



Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY

APPROVED BY AICTE, NEW DELHI, DTE, GOVT. OF MAHARASHTRA AND AFFILIATED TO THE
UNIVERSITY OF MUMBAI

At, Shirgaon, Post Virar, Tal. Vasai, Dist. Palghar - 401305 Tel: 7770002544 Website: www.viva-technology.org

NAAC ACREDITATE WITH GRADE B++

Department of Mechanical Engineering, VIVA Institute of Technology, Virar (E)

Topic Name: ISTE Approved One week STTP On "Fundamentals of Welding: Mastering the Basics"

Name of the Guest Speakers: Mr. Vinay Chansikar, Dr. Vishvesh Badheka,
Dr. Amit Kumar Singh, Mr. Shashikant Gupta

Date: 25th to 30th November, 2024

Time: 09.30 am to 4.00 pm

Programme Summary/Details:

A comprehensive, week-long Short Term Training Program (STTP) titled "Fundamentals of Welding: Mastering the Basics" was conducted from November 25th to 30th, 2024. Organized by the Department of Mechanical Engineering at VIVA Institute of Technology, Virar, and approved by the Indian Society for Technical Education (ISTE), the program offered a blend of theoretical knowledge and practical training.

The STTP commenced with a foundational session on joining and welding processes led by Mr. Vinay Chansikar, CEO of Preciworld Mechanicals. He introduced fundamental concepts of welding, brazing, and soldering, and detailed various techniques including Shielded Metal Arc Welding (SMAW), Gas Tungsten Arc Welding (GTAW), Gas Metal Arc Welding (GMAW), and resistance welding. The session also highlighted the extensive applications of welding in industries such as automotive, aerospace, and construction.

The second day featured an online lecture by Dr. Vishvesh Badheka on "Advanced Welding Processes in Additive Manufacturing". Dr. Badheka discussed the integration of 3D printing with welding, focusing on hybrid techniques like laser and metal deposition welding. He emphasized their use in producing lightweight, high-strength components for the aerospace and automotive sectors and touched upon the future of welding in the context of Industry 4.0.

On day three, Dr. Amit Kumar Singh delivered an online session on the "Physical Processes in TIG Welding". He explained the principles of TIG welding, arc physics, and heat distribution, along with material-specific considerations for welding metals like aluminum, stainless steel, and titanium.

The fourth and fifth days were dedicated to hands-on training under the guidance of Mr. Shashikant Gupta, a professional in welding equipment operation. Participants gained practical experience with various machines, including the WARP IN TIG 4001 (GTAW) and WARP WS 200 (GMAW). They further honed their skills on the Sigma Weld 170 TIG machine for precision work and the more powerful Sigma Weld SW 400 mm machine for thicker materials, practicing on both thin sheets and industrial-grade metals.

The program concluded on the sixth day with an industrial visit to provide real-world context. Participants visited Preciworld Mechanicals, where they observed precision manufacturing and the use of TIG and MIG welding in creating complex assemblies. A subsequent visit to Pares Engineering Industries, led by Mr. Parag Nerurkar, offered insights into welding practices in the piping industry, showcasing the unique



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techniques and challenges involved in large-scale pipeline welding. These visits provided invaluable exposure to industry-standard practices, effectively supplementing the technical training received during the week.

Photos:

