

BHADRAK ENGINEERING SCHOOL AND TECHNOLOGY, ASURALI, BHADRAK

ADVANCE MANUFACTURING PROCESS (Th.-04(b))

CHAPTER-WISE DISTRIBUTION OF PERIODS

Sl. No.	Name of the Chapter	Periods as per Syllabus	Periods actually needed	Expected Marks
01	Modern machining Process	20	25	24
02	Plastic Processing	10	09	10
03	Additive Manufacturing Process	15	12	20
04	Special Purpose Machines	07	05	15
05	Maintenance of Machine Tools	08	07	15
	TOTAL	60	58	100

Sign of Lect.

Sign of HOD.

Sign of AIC

Sign of Vice Principal

LESSON PLAN

Discipline: Mechanical Engg.	Semester: Sixth(6 th)	Name Of The Faculty: Er Sanjay Kumar Sahoo
Subject: Advanced manufacturing process.	No of days/ week class allotted: Six(6)	Semester from date: 14. 02.2023 to Date: 23. 05.2023 No of weeks: 15
WEEK	CLASS DAY	THEORY TOPICS
1 st	1 st	Chapter No.- 01(Modern Machining Processes Introduction: Comparison with traditional machining.
	2 nd	Ultrasonic Machining: principle, Description of equipment,
	3 rd	Area of Applications
	4 th	Electric Discharge Machining
	5 th	Working principle, Description of equipment,
	6 th	Dielectric Fluid, tools (electrodes), Process parameters,
2 nd	1 st	output characteristics & Applications
	2 nd	Wire cut EDM Working principle
	3 rd	Description of equipment,
	4 th	controlling parameters & Applications
	5 th	Abrasive jet machining -Working principle
	6 th	Material removal rate
3 rd	1 st	Area of Application
	2 nd	Laser beam machining process Description of equipment.
	3 rd	Material removal rate
	4 th	Area of Application
	5 th	Electro chemical machining process, Working principle
	6 th	Material removal rate
4 th	1 st	Area of Application
	2 nd	Plasma arc machining process, working principle
	3 rd	Monthly test-01
	4 th	Material removal rate
	5 th	Area of Application
	6 th	Electron Beam machining- Principle description of equipment
5 th	1 st	Material removal rate
	2 nd	, Process parameters
	3 rd	Performance characteristics
	4 th	& Area of Application
	5 th	Review class

	6 th	Possible question answer discussion
6 th	1 st	Chapter No.- 02 (Plastic Processing) Processing of plastics
	2 nd	Moulding processes: Injection moulding
	3 rd	Compression moulding
	4 th	Transfer moulding
	5 th	Extruding; Casting; Calendaring
	6 th	Fabrication methods-Sheet forming, Blow moulding
7 th	1 st	Laminating plastics (sheets, rods & tubes)
	2 nd	Reinforcing.
	3 rd	Applications of Plastics
	4 th	Review class
	5 th	Possible question answer discussion
	6 th	Monthly test-02
8 th	1 st	Chapter No.- 03 (Additive Manufacturing Process) Introduction; Need for Additive Manufacturing Process
	2 nd	Fundamentals of Additive Manufacturing, AM Process Chain
	3 rd	Advantages and Limitations of AM, commonly used Terms
	4 th	Classification of AM process, Fundamental Automated Processes
	5 th	Distinction between AM and CNC, other related technologies
	6 th	Application –Application in Design, Aerospace Industry
9 th	1 st	Automotive Industry, Jewellery Industry, Arts and Architecture
	2 nd	RP Medical and Bioengineering Applications
	3 rd	Web Based Rapid Prototyping Systems
	4 th	Concept of Flexible manufacturing process, concurrent engineering.
	5 th	production tools like capstan and turret lathes
	6 th	rapid prototyping processes
10 th	1 st	Possible question answer discussion
	2 nd	Chapter No.- 04 (Special Purpose Machines (SPM)) Concept
	3 rd	General elements of SPM
	4 th	Productivity improvement by SPM
	5 th	Principles of SPM design.
	6 th	Monthly test -03
	1 st	Review class

11 th	2 nd	Possible question answer discussion
	3 rd	Chapter No.- 05 (Maintenance of Machine Tools) Maintenance of Machine Tools- Types of maintenance
	4 th	Repair cycle analysis,
	5 th	Repair complexity, Maintenance manual
	6 th	Maintenance records, Housekeeping
12 th	1 st	Introduction to Total Productive Maintenance (TPM)
	2 nd	Cont.
	3 rd	Cont.
	4 th	Review class
	5 th	Review class
13 th	6 th	Possible question answer discussion
	1 st	Monthly test-04
	2 nd	Review class chapter no -01
	3 rd	Review class chapter no -02
	4 th	Review class chapter no -03
	5 th	Review class chapter no -03
14 th	6 th	Review class chapter no -04
	1 st	Review class chapter no -04
	2 nd	Review class chapter no -04
	3 rd	Review class chapter no -05
	4 th	Review class chapter no -05
	5 th	Previous year question answer practice
15 th	6 th	Previous year question answer practice
	1 st	Previous year question answer practice
	2 nd	Previous year question answer practice
	3 rd	Previous year question answer practice
	4 th	Previous year question answer practice
	5 th	Previous year question answer practice
	6 th	Previous year question answer practice