

GOVERNMENT POLYTECHNIC JAIPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019

Website: <https://www.gpjajpur.org> E-mail: principalgpjajpur@yahoo.co.in Contact: 9437155107

**DEPARTMENT OF MECHANICAL ENGINEERING
LESSON PLAN (2022-23)**

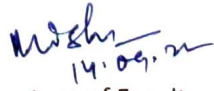
Discipline: Mechanical	Semester: 3rd	Name of the Teaching faculty: Manas Kumar Mishra
Subject: Production Technology	No of Days/Week class alloted: 3	Semester from Date: 15/09/22 To Date: 22/12/22 No of weeks: 16
Week	Class Day	Topics
1st	1st	1. Metal Forming Processes
		i) Lesson plan, Syllabus
		ii) importance of this Course, Course Outcomes
		iii) Exams, Class Tests
	2nd	iv) hot working and cold working process
		i) Extrusion process
		ii) Classification of extrusion processes
		iii) direct extrusion process
2nd	1st	i) indirect extrusion ii) impact extrusion
	2nd	i) rolling process ii) classification of rolling process
	3rd	i) cold rolling and hot rolling process.
	4th	i) cold rolling and hot rolling process.
3rd	1st	i) different types of rolling mills used in Rolling process.
	2nd	2. Welding
	3rd	i) welding and classification of various welding processes.
	4th	i) function of fluxes used in welding ii) tools and equipments
4th	1st	i) welding techniques and positions ii) types of joints and safety measures
	2nd	i) Types of flames used in Oxy-acetylene welding
	3rd	i) Arc welding process ii) tools and equipments
	4th	i) Arc welding process parameters ii) safety measures
5th	1st	i) Specification of an arc welding electrodes.
	2nd	i) resistance welding principles ii) classification
	3rd	i) butt welding ii) flash welding

	4th	i) projection welding ii) seam welding iii) percutaion welding
6th	1st	i) TIG welding process ii) equipments
	2nd	i) MIG welding process ii) equipments iii) differences between TIG and MIG welding process
	3rd	i) welding defects ii) causes and remedies
	4th	i) welding defects, causes and remedies
	1st	i) DT and NDT tests
7th	2nd	3. Casting i) defination of casting ii) classification of casting process
	3rd	i) procedure of Sand mould casting.
	4th	i) different types of molding sands with their composition
	1st	i) molding sand properties
8th	2nd	i) different types of pattern
	3rd	i) various pattern allowances
	4th	i) Classification of core
	1st	i) construction and working of cupola furnace
9th	2nd	i) construction and working of cupola furnace
	3rd	i) construction and working of crucible furnace
	4th	i) die casting methods and principles
	1st	i) cold chamber die casting, advantages, limitations, applications
10th	2nd	i) True centrifugal casting process ii) Semi centrifugal casting
	3rd	i) centrifuging ii) advantages, limitations and applications
	4th	i) various casting defects with their causes and remedies.
	1st	CLASS TEST 1 (UNIT 1, 2 & 3)
11th	2nd	4. Powder Metallurgy i) powder metallurgy process
	3rd	ii) advantages of powder metallurgy technology technique
	4th	i) methods of producing powder from materials
	1st	i) methods of producing components by powder metallurgy technique
12th	2nd	i) methods of producing components by powder metallurgy technique
	3rd	i) sintering process and secondary processes
	4th	i) Economics of powder metallurgy

13th	1st	5. Press Work	
		i) press work process and process parameters	
	2nd	i) blanking operation	
		ii) punching	
		iii) trimming	
3rd	i) various types of die and punch		
4th	i) various types of die and punch		
14th	1st	i) press work on simple dies, die set up	
		ii) advantages, disadvantages	
		iii) applications	
	2nd	i) press work on compound dies	
		ii) advantages, disadvantages	
		iii) applications	
	3rd	i) press work on progressive dies	
		ii) advantages, disadvantages	
		iii) applications	
	4th	6. Jigs and fixtures	
		i) definitions of jigs and fixture	
		ii) advantages of using jigs and fixtures	
15th	1st	i) principle of locations	
	2nd	i) principle of locations	
	3rd	i) methods of location with respect to 3-2-1 point location of rectangular jig	
	4th	i) various types of jig and fixtures	
16th	1st	i) various types of jig and fixtures	
	2nd	CLASS TEST 2 (UNIT 4,5 &6)	
	3rd	Previous year questions, Probable exam questions/VST	

LEARNING RESOURCES

Sl. No.	Author	Title of the book
1	O.P. Khanna	Production Technology, Vol- I& II
2	B.S Raghuwanshi	Workshop technology, Vol- I& II
3	P.N. Rao	Manufacturing technology, Vol I&II
4	P.C.Sharma	Manufacturing technology, Vol- I


 14.09.22
 Signature of Faculty
 Manas Kumar Mishra
 Lecturer, Mechanical