

**GOVERNMENT POLYTECHNIC JAIPUR**

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**DEPARTMENT OF MECHANICAL ENGINEERING**

**LESSON PLAN (2021-22)**

<b>Discipline: Mechanical</b>	<b>Semester: 3rd</b>	<b>Name of the Teaching faculty: Manas Kumar Mishra</b>
<b>Subject: Production Technology</b>	<b>No of Days/Week class allotted: 4</b>	<b>Semester from Date: 2/10/21 To Date: 31/01/22 No of weeks: 16</b>
<b>Week</b>	<b>Class Day</b>	<b>Topics</b>
1st	1st	i) introduction to Production technology
		ii) importance of this subjects, Cos
		iii) syllabus description of each module
		iv) Extrusion process
	2nd	i) Classification of extrusion processes
		ii) direct extrusion process
	3rd	i) indirect extrusion
		ii) impact extrusion
4th	i) rolling process	
	ii) classification of rolling process	
2nd	1st	i) hot working and cold working process
	2nd	i) cold rolling and hot rolling process.
	3rd	i) different types of rolling mills used in Rolling process.
	4th	i) welding and classification of various welding processes.
3rd	1st	i) function of fluxes used in welding
	2nd	i) Oxy-acetylene welding process
		ii) tools and equipments
	3rd	i) Oxy-acetylene welding process parameters
ii) safety measures		
4th	i) various types of flames used in Oxy-acetylene welding	
4th	1st	i) Arc welding process
		ii) tools and equipments
	2nd	i) Arc welding process parameters
		ii) safety measures
	3rd	i) Specification of an arc welding electrodes.
	4th	i) resistance welding principles
		ii) classification
	1st	1st
ii) flash welding		
2nd		i) projection welding
		ii) seam welding

5th		iii) percutaion welding
	3rd	i) TIG welding process
		ii) equipments
	4th	i) MIG welding process
ii) equipments		
6th	1st	i) differences between TIG and MIG welding process
	2nd	i) welding defects
		ii) causes and remedies
	3rd	i) welding defects
ii) causes and remedies		
4th	CLASS TEST 1, Previous year questions, quiz test	
7th	1st	i) defination of casting
		ii) classification of casting process
	2nd	i) procedure of Sand mould casting.
	3rd	i) different types of molding sands with their composition
4th	i) molding sand properties	
8th	1st	i) different types of pattern
	2nd	i) various pattern allowances
	3rd	i) Classification of core
	4th	i) construction and working of cupola furnace
9th	1st	i) construction and working of cupola furnace
	2nd	i) construction and working of crucible furnace
	3rd	i) die casting methods and principles
	4th	i) centrifugal casting process
ii) centrifugal casting		
10th	1st	i) centrifuging
		ii) advantages
	2nd	i) limitation and area of application
	3rd	i) various casting defects with their causes and remedies.
4th	i) various casting defects with their causes and remedies.	
11th	1st	i) Define powder metallurgy process, why powder metallurgy?
	2nd	ii) advantages of powder metallurgy technology technique
	3rd	i) methods of producing powder from materials
	4th	i) methods of powder metallurgy technique.
12th	1st	i) methods of powder metallurgy technique.
	2nd	i) sintering process and secondary processes
	3rd	i) Economics of powder metallurgy
	4th	CLASS TEST 2, Previous year questions, quiz
	1st	i) press work process and process parameters

13th	2nd	i) blanking operation	
		ii) punching	
		iii) trimming	
	3rd	i) various types of punch	
4th	i) various types of dies		
14th	1st	i) press work on simple dies	
		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	i) definitions of jigs and fixture	
	15th	1st	i) advantages of using jigs and fixtures
		2nd	i) principle of locations
3rd		i) methods of location with respect to 3-2-1 point location of rectangular jig	
4th		i) methods of location with respect to 3-2-1 point location of rectangular jig	
16th	1st	i) various types of jig and fixtures	
	2nd	i) various types of jig and fixtures	
	3rd	previous year question discussion	
	4th	CLASS TEST 3, Previous year questions, quiz	

### 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

Signature of Faculty