ENGINEERING WORKSHOP

Description of the Laboratory:

Workshop is a central facility for all B.Tech first year students in general and B.Tech Mechanical engineering students in particular. It houses the following shops to offer regular practical classes to B.Tech first year students

- Carpentry shop
- Fitting shop
- Plumbing shop
- Foundry shop
- Welding shop
- Smithy shop
- Sheet metal shop
- House wiring Shop

Engineering Workshop practice is the backbone of the real industrial environment which helps to develop and enhance relevant technical hand skills required by the technician/Engineers working in the various engineering industries and workshops. Our workshop intends to impart basic knowledge. Usage of various hand tools, 3 D printing, Two wheeler demonstration, power tools, machine tools and their use in different sections of manufacturing. Irrespective of branch, the use of workshop practices in day to day industrial as well domestic life helps to dissolve the real life problems. The workshop experiences would help to build the understanding of the complexity of the industrial job, along with time and skill requirements of the job. Workshop curriculum builds the hands on experiences which would help to learn manufacturing processes and production technology courses in successive semesters. The students are advised to undergo each skill experience with remembrance, understanding and application with special emphasis on attitude of enquiry to know why and how for the various instructions and practices imparted to them in each shop. A resource in the workshop not only helps to complete engineering syllabus practically but also supports to undertake under-graduate projects, creative competitive working models manufacturing to the postgraduate and PhD research projects of social and industrial relevance.

List of Experiments:

- Make a square/half round mating from the given MS work pieces
- Make a V- mating from the given MS work pieces
- Make a dovetail mating from the given MS work pieces
- Prepare a cross lap joint

- Prepare dovetail / bridle joints
- Prepare a Mortise and Tenon joint
- Fabricate a rectangular tray as per the dimensions
- Fabricate square vessel/cylinder as per the dimensions
- Fabricate a Funnel as per the dimensions
- Prepare a sand mold, using the given single piece pattern (stepped pulley/cube)
- Prepare a sand mold, using the given splitpiece pattern (pipe bent/dumbbell)

Demonstration:

- Demonstrate the dismantling and assembling of various two wheeler parts
- Demonstrate the usage of power tools
- Demonstrate the plumbing operation and identify the essential tool and materials required for plumbing
- Demonstrate the working of 3D printer

Photographs of the Lab/Equipment: