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 alloted: 4**	**Semestefrom Date:** 1/7/24 **To Date:** 8/11/24 **No of weeks: 16**
Week	**Class Day**	**Topics**
1st	1st	Raw Materials forIronMaking: DifferentRawMaterialsandtheirfunctions
	2nd	Depositsofironores, fluxandcoal
	3rd	Depositsofironores, fluxandcoal
	4th	Qualityrequirementsofrawmaterials: Differenttypesofironores.
2nd	1st	Compositionandcharacteristicsof rawmaterials.
	2nd	Evaluationofironores
	3rd	Properties of Metallurgicalcoal
	4th	Differencebetweencoalandcoke
3rd	1st	Requiredpropertiesofcokeformakingiron
	2nd	propertiesof Fluxand its types
	3rd	Evaluationof Flux
	4th	BurdenPreparation: Qualityofburden(physical& chemicalproperties)
4th	1st	BurdenPreparation: Qualityofburden(physical& chemicalproperties)
	2nd	Differenttypesofagglomeration:sintering
	3rd	sintering
	4th	Palletizing
5th	1st	Palletizing
	2nd	Nodulizing
	3rd	Briquetting
	4th	BlastFurnaceFuel: Functionofcoke
6th	1st	Qualityrequirementofcoke
	2nd	B.F.fuel
	3rd	Auxiliaryfuels
	4th	FuelInjection
7th	1st	Factorsaffectingfuelconsumptioninblastfurnace
	2nd	BlastfurnaceOperation: Blowingin &Drying
	3rd	Filling &Blowingout
	4th	Bankingin &Blowingdown
8th	1st	Tapping & Fanning
	2nd	Backdraughting & Disposalofslags

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

7/3/24