



# GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Bachelor of Vocation (B.Voc.), 5<sup>th</sup> Semester

Branch: Production Technology

Subject Name: Non Conventional Machining Lab

Subject Code: 21150306

**Type of course:** Core

**Prerequisite:** Basic Knowledge of manufacturing Processes

**Rationale:** To impart comprehensive knowledge about consideration of non-conventional machining and their material removal rate.

## Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical		
				ESE(E)	PA(M)	PA(V)	PA(I)	
0	0	2	2	0	0	30	20	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

## Contents:

Sr. No.	Practical / Hands on Exercise	Total Hrs.	% Weightage
1.	Brain storming for selection of criteria for different non-conventional machining process.	2	10
2.	To study about effect of process parameters on MRR in EDM.	6	20
3.	To study about effect of process parameters on surface roughness in EDM.	6	20
4.	To study about effect of process parameters on tool wear in EDM.	6	20
5.	To study about various process parameters on Wire-cut EDM.	4	10
6.	To study about Ultra Sonic Machining (USM)	2	10
7.	To study about Abrasive Water Jet Machining (AWJM)	2	10
	<b>Total</b>	<b>28</b>	<b>100</b>

## Major Equipment:

1. EDM Machine
2. Wire-cut EDM Machine
3. USM/AWJM Machine

## Course Outcomes:

Students will be able to:

Sr. No.	CO Statement	Marks % Weightage
CO-1	To understand importance of Non-Convectional Machining processes.	10



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CO-2	To understand effect of process parameters on MRR, surface roughness and tool wear in EDM Process	60
CO-3	To understand various process parameters in wire-cut EDM Process.	20
CO-4	To understand USM, AWJM, etc. non-convectonal machining processes.	10

## References:

- 1) Production Technology by R.K. Jain, Khanna Pub
- 2) Modern Machining Process, P.C. Pandey
- 3) Un-conventional machining, V.K. Jain

## List of Open Source Software/learning website:

- 1) NPTEL tutorials