (Electrically) |
| • Compaction Factor Testing Appratus | • Modified Proctor test (Heavy Compaction) |
| • Compression Testing Machine | • Permeability test falling head |



MECHANICAL ENGINEERING

- | | |
|-------------------------------------|-----------------------|
| • Variable compression Ratio Engine | • Milling Machine |
| • CNC Machine | • Refrigeration Units |
| • Lathe machines | • Compressors |
| • Drilling Machines | • Softwares |



ENERGY SCIENCE

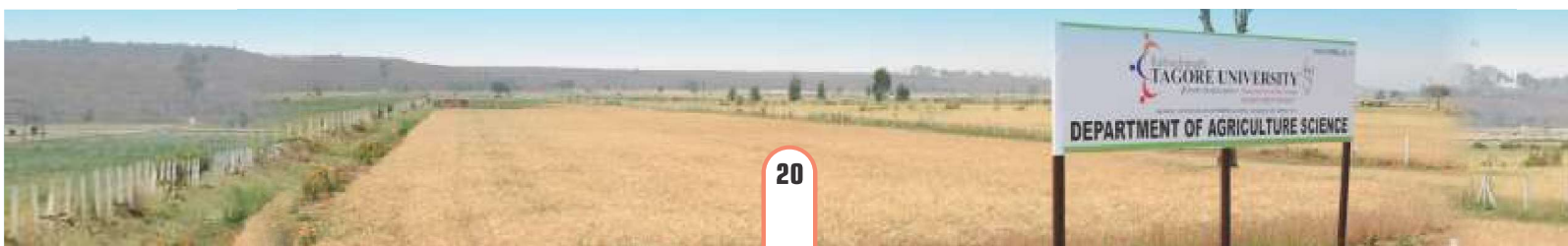
- | | |
|--------------------------------|---|
| • Solar Thermal Test setup | • Complete PCB Design & Fabrication Lab |
| • Wind Research Test setup | • Lab view - 2017 |
| • Solar PV Research System | • MATLAB - 2017 |
| • Spectrum Analyzer | • Scilab - 6.0.0 |
| • Digital storage oscilloscope | • Novarm Diptrace - 3.1.0.1 |
| • Variable DC Power Supply | • Keil Microvision - 4.0 |
| • Function GeneratorLux-Meter | |

- Arduino - 1.8.3
- AVR Studio - 4.0
- Designsoft TINA Pro - V.9
- Xilinx ISE - 14.1
- Ansys - 15.0
- CATIA (2018)
- Mentor Graphics Model Sim - 10



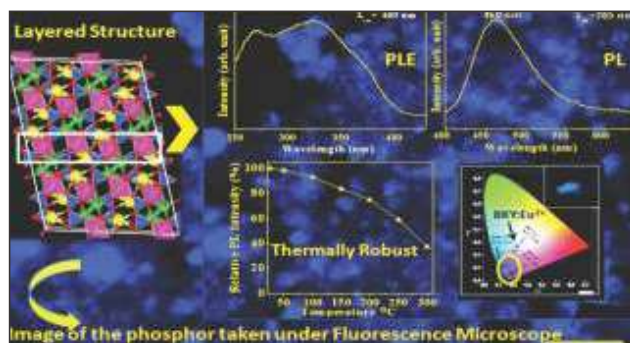
AGRICULTURE SCIENCE

- Automatic seed/grain counter
- Seed Moisture Meter (digital)
- Bather & Chillers 32 liter
- Sterilizer & Washes
- EC Meter
- Autoclave Vertical 22 liter double wall
- Grinder
- Automatic Filtration
- Calcimeter
- Screw Auger
- Post Hole Auger
- Counting boards
- Florescence Microscope 40x1000
- Grauated Measuring cylinder 1000 ml.
- High speed Refrigerator centrifuge 20000 RPM
- Plant Breeding kit
- Oil eneulson kit
- Shaker and vortex
- Sterilizer and washer
- Vertical gel electrophoresis unit
- Heater
- Incubator
- Spriat lamp
- Colouycaruter
- Cutture tube
- Compound Micros cope
- Balance PGB630
- Automatic filtration
- Dessicutor 210mm.
- Burette stand
- Mechanical shaker
- Precision balance pgb 220
- Rotary evaporator
- Soil moisture meter
- Shaking machine 18x18
- Catheter
- Milk pippets
- Termereic paper strip dozen
- Wood file
- Dissecting microscope
- Seed Counter
- Weighing Balance TTB 30
- Refractometer
- Innoculatiuon Loop
- Electrical Conductivity Meter
- Water Testing kit
- wind wane
- Single distillation Unit
- Tensiometer
- Hot plate stirrer
- Flame Photometer
- Seed Germinator- 308 liter capacity



CHEMISTRY

- Rectangular Muffle Furnace
- Oven Universal
- Magnetic Stirrer
- Heating Mantle
- Ultra Violet Cabinet
- Electronic Digital L.E.D./ I.C.D. Display top pan
- High Temperature Tubular Furnace
- Spectrometer (Ocean Optics)
- Software. It is attached with High Temperature
- Rota Mantle
- PT 100 sensor hot plate
- Vertical Muffle Furnace
- Double distillation set up



CENTRAL SOFTWARE RESEARCH LAB

- Net Sim
- Sim-2
- Weka
- Gephi
- Python
- Sci Lab
- Cloud Sim
- Lab view XILINXIE3D
- Mentor Graphics
- SPSS
- Computer System (35) in research lab
- R, Language Open Source
- Python Open Source/Anaconda
- Java Open Source
- .Net
- My Sql Open Source
- Cloud Sim, Ns2
- MATLAB
- Weka, Quantminer, Rapidminer

