

GOVERNMENT POLYTECHNIC JAIPUR

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DEPARTMENT OF METALLURGICAL ENGINEERING

LESSON PLAN

Discipline: I Metallurgy	Semester: 6 th	Name of the Teaching faculty: SUVENDU MUDULI, Lect. in Metallurgy
Subject: Industrial Metallurgy	No of Days/Week class allotted: 4	Semester from Date: 16-01-2024 To Date: 26-04-2024 No of weeks: 16
Week	Class Day	Topics
1st	1st	Introduction
	2nd	What is powder metallurgy
	3rd	historical development of P/m
	4th	Advantages of P/m.
2nd	1st	Disadvantages of P/m.
	2nd	Application of P/m.
	3rd	Primary characteristics
	4th	Secondary characteristics
3rd	1st	Products of P/m
	2nd	flow diagram of P/m.
	3rd	Mechanical method of Powder production
	4th	Atomization
4th	1st	crushing
	2nd	Grinding / Milling
	3rd	Machining
	4th	Shotting
	1st	Graining
	2nd	Condensation

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5th	3rd	Thermal decomposition.
	4th	Reduction or DRT method.
6th	1st	Electrodeposition.
	2nd	What is mixing.
	3rd	What is blending.
	4th	Purpose of blending.
7th	1st	What is Compaction.
	2nd	Single action cold compaction.
	3rd	Double action cold compaction.
	4th	Isostatic compaction.
8th	1st	Describe cold chadardage.
	2nd	HIP
	3rd	CIP
	4th	Continuous compaction.
9th	1st	Roll compaction.
	2nd	Sintering.
	3rd	2 stages of sintering.
	4th	2 drawbacks of sintering.
10th	1st	Time, temp, pressure etc.
	2nd	P/M differential products.
	3rd	Sintered friction materials.
	4th	Comments.
11th	1st	Diamond impregnated tools.
	2nd	What is Metal Joining.
	3rd	Welding - Defn
	4th	Classify different welding.
12th	1st	Welding instruments.
	2nd	Gas welding method.
	3rd	ARC welding method.
	4th	TIG
	1st	MIG

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13th	2nd	Oxy - acetylene welding
	3rd	Advantages & limitations of gas welding
	4th	Arc welding - method.
14th	1st	Merit & demerits of arc welding
	2nd	Spot welding
	3rd	Resistance welding.
	4th	Welding Vs. brazing
15th	1st	brazing methods & examples
	2nd	Soldering defn & method.
	3rd	Weldability
	4th	HAZ
16th	1st	Diff. welding defects - examples
	2nd	Method of minimisation.
	3rd	Revision of old topic
	4th	Revision of old chapters.

Schli.
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