



Manufacturing Technology  
Training

An IMTMA initiative



Indian Machine Tool  
Manufacturers' Association

# WOMEN EMPOWERMENT INITIATIVE



Women Graduate / Diploma engineers  
from Mechanical, Mechatronics and allied disciplines  
passed out during the year 2022, 2023 and 2024, across India

Hands-on Training on  
**“DESIGN AND MANUFACTURING OF  
SPECIAL PURPOSE MACHINE”**

Making Women Engineers Industry Ready

Programme Fee: Nil



17 June - 10 August 2024



IMTMA Design Institute  
BIEC, Bengaluru

[www.imtmatraining.com](http://www.imtmatraining.com)

## Introduction

Design engineering is a key function of manufacturing. Machine designers encounter various challenges while visualizing and designing the product such as understanding the need, configuring kinematics, system motions, selection of critical elements, material, ensuring high reliability, ease of manufacturing and assembly at low cost. A successful designer, needs to have a complete knowledge on manufacturing activities from design to dispatch.

Skilled women work force are finding opportunities in manufacturing industry. To encourage and enable women to perceive their careers IMTMA is conducting the training programmes as part of women empowerment initiative which is a primary objective of the Association and it's member companies.

## Programme objectives & benefits

- Enhancing the design and manufacturing skills for women mechanical engineers and making them industry ready
- Making women self-reliant for better career growth
- Contributing to industry with dedicated, trained and talented women work force
- Creating a gender balance within the manufacturing industry



## Candidates Selection criteria

- Women Graduate / Diploma Engineer from Mechanical and allied disciplines, passed out from Year 2022, 2023 & 2024 from across India
- Aggregate score preferably above 60% in Engineering
- Final selection based on performance in written test\* and personal interview conducted by IMTMA

\* Minimum score 60% in written test

## Programme Focus Areas

### Training @ IMTMA Design Institute, Bengaluru

- Strength of Materials, Engineering Mechanics and Machine Kinematics
- SOLIDWORKS – Hands-on CAD Training
- CAD Modelling and creating Manufacturing drawings
- Geometric Dimensioning & Tolerancing (GD&T)
- Conceptual design of a Special Purpose Machine
- Calculations for Force, Torque & Power
- Design of Milling Spindle for SPM
- Design of linear CNC Axis
- Selection of LM Guides ways & Ball Screws
- Design of hydraulic slide and servo slide
- Design of Pneumatic Systems
- Electric Motors: Application, Selection, Sizing & Optimization
- Finite Element Methods FEM – What, Why, and How?
- Soft Skills for working environment homogeneity
- Speaking, writing, and presentation skills – To be a Smart Employee
- Hands-on practice on conventional machines
- Introduction to CNC machines and part programming
- Metrology and Quality Control / Quality Assurance



## Faculty

- **BL Patil, Assistant Director – IMTMA Design Institute**

With 27 years of industrial work experience in the field of Fixture design, SPM design (Metal cutting), Process planning for machined components

- **Dr. Krishna Rao, Industrial expert and Professor**

He has served in various positions in HMT Machine Tools Limited in Design Department for 24 years. And he teaching experience of 17 years as Professor, Head and Principal for 8 years in various engineering colleges.

- **Maqsood A Khallaq, Industrialist**

With over 3 decades of expertise in Machine Design and Fixturing. An ex-HMT as Dy. General Manager served the R & D dept. He now runs his own Industry "XL CNC Machine" at Peenya.

- **Arunakumar, Industry Expert**

Is a Postgraduate Mechanical Engineer with a Machine tool specialization. He comes with over 36 years of domain expertise in Machine tool design, Assembly, Inspection, Testing and Motor and pump selection

- **Shivakumar, Industry Expert**

An industry expert with over 25 years of rich experience in the Design & Development of CNC Machines. Presently Mr. Shiva Kumar is a Technical Consultant to THK India Pvt. Ltd.

- **Subramanya P, Industry Expert**

An M. Tech graduate from IIT Madras and MBA from Bangalore University. He has over 30 years' experience in Various Positions in HMT in Design and Development and ITC Limited

- **Preetham, Assistant Director - IMTMA Productivity Institute**

With 20+ years of experience from Nuclear, Aerospace & Automation industry. Prior to IMTMA, he has worked at Avasarala Technologies Limited, as Assistant Manager

- **Ganapathi KN, Industry and Academic Expert**

Advisor at IMTMA, having 16 years of industrial and 16 years of academic and training experience. He has a thorough knowledge of Materials, Metallurgy, Metal casting and heat treatment processes.



## Unique Programme Features

- Experiential learning from Design and Manufacturing experts
- Hands-on training on machines and equipment at IMTMA Technology Centre
- Developing work culture and skill competency matching industry standards
- Placement support



## Evaluation and Certification criteria

- Periodical test and assignments
- Performance evaluation
- Record of attendance
- Students presentation and interactivity skills in the class

## Important Information to participants

- Training programme is non-residential
- Participants will bear the expenses of travel and stay during the entire duration (2 months) of training at their own cost
- Maintain 100% attendance during the period of training
- Attend all the tests and assignments
- Adhere to the designated dress code and safety norms of IMTMA
- Maintain work discipline during the entire training
- Abide by all instructions of faculty and IMTMA
- Post training, open to work anywhere in India without geographical barrier
- Shall not misuse/ mishandle/damage the equipment, machineries, computers, CAD software during training



## Post training Support

- After successful completion of training, each participant will be awarded with a certificate based on their performance
- IMTMA and its member companies will provide assistance for placement in manufacturing industries

## Participation Fee and caution deposit

- No participation fee for shortlisted candidates
- Fee will be fully sponsored by IMTMA member companies
- Refundable caution deposit of Rs.7500/ participant, shall be paid to IMTMA by all selected candidates before the commencement of the programme
- The caution deposit will be refunded to participants on successful completion of the programme
- If any participant discontinues, for any reason, the caution deposit will not be refunded



Organised by



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