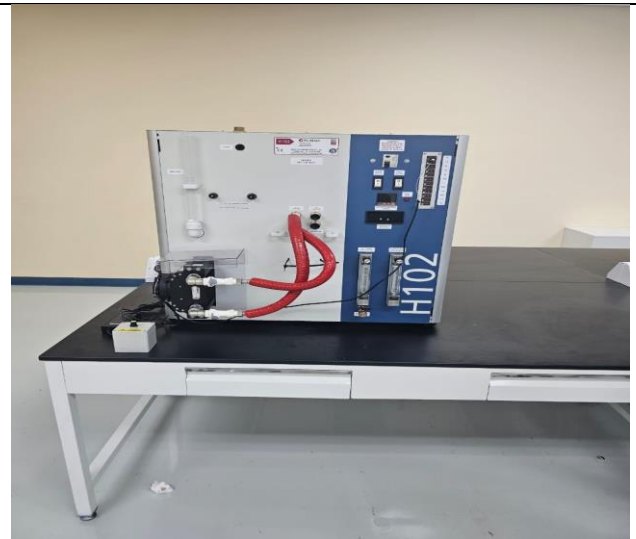
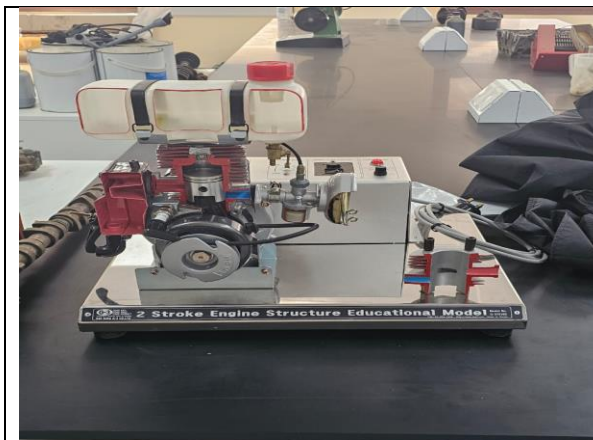


LAB	Heat Transfer Lab
Location	B15S-015
Description	<p>Heat is energy in transit and the three modes in which it transfers from one medium to another is an essential part for the 4 th year students of Mechanical and Chemical engineering. In designing many equipments or parts – knowledge of Heat Transfer is a must. For subjects like Power Plant Engineering, Refrigeration and Air-conditioning, Solar Energy, Automobile Engineering etc., prior knowledge of Heat Transfer is essential. For example in order to design a radiator of an automobile it requires to know how the heat will be 'Convected' and 'Conducted' through the metal pipes and then 'Convected' to oncoming air. What materials to choose, what should be the thickness of the pipe and its diameter are just some of the questions that the Heat Transfer subject or the Lab is going to answer. In the Heat Transfer Lab we have equipments on which we can conduct experiments on all the three modes of Heat Transfer that is Conduction, Convection and Radiation. We perform experiments that determine the "Thermal Conductivity "and "Heat Transfer Coefficients" for Free and Forced convections and also to prove the Stephan – Boltzmann equation in Radiation. Also, we have equipments to find the effectiveness of a Heat Exchanger by either using water to water or water to air. This Lab is essential to understand the basics of Heat Transfer that the student studies in theory subject. As mentioned above that this subject is important because it is related to other subjects. Heat Transfer becomes the basis of the few subjects mentioned above, one cannot understand the other subjects unless one has understood the basic principles involved.</p>



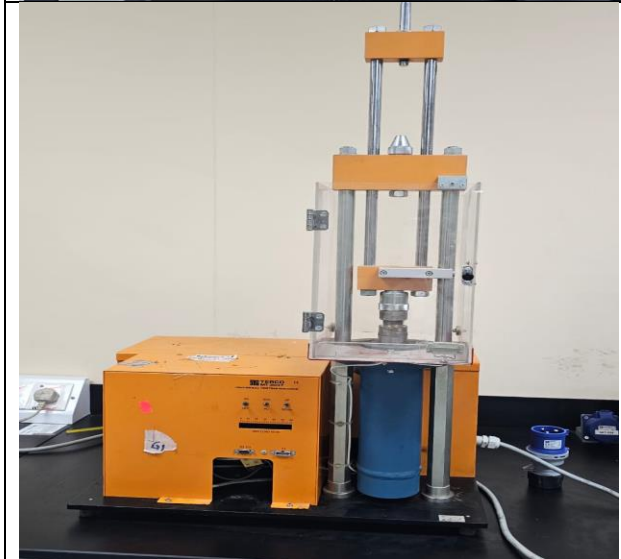
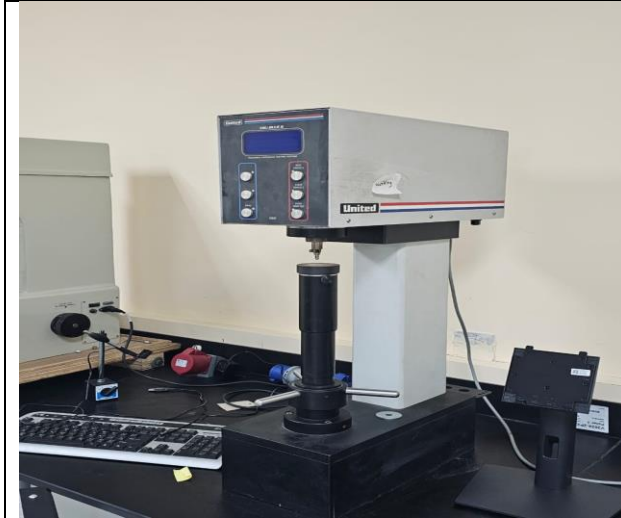


LAB	Internal Combustion Lab
Location	B15S-004
Description	Internal combustion (IC) engines lab makes the student to understand, visualize and analyze the various components and systems common to all automotive IC engines. This laboratory includes basically three types of experiments. Demonstration type, exercise type and open-ended experiments. In demonstration type of experiments the student visualizes and understands the working different components, subsystems and systems of automobiles. The laboratory has well equipped with working model of car having engine components, steering system, power transmission system, gear mechanisms, electrical system and exhaust system. There are separate sub systems of an automotive engine such as measurement of torque and speed at different gear ratios as part of exercise type of experiment. Performance and emissions tests are carried out on 4-stroke single cylinder Diesel Engine at different engine variables as part of exercise type of experiments. The laboratory has well equipped with facilities to conduct open ended experiments by using alternate fuels to the diesel by blending nano particles/biofuels with diesel at different proportions.





LAB	Material Characterization lab
Location	B15S-007
Description	Materials mechanical behavior which contains experiments such as tensile strength testing, hardness, fatigue, and creep. Microstructure and heat treatment process that covers microscopic examination, surface carburizing experiment. Understanding the relationship between microstructure and material properties is the core work of the lab, including how changes in manufacturing change the microstructure and performance of a component. Root cause failure analyses and physics of failure models are incorporated to determine the effect of material aging on component performance and life. Failure modes such as corrosion, wear and fatigue are analyzed and the information from these studies are used to determine restoration methods for end-of-life components or to produce components with improved reliability and durability.



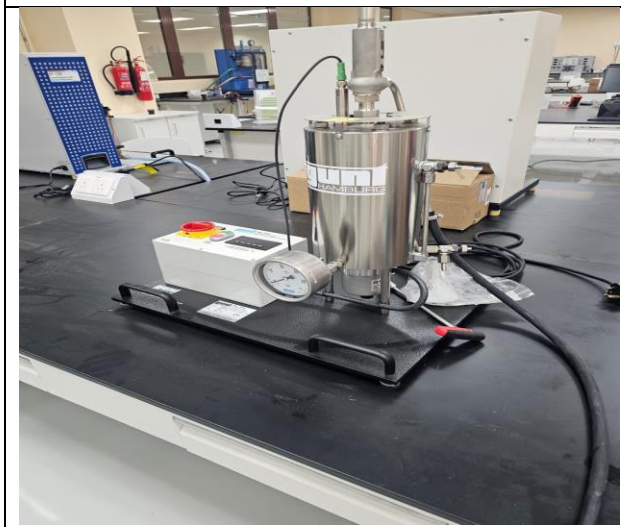


LAB	Refrigeration Lab
Location	B15S-015a
Description	Refrigeration and A C lab is for undergraduate course, for the subject name Refrigeration and Air Conditioning. In this lab students are going to study about Refrigeration Process, i.e. Vapor compression refrigeration process and Vapor absorption refrigeration process. Different types of refrigerants. P – H chart of different refrigerants. Study of Air conditioning process, discuss and demonstration about different type of Air conditioners like window AC, Split AC and ducting AC. Study of Psychrometry chart to extract different values from this chart.

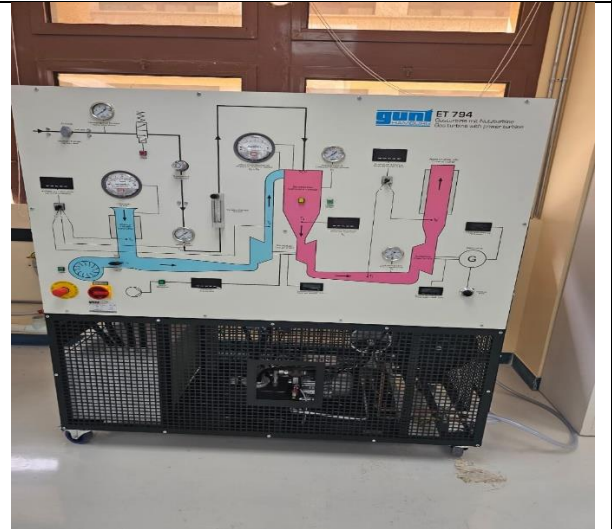




LAB	Thermodynamic lab
Location	B15S-015
Description	Thermodynamics Laboratory is for undergraduate students. In this lab students are going to study Thermodynamics-1 and Thermodynamics-2 course lab. The students are going to conduct experiments on, Comparison of Different types of thermometers, Specific heat of given specimens, Mechanical Equivalent of Heat, Quality of steam, rankine cycle, and Performance of Heat pump.

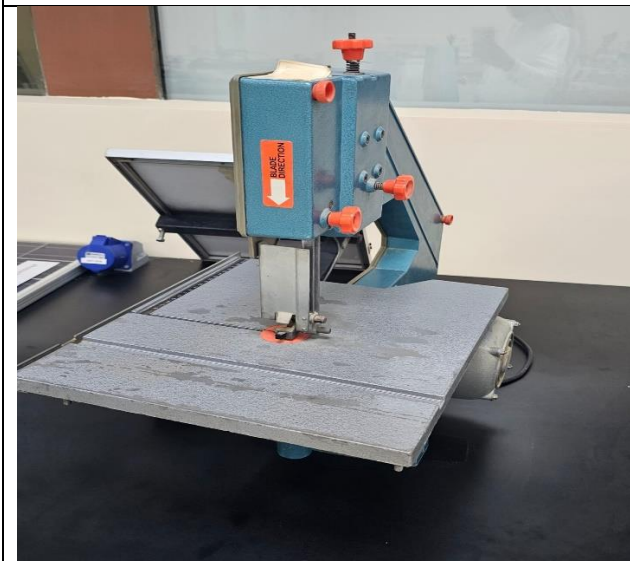
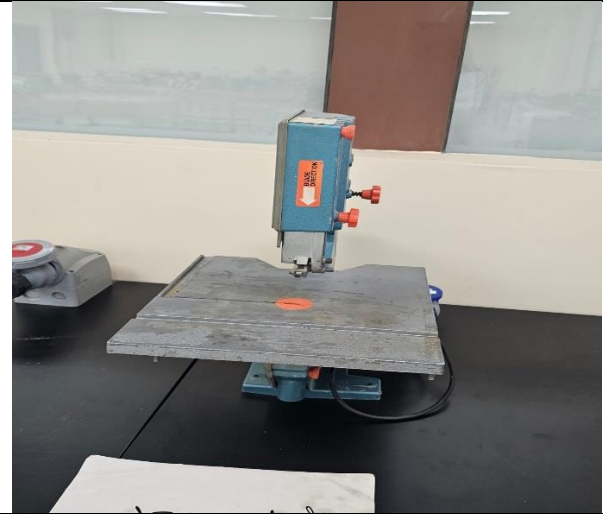






LAB	Carpentry lab
Location	B15S-009
Description	The carpentry workshop provides technicians, academics and students with a wide variety of carpentry services. The carpentry workshop has all the professional tools required to manage work on a day-to-day basis: plotting tools, sawing tools (panel saw, bandsaw, jigsaw, circular saw), shaping tools such as planers, jointers, striking tools and power tools such as screwdrivers, sanders, routers, etc. Wood types used in construction range from pine to exotic hard woods. Items produced in the shop can be seen all around the school, including the specially built reception areas and purpose made experimental and research equipment.

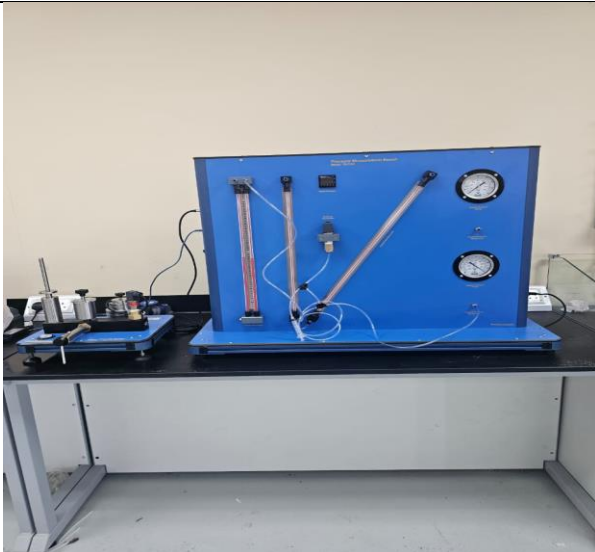






LAB	Fluid Mechanics Lab
Location	B15S-016
Description	Fluid Mechanics is an important branch in Mechanical Engineering which deals with the flow of Fluids, the pressures exerted in static or dynamic conditions. Also, it deals with friction and acceleration due to gravity, the amount of flow that takes place in unit time, the amount of force exerted when striking a set of moving blades.





LAB	Machines and Vibration Design Lab
Location	B15S-011
Description	<p>System Dynamics and Vibration laboratory is most important in Mechanical Engineering because due to vibration on daily basis it can increase in noise and harshness on machine to check condition of the machine. The bad effect of vibration is Harshness and Noise. As you know vibration is everywhere and it should be considered into daily life. As you know A washing machine have some kind of Vibration, A Generator have some vibration and so, human body to human made machine have some vibration so we need to find or check condition of machines in regular interval So that is called vibration monitoring and condition monitoring. Vibration in Cars or any type of machine and different equipment are available to measure different types of vibrations.it is very important no matter what sort of engineering you are studying that you have at least a basic knowledge of natural frequency, resonance and damping. In structural design it is critical to know about resonant frequencies and vibration so that the simple act of walking around does not overly shake around the structure and also so that the building as a whole is not put into dangerous resonance by wind. In mechanical engineering, vibration increases wear on the equipment and knowing how to treat it is important. Even in electrical engineering, resonances created by RLC circuits can be an issue and what you learn from looking at vibration is often transferable. I'd say that knowing about the subject of vibration isolation though is probably more of a nice-to-have rather than necessary.</p>

