

International Summer School Manipal University Jaipur [ISSMUJ]-2022

[Hybrid Mode]

Project Overview

Name of Project: Optimization of Machining Parameters on EDM

Name of instructor: Prof Ashok Kumar Sharma

Session: June-July 2022

Language of instruction: English

Number of contact hours: 36 Credit awarded: 03

Objective of Project

Objective of the project is developed skills in students

To Conduct literature review and identifying research gap

To design experiments using Taguchi method

To conduct experiments and record response parameters

To analyse effect of factors on response parameters.

To publish research paper in SCOPUS / UGC listed journal

Syllabus

Electric Discharge Machine (EDM) working principle and components, EDM tool and work materials. EDM Process parameters (factors) and response parameters. Literature review on EDM and identifying research gap. Taguchi design of experiments. Conduction of experiments and measurement of response parameters. SEM images capture and analysis. Taguchi analysis, results and conclusion.

Organization of course

Total contact hrs 36		
1st week:	10 hrs (classes)	2 hrs (self-study/project)
2nd week:	10 hrs (classes)	2 hrs (Mid term exam/assessment/discussion)
3rd week:	10 hrs (classes)	2 hrs (End term exam)

Mode of lectures: Lectures: online lecture/online videos/case study/ discussion/ workshop/ hands-on

Experimental work: Offline / On campus

Project Plan

Lecture no.	Topic	Lecture mode	Instructor
L: 1-6	Electric Discharge Machine (EDM) working principle and components, EDM tool and work materials. EDM Process parameters (factors) and response parameters.	Online / Offline	Dr A K Sharma
L: 7-12	Literature review on EDM	Online	Dr A K Sharma
L: 13-18	Identifying research gap. Taguchi design of experiments.	Online / Offline	Dr A K Sharma
L: 19-24	Conduction of experiments	Offline	Dr A K Sharma
L: 25-30	Measurement of response parameters. SEM images capture and analysis.	Offline	Dr A K Sharma
L: 31-36	Taguchi analysis, results and conclusion. Preparation of research paper and submission to the journal	Online / Offline	Dr A K Sharma

Brief profile of the instructor

Dr Ashok Kumar Sharma



He is Professor, Mechanical Engineering, School of Automobile, Mechatronics and Mechanical (SAMB), Manipal University Jaipur. He has a rich and versatile teaching, industrial and administrative experience of over twenty-two years after his Graduation. During his illustrious career, he has served prestigious institutions in capacities of program coordinator, Head of the Department, Examination In-charge, Principal and Assistant Dean (Mechanical & Civil Engineering). He has developed department laboratories, handling inspections of AICTE, National Board of Accreditation, Govt. of Rajasthan and University of Rajasthan. He has also been center superintendent for RTU and other competitive examinations. One of his patent is under process after examination.

He is recipient of Excellent Engineer Award from United Engineers Council, Rajasthan on September 15, 2011.

He has chaired number of sessions at International / National Conferences and has been invited as keynote speaker in various Conferences. He has been an expert member in BoS, DRC and Faculty Selection Board at various Universities. He also expert in OBE and conducting training for faculty members of various Universities.

He has been remote center coordinator and workshop coordinator for FDPs conducted through ICT by IIT Bombay and NITTTR Chandigarh. He has also attended 08 FDPs organized by institutes of repute.

In the capacity of Principal, he effectively coordinated admission activities at previous institutions. He is active participant of SMILE, keen learner, takes broader perspective of organizational vision, mission & goal and works collaboratively aligning strategy and resources with organizational goals.