SUMMER TRAINING - 2021

COURSE: "LATEST DEVELOPMENT IN INDUSTRIAL MACHINE TOOL (ADDITIVE & SUBSTRACTIVE OPERATIONS)"

OBJECTIVE OF THE COURSE

The main objective of the In-house Training is to experience and understand real life situations in industrial organizations and their related environments and accelerating the learning process of how student's knowledge could be used in a realistic way. In addition to that, in-house training also makes one understand the formal and informal relationships in an industrial organization so as to promote favorable human relations and teamwork. Besides, it provides the exposure to practice and apply the acquired knowledge "hands - on" in the working environment.

DURATION OF THE COURSE: **60 HOURS (4 WEEKS)**

MINIMUM ELIGIBILITY CRITERIA AND PRE-REQUISITE:
BASIC KNOWLEDEGE OF MANUFACTURING PROCESSES & TOOLS

- **Module 1 (Week 1 – 15 hours): Lathe Machine & Lathe Tool Dynamometer.**
    - Introduction of Lathe Machine and its Operation with Principle parts of the Machine.
    - Making product by using Lathe machine. (Explain with Experiment).
    - Explain with various Machining Parameters which affects the productivity. (How to Improve the Product Quality and reduce the cost of Product.)
    - Explain the Force measurement Devices and explain the concept of Lathe Tool Dynamometer.
    - Practical Application of "Lathe tool Dynamometer" in Lathe Machine at Mechanical Workshop and by using this how to write Research Paper (Explain with Experiment setup & Research Paper)

- **Module 2 (Week 2 - 15 hours): Milling Machine & Superfinishing**
    - Introduction of Milling Machine (Working Principle, Types)
    - Operation of Milling Machine (Types Milling cutter & operation)
    - Concept of Indexing & Manufacturing of Spur Gear (Explain with Experiment)
    - Introduction of Super finishing operation (Need of Super finishing, Types of Super finishing)
    - Super finishing Operation-Lapping, Honing & Polishing.

- **Module 3 (Week 3 – 15 hours): CNC Lathe Machine**
    - Introduction of CNC machine and its operation.
    - Explanation of Integration of CAD/CAM and specification of software.
    - Working of CNC Lathe Machine.
    - Programming of CNC Lathe Machine.
    - Experiment will perform on CNC Lathe Machine.

- **Module 4 (Week 4 – 15 hours): Additive Manufacturing.**
    - Basic concept of Additive Manufacturing & Its methods.
    - Additive Vs Subtractive Manufacturing & Its Futures
    - Basic Knowledge of Processes of Additive Manufacturing through the Design Software.
    - Practical applications -Making the product by "3D Printing"
    - Design a 3-D Product (College Logo) by 3D printer.