

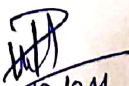
GOVERNMENT POLYTECHNIC JAJPUR

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

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

Discipline: Metallurgy	Semester: 3rd	Name of the Teaching faculty: P ARADHANA	
Subject: Ferrous metallurgy-I	No of Days/Week class allotted: 4	Semestefrom Date: 1/7/24 To Date: 8/11/24 of weeks: 16	No
Week	Class Day	Topics	
1st	1 st	Raw Materials for Iron Making: Different Raw Materials and their functions	
	2 nd	Deposit of iron ores, flux and coal	
	3 rd	Deposit of iron ores, flux and coal	
	4 th	Quality requirements of raw materials: Different types of iron ores.	
2nd	1 st	Composition and characteristics of raw materials.	
	2 nd	Evaluation of iron ores	
	3 rd	Properties of Metallurgical coal	
	4 th	Difference between coal and coke	
3rd	1 st	Required properties of coke for making iron	
	2 nd	properties of Flux and its types	
	3 rd	Evaluation of Flux	
	4 th	Burden Preparation: Quality of burden (physical & chemical properties)	
4th	1 st	Burden Preparation: Quality of burden (physical & chemical properties)	
	2 nd	Different types of agglomeration: sintering	
	3 rd	sintering	
	4 th	Palletizing	
5th	1 st	Palletizing	
	2 nd	Nodulizing	
	3 rd	Briquetting	
	4 th	Blast Furnace Fuel: Function of coke	
6th	1 st	Quality requirement of coke	
	2 nd	B.F. fuel	
	3 rd	Auxiliary fuels	
	4 th	Fuel Injection	
7th	1 st	Factors affecting fuel consumption in blast furnace	
	2 nd	Blast furnace Operation: Blowing in & Drying	
	3 rd	Filling & Blowing out	
	4 th	Banking in & Blowing down	
8th	1 st	Tapping & Fanning	
	2 nd	Backdraughting & Disposal of slags	

	3 rd	Slagsgranulation&theirutilization
	4 th	Blastfurnacerefractories: stack lining & bosh lining
9th	1 st	Hearth wall & bosh wall, Blastfurnacecoolingarrangement
	2 nd	Shaftcoolers, Hearth & bosh coolers
	3 rd	Tuyeresassembly, Tuyeresassembly
	4 th	Rawmaterialsection & Chargehostingappliances
10th	1 st	Blowers,boilers,pumps, Gas cleaning plant
	2 nd	FurnaceirregularitiesandRemedies:Hanging, Scaffolding
	3 rd	Slip, Chilledhearth
	4 th	Pillaring, Break out
11th	1 st	Chockingofgasofftake & Floodingandcokeejectionthroughtaphole
	2 nd	Leakingtuyerstapholesandcoolers &Channeling
	3 rd	Chemistryof BlastFurnace operation: Blastfurnaceprofile
	4 th	Thermal,physicalandchemicalprofile
12th	1 st	Thermal,physicalandchemicalprofile
	2 nd	Physicalchemistryofblastfurnaceprocess
	3 rd	Physicalchemistryofblastfurnaceprocess
	4 th	Reactionsintuyerezone
13th	1 st	Reactionin stack
	2 nd	Reactionin bosh
	3 rd	Reactionin hearth Efficiencyof B.F.process
	4 th	Reactionsintuyerezone
14th	1 st	Direct&indirectreduction
	2 nd	Direct&indirectreduction
	3 rd	Silicon&sulphurreaction
	4 th	BurdencalculatationforB/Foperation
15th	1 st	Belllesscharging
	2 nd	Hightoppressureoperation
	3 rd	Humidification&oxygenenrichmentofblast
	4 th	Externaldisiliconisation
16th	1 st	desulphurization
	2 nd	Revision
	3 rd	Revision
	4 th	Revision


 1/12/24

