Department of Earth Sciences

Name of the Laboratory	Equipment (Major/Minor)
STRUCTURAL AND ENGINEERING GEOLOGY LABORATORY	Compressive strength Machine, Plastic Limit Device, Liquid Limit Device, Brunton Compass, GPS, GPR
PALEONTOLOGY LABORATORY	Stereo Zoom Trinocular Microscope TZ-240 P with Photographic Attachment (10 No.)
HYDROGEOLOGY/GEOCHEMISTRY LABORATORY	Bell's Distillation apparatus NPL, Bell's Oven, Bell's Furnace, REMI Centrifuge R-24, digital weighing machine, water analysis kit
OPTICAL LABORATORY	Leica DM 750-P High Resolution Polarizing Microscope, Magnus binocular microscope, ore microscope, Trinocular microscope, Clica High Resolution Polarizing Microscope
PETROLOGY LAB	Thin section preparation machine, powdering apparatus, sample cutting and grinding machine, bells oven, bells furnace, XRF, Pulverizer
MACERATION/SEDIMENTOLOGY LABORATORY	Grain size analyzer, sieve shaker, oven, Centrifuge, petrological microscopes
REMOTE SENSING AND GIS LAB	Modern computer systems (22)

Departmental Laboratories at a Glance

Lab I: STRUCTURAL AND ENGINEERING GEOLOGY LABORATORY


The structural and Engineering Geology Laboratory at the Department of Earth Sciences focuses on the application of structural geology to engineering practice. Its main goal is to understand earth-structure interactions and investigate how the earth and earth processes impact human-made structures and human activities. The students are trained to understand the properties of different rocks and minerals, structural data acquisition, structural mapping and cross-sectional profiling. The equipment in the lab includes Compressive strength Machine, Plastic Limit Device, Liquid Limit Device, Brunton Compass, GPS, Chisel and Geological Hammer, maps.

Lab II: PALEONTOLOGY LABORATORY


The paleontology lab is specifically maintained as a repository for collection and archive of various fossils of animals and plant that date back to the geological past of Earth. A good collection of fossils is used for teaching of master's students and research facilities. The lab has a good collection of various fossils. The list of fossils includes but is not limited to; Gastropods, Mollusks, Trilobites, Cephalopods, Lamellibranchiate, etc. We have a collection of fossils of plant leaves, Gondwana plant fossils like Glossopteris, Gangamopteris, Schizoneura, etc. The department is upgrading the lab each year by procuring new collection of fossils from different agencies.

Lab III: HYDROGEOLOGY/GEOCHEMISTRY LABORATORY




The hydrogeology Lab has been developed over the last 18 years and is used for the study related to the flow and transport in surface and subsurface geological medium. The lab is equipped with instruments including: bells water stil, bells distillation apparatus, digital weighing machine, water analysis kit, water level indicator, Ph and EC meters, Spectro-photometer, Flame-photometer, etc. The departmental faculty is involved in teaching and research at master's level and research of M Phill and PhD. The lab is meant for the preparation and analysis of samples for Major ion, Trace element, and samples for Isotope analysis. The faculty is involved in a variety of collaborative projects with colleagues from national and international institutions.

Lab IV: OPTICAL LABORATORY

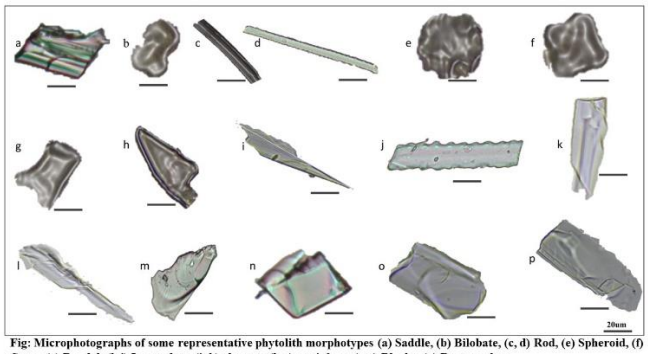

Fig: Microphotographs of some representative phytolith morphotypes (a) Saddle, (b) Bilobate, (c, d) Rod, (e) Spheroid, (f) Cross, (g) Rondel, (h,i) Lanceolate, (j, k) elongate (l,m) cunieform (n,o) Blocky, (p) Rectangular.

The laboratory provides ongoing support services for teaching at master level and research facilities to MPhil/PhD scholars as wells as for carrying out research work of various sponsored projects. The lab is equipped with modern models of geological microscopes and are supported by various accessories that make thin section study more accurate. The lab is equipped with latest models of microscopes like petrological microscope, Magnus binocular microscope, ore microscope, Trinocular microscope. The laboratory is designed to provide accurate mineralogical and petrographic analyses of rocks, minerals, ores and allied samples. Petrology lab is equipped with the thin section preparation machine, powdering apparatus, sample cutting and grinding machine, bells oven, bells furnace, etc.

Lab V: MACERATION/SEDIMENTOLOGY LABORATORY

This laboratory provides quality data for research projects, graduate and under-graduate students and outside clients. The laboratory performs mostly physical analysis of soils and sediments and encourages students to run their own analyses. The lab is equipped to measure grain size using sieves attached to an automatic sieve shaker. Wet grain size analysis equipment are also available in the Lab. The lab is also equipped with an oven, Pestle and Mortar both stainless

steel and Agate, Centrifuge, Specific Gravity measurement tools, Hydrometer, petrological microscopes and analytical balance.

Lab VI: REMOTE SENSING AND GIS LAB

The department has a well-developed and sophisticated lab for Remote Sensing and GIS studies. The lab is supplied with a continuous power supply that enables the students and researchers to work without interruption. The lab has modern computer systems of high capacity used for image interpretation of large satellite data. The students and faculty are using updated versions of various software such as, ARC GIS, ERDAS, ENVI, Coral draw, etc.