School of Engineering & Technology

Department of Mechanical Engineering

Academic Year 2023-24

VALUE ADDED PROGRAM

on

CADD and Digital Manufacturing

By

Dr. Vishal N. Sulakhe

(Associate Professor and Head, Mechanical Engineering Department)

A Value Added Program (VAP) was held for the TE Mechanical Engineering students through the months of **September to November 2023**. The resource person for the VAP was Dr. Vishal N. Sulakhe.

About-

Computer aided design (CAD), computer aided manufacturing (CAM), computer aided engineering (CAE), computer aided processing planning (CAPP), computer aided processing simulation, and computer aided mould design have been introduced to solve the design problems at different stages of a product lifecycle. Moreover, computer aided systems at different stages can be integrated seamlessly to support high-level decision-making activities in manufacturing enterprises.

Digital Manufacturing (DM) is an integrated computer solution to design, manage, and operate manufacturing systems over entire product lifecycles. In this chapter, the importance of digital manufacturing at the system level is discussed, the main components and enable methods of digital manufacturing are introduced, especially the enterprise architecture and product lifecycle management are investigated, and the importance of big data analytics for DM is emphasized. The computer aided tool for prediction of system performance of discrete event dynamic systems (DEDSs) is introduced to illustrate the procedure of using digital tool for simulation-based planning and scheduling.

Objectives: To develop ideas on CAD and digital manufacturing.

Outcomes: Upon successful completion, the student should be able to understand the basic mechanism of CAD and DM.

Pre-requisites: To have a basic knowledge of Traditional Manufacturing Processes.

Glimpses of the VAP-