Discipline: Mechanical Engineering	Semester : 6th Semester-2020-21	Name of the Teaching Faculty: Miss,Shradha Suman Adabar Lect. In Mechanical Engineering
Subject: ADVANCE MANUFACTURING PROCESSES	No. of Days/week Class Allotted: 60	Semester from date: 05/04/ 2021 to date: 30/06/2021No of weeks: 18
week	**Class Day**	**Theory Topics**
1st	1st	Introduction – comparison with traditional machining.
	2nd	Ultrasonic Machining: principle, Description of equipment, applications
	3rd	Ultrasonic Machining: principle, Description of equipment, applications
	4th	Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid,tools (electrodes), Process parameters, Output characteristics, applications
2nd	1st	Electric Discharge Machining: Principle, Description of equipment, Dielectric fluid,tools (electrodes), Process parameters, Output characteristics, applications
	2nd	Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.
	3rd	Wire cut EDM: Principle, Description of equipment, controlling parameters; applications.
	4th	Abrasive Jet Machining: principle, description of equipment, Materia removal rate, application.
3rd	1st	Abrasive Jet Machining: principle, description of equipment, Materia removal rate, application.
	2nd	Laser Beam Machining: principle, description of equipment, Material removal rate, application.
	3rd	Laser Beam Machining: principle, description of equipment, Material removal rate, application.
	4th	Electro Chemical Machining: principle, description of equipment, Material removal rate, application.)

4th	1st	Electro Chemical Machining: principle, description of equipment, Material removal rate, application.
	2nd	Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications.
	3rd	Plasma Arc Machining – principle, description of equipment, Material removal rate, Process parameters, performance characterization, Applications
	4th	Electron Beam Machining - principle, description of equipment, Material removal rate,Process parameters, performance characterization, Applications.
5th	1st	Electron Beam Machining - principle, description of equipment, Material removal rate,Process parameters, performance characterization, Applications.
	2nd	Processing of plastics.
	3rd	Moulding processes: Injection moulding, Compression moulding, Transfer moulding
	4th	Moulding processes: Injection moulding, Compression moulding, Transfer moulding
6th	1st	Moulding processes: Injection moulding, Compression moulding, Transfer moulding
	2nd	Extruding; Casting; Calendering.
	3rd	Extruding; Casting; Calendering.
	4th	Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods& tubes), Reinforcing
7th	1st	Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods& tubes), Reinforcing
	2nd	Fabrication methods-Sheet forming, Blow moulding, Laminating plastics (sheets, rods& tubes), Reinforcing
	3rd	Applications of Plastics.
	4th	Introduction, Need for Additive Manufacturing
8th	1st	Fundamentals of Additive Manufacturing, AM Process Chain
	2nd	Advantages and Limitations of AM, Commonly used Terms
	3rd	Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies.
	4th	Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies.)

9th	1st	Classification of AM process, Fundamental Automated Processes, Distinction between AM and CNC, other related technologies.
	2nd	Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.
	3rd	Application –Application in Design, Aerospace Industry, Automotive Industry, Jewelry Industry, Arts and Architecture. RP Medical and Bioengineering Applications.
	4th	Web Based Rapid Prototyping Systems.
10th	1st	Web Based Rapid Prototyping Systems..
	2nd	Concept of Flexible manufacturing process, concurrent engineering, production toolslike capstan and turret lathes, rapid prototyping processes.
	3rd	Concept of Flexible manufacturing process, concurrent engineering, production toolslike capstan and turret lathes, rapid prototyping processes..
	4th	Concept of Flexible manufacturing process, concurrent engineering, production toolslike capstan and turret lathes, rapid prototyping processes..
11th	1st	Concept of SPM
	2nd	**General elements of SPM,**
	3rd	**General elements of SPM,**
	4th	Productivity improvement by SPM,.
12th	1st	Principles ofSPM design
	2nd	Types of maintenance
	3rd	Repair cycle analysis
	4th	Repair complexity
13th	1st	Maintenance manual,

	2nd	Maintenance records
	3rd	Housekeeping.
	4th	Introduction to Total Productive Maintenance (TPM)..
14th	1st	Introduction to Total Productive Maintenance (TPM)..
	2nd	Introduction to Total Productive Maintenance (TPM).
	3rd	Revision of Chapter – 1
	4th	Revision of Chapter – 1
15th	1st	Revision of Chapter – 1
	2nd	Revision of Chapter – 2
	3rd	Revision of Chapter – 2
	4th	Revision of Chapter – 3
16th	1st	Revision of Chapter – 3
	2nd	Revision of Chapter – 3
	3rd	Revision of Chapter – 4
	4th	Revision of Chapter – 4
17th	1st	Revision of Chapter – 5
	2nd	Revision of Chapter – 5
	3rd	Discussion of Probable Questions and Answers (1)
	4th	Discussion of Probable Questions and Answers(2)
18th	1st	Discussion of Probable Questions and Answers (3)
	2nd	Discussion of Probable Questions and Answers(4)
	3rd	Discussion of Probable Questions and Answers (5)
	4th	Discussion of Probable Questions and Answers (6)