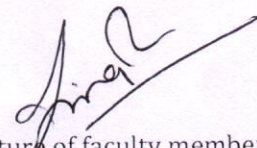


Proposal for announcing seat under the Institute Internship Program

1. Name of faculty member proposing: Manjinder Singh
2. Department: Mechanical Engineering
3. Topic on which work is proposed: Load bearing ability of flexible floating structures (Fluid and solid Mechanics)
4. Preferred period of internship (after May 20<sup>th</sup>): Between 20<sup>th</sup> May 2024 to 10th July2024
5. Qualification of student (branch/semester of study): Pursuing B.Tech in **Mechanical or Chemical** Engineering having completed 4 semester or Pursuing M.Tech in **Mechanical or Chemical** Engineering having completed 2 semester.
6. Brief description of work (300-500 words): Most organisms that float on an air-water interface, such as aquatic plants, have flexible body structures. One of the reasons for this pliable structure is that it helps aquatic organisms to withstand external forces without damage. However, in addition to being flexible, the body structure of many aquatic plants (for example, flowers) is divided into large number of petals. We will perform experiments to understand the effect of flexible and split body structures on the load-bearing capacity of the plants. We will also analyse the impact of petals' shape and length of slits between the petals on the load bearing capacity of the flowering aquatic plants.
7. Expected learning of student (upto 100 words): The student will get exposure to the field of biomimetics, wherein nature-inspired methods are used to solve complex scientific problems. Also, the student will learn concepts related to experiments, such as data analysis, uncertainty analysis, repeatability and report writing.
8. Nature of work: (Experimental/simulation/mathematical modelling/data collection-analysis etc.): Experimental and analytical analysis.
9. If the seat is under project sponsored category: No



Signature of faculty member

Name of department/Centre

**MECHANICAL ENGINEERING**

Note:

- a) Proposing faculty member needs to be available at the Institute during the period internship is offered
- b) No extra space or funding than the stipend will be provided by the institute for this purpose