SRINIVAS UNIVERSITY

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Srinivas Research Centre for Manufacturing and Production Technology

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About the Research Centre

Manufacturing Engineering is a branch of professional engineering concerned with the understanding and application of Engineering Procedures in Manufacturing Processes and Production Methods. Manufacturing Engineering requires the ability to plan the practices of manufacturing; to research and to develop tools, processes, machines and equipments; and to integrate the facilities and systems for producing quality product with the optimum expenditure of capital.

Production engineering encompasses the application of castings, machining processing, joining processes, metal cutting & tool design, metrology, machine tools, machining systems, automation, jigs and fixtures, die and mould design, material science, design of automobile parts, and machine designing and manufacturing. Production engineering also overlaps substantially with manufacturing engineering and industrial engineering. The names are often interchangeable.

Automation is used in different processes of manufacturing such as machining and welding. Automated manufacturing refers to the application of automation to produce goods in a factory. The main advantages of automated manufacturing for the manufacturing process are realized with effective implementation of automation and include: higher consistency and

quality, reduction of lead times, simplification of production, reduced handling, improved work flow, and improved worker morale.

Robotics is the application of mechatronics and automation to create robots, which are often used in manufacturing to perform tasks that are dangerous, unpleasant, or repetitive. These robots may be of any shape and size, but all are preprogrammed and interact physically with the world. To create a robot, an engineer typically employs kinematics (to determine the robot's range of motion) and mechanics (to determine the stresses within the robot). Robots are used extensively in manufacturing engineering

Objectives:

- Automate a chemical manufacturing facility through computer integrated technology
- Design circuit board manufacturing processes to reduce costs and improve product quality
- Develop the best assignment of machines and equipment to various manufacturing cells in discrete parts manufacturing
- Develop and implement fabrication processes for nano-/micro-devices
- Identify the most cost-effective material handling and facility layout alternative for an aerospace manufacturing company.

Field of applications:

- Automobile companies- For inspection, quality control, operation of automated equipments etc.
- Manufacturing industries- For inspection, quality control, operation of automated equipments, to control assembly line, production management etc.
- Food processing industries- For inspection, quality control, Production management etc.
- Railways- Manufacturing processes and its control etc.
- Process industries.
- Space and other research organizations.
- Government and private companies.
- Defense.
- IT companies.

Research centre Contact details

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