

LAB TASK – AE131- Basic Engineering lab

A mechanism is defined as a combination of links (rigid bodies), which are connected in a particular manner to achieve a specific output/s, for a specific input/s. The links are interconnected with the help of joints.

In our daily life, we will come across numerous mechanisms like automobiles, windmill, rice/flour mill, etc. Even in our home, we have many mechanisms like a clock, mixer grinder, fan, tape player, washing machine, etc. Other examples of mechanisms are: Aircraft, helicopter, space antenna, deployable mechanism, robots, rovers, exoskeleton, guns, sprayers, harvesters, and many more.

You need to select a mechanism, which can be a mechanism used for any application (not limited to the previously mentioned list). Once the mechanism is selected, you need to understand the various links, joints, and working of the mechanism.

For Submission:

You need to submit a report which contain the following (in the same order):

- Title of the mechanism with its application/end use, followed by the details below
- Details of mechanism with sketches/drawings:- A brief explanation on mechanical elements and the working of the mechanism with necessary sketches (assembled and exploded views of the mechanism), showing the different views (isometric/ orthographic views), with a detailed drawing of each and every link.
- Details of links, Joints and method of assembly. Indicating input link, driving method and transfer of motions through machine elements, use of fasteners/joining methods etc.
- Material and other details: Also, write the material that are preferred for each elements with reason for such a choice. You can also try to understand the method of making them if possible (We understand that you haven't learnt much about manufacturing methods. So the last one about making methods can be just an attempt from your side).

It may be noted that the report should be hand written. Hand drawn figures of all the links and mechanism should be included in report. Each and every link and joint need to be numbered and those need to be explicitly mentioned in the report.

If you use any web resources for the understanding or drawing of the mechanism. However references including web resources need to be mentioned at the end of report.

Topic May be finalized through the Google form circulated by class representative. No duplication of topic permitted.

Last date of submission: 15-7-2021, Friday, 5:00 pm.

Submission through Moodle Link