Course: Introduction to Machining and Machining Fluids

Course Code: noc21-me57

Session: 2020-21

Duration: 8 Weeks

Assessment procedures: Weekly Assignment (25%) + proctored certification Exam (75%)

Curriculum of the Course:

Week 1:

- Introduction
- Introduction & Importance of Machining
- Principles of Machining or Metal Cutting

Week 2:

- Cutting Tools
- Forces in Machining

Week 3:

- Tribology in Machining
- Lubrication surface roughness in Machining
- Machinability and Thermal Aspects

Week 4:

- Tool Wear and Tool life Part-1
- Tool Wear and Tool life Part-2
- Tool Wear and Tool life Part-3
- Tool Materials and Coatings

Week 5:

- Machining Fluids /Cutting Fluids and its Additives Part 1
- Machining Fluids /Cutting Fluids and its Additives Part 2
- Machining Fluids / Cutting Fluids and its Emissions

Week 6:

- Eco Friendly Cutting Fluids Part 1
- Eco Friendly Cutting Fluids Part 2
- Rheology and Thermal Characterization of Machining / Cutting Fluids
- Bio-degradation Studies of Machining /Cutting Fluids

Week 7:

- Cutting Fluid Application in Machining Region
- Practical Machining Processes - 1
- Practical Machining Processes - 2

- Introduction to Abrasive Processes - Grinding

Week 8:

- Cutting fluids in Grinding Process
- Unbonded Conventional Abrasive Processes
- Advances in Metal Cutting Machining Processes
- Advances in Metal Cutting Machining Processes-2

Enrolled Students

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2	Tushar sharma