

## Proposal for announcing seat under the Institute Internship Program

(separate form to be filled for seat under Institute funding and project funding)

1. Name of faculty member proposing: Prof. Harlal Singh Mali and Dr Anup Malik
2. Department/Centre : Mechanical Engineering
3. Topic on which work is proposed: Advanced Manufacturing & Mechatronics Technologies (Theory and Practice)
4. Preferred period of internship (after May 20<sup>th</sup>): Between 20<sup>th</sup> May 2024 to 5<sup>th</sup> July 2024
5. Qualification of student (branch/semester of study): B Tech in (Mechanical Engineering / Production and Industrial Engineering / Mechatronics Engineering / Manufacturing Technologies) after 4<sup>th</sup> Semester onwards
6. Brief description of work (300-500 words):  
This program is designed to keep in mind the needs of the bright young Undergraduate Students who have the enthusiasm to learn the Emerging Advanced Manufacturing & Mechatronics Technologies This program will enhance the learner's knowledge and skills in the domain. This training course shall cover both theoretical as well as the practical aspects which will not only enhance the knowledge of the learner but also enhance practical quotient with these technologies to help them in Major B.Tech. projects. The main theme of training program will be oriented around Advanced Manufacturing Technologies (AMTs) and role of Mechatronics in building these machine tools. Along with the hardware, this training program will also cover associated softwares for manual CNC programming, CAD to CAM, CAE, data acquisition, PLC programming, HMIs etc. which could be a small contribution to making India a Skill Capital of the World in this domain.
7. Expected learning of student (upto 100 words):

The interns will be able to learn the following: -

- Fundamentals of Advanced Manufacturing Technologies (AMTs) both in subtractive and additive domain.
  - CNC technologies for AMT based machine building.
  - Using CAD tools for CAM and generative design.
  - Hands on programming practice for CNC machines by MDI and CAD to CAM tools.
  - Hands on practice on conventional CNC Machine tools for turning and milling operations.
  - Hands on practice on AMTs like EDM, micro-EDM, Hybrid Machine, 3D Printing, AFM etc.
  - Hands on practice on measuring instruments like, CMM, Surface Roughness Testers, Dynamometer Rheometer, Profilometer etc.
8. Nature of work: (Experimental/simulation/mathematical modelling/data collection-analysis etc.): Experimental, data collection and its analysis
  9. If the seat is under project sponsored category: No
    - a) If yes, number of seats announced: N/A
    - b) Name and ID no. of project from which stipend is chargeable: N/A

Signature of faculty member

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Prof. Harlal Singh Mali and Dr Anup Malik

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