GOVERNMENT POLYTECHNIC JAJPUR

A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019
Website: https://www.gpjajpur.org E-mail: principal@gpjajpur@yahoo.co.in Contact: 9437155107

DEPARTMENT OF METALLURGICAL ENGINEERING

LESSON PLAN

Discipline: Metallurgy	Semester: 5th	Name of teaching faculty: Hari Shankar Dehuria P.T.G.F in metallurgy
Subject: I.C.E.A.M.M. Metallurgy-I	No day/ week class: 4	No of week: 16 Session: winter 2022
Week	Class Day	Topic
1st	1st	Introduction of Iron Making.
	2nd	Discuss about RAW MATERIALS OF ORES, Minerals, flux, their uses.
	3rd	Deposite of Iron ores flux and Coal in India with particular reference to ODISHA
	4th	Quality Requirement of Raw materials.
	5th	
2nd	1st	Different types of Iron Ore
	2nd	Composition & chemistry of Raw Materials
	3rd	Evaluation of Iron Ore
	4th	Metallurgical Coal
	5th	
3rd	1st	Difference between Coal & Coke.
	2nd	Required properties of Coke for making Iron.
	3rd	Flux & its types, uses.
	4th	Evaluation of Flux (Acidic & Basic)
	5th	
4th	1st	Quality of Burden (Physical & Chemical properties)
	2nd	Different types of Agglomeration
	3rd	Blast Furnace Fuel Full Discussion.
	4th	Introduction to Coke, function of Coke.
	5th	
5th	1st	Quality Requirement of Coke.
	2nd	Preparation of B.F. fuel in India
	3rd	Auxiliary Fuels
	4th	Fuels Injection, factors affecting fuel consumption in B/F.
	5th	
	1st	Blast Furnace Operation. (Cycle).
	2nd	Different Kind of Charging Method & process.

Hari Shankar Dehuria
14/09/2022

6th	3rd	Blowing in / Drying
	4th	Filling / Blowing Out
	5th	
7th	1st	Banking In full Discussion.
	2nd	Blowing down full Discussion
	3rd	Tapping / Tuyering Back Draughting
	4th	Risks Jabount
	5th	
8th	1st	Disposal Of Slags, Black Draughting.
	2nd	Discuss about Granulation & Their Utilization
	3rd	Full Diagram of B/F.
	4th	Different Zone of B/F (Full Details)
	5th	
9th	1st	Blast Furnace Accessories.
	2nd	Blast Furnace Refractories (Discuss)
	3rd	Stack Lining, Hearth Lining
	4th	Discuss about Hearth Wall & Bosh Lining
	5th	
10th	1st	Blast Furnace Cooling Arrangement
	2nd	Shaft coolers & Hearth & Bosh coolers
	3rd	Tap Hole & tap hole Drilling Machine.
	4th	Cast House in full Details
	5th	
11th	1st	Discuss about Tuyeres Assembly
	2nd	Raw Material Section in Cast House
	3rd	Charge hoping appliance
	4th	Full details about Top Charging System.
	5th	
12th	1st	Discuss about Blowers, Boilers, Pumps.
	2nd	Gas Cleaning Plants
	3rd	Working of Blast Furnace Stoves.
	4th	Blast Furnace Irregularities & Remedies.
	5th	
13th	1st	Hanging & Scaffolding
	2nd	Slip & Chilled Hearth
	3rd	Pillaring & Break Out
	4th	Checking of Gas off take
	5th	
	1st	Flooding & Coke ejection through tuph hole

Hazi Shaker Dewan
14/09/2023

14th	2nd	Cooking types & Channeling.
	3rd	Physical Chemistry of B/F.
	4th	Reaction in Tuyere Zone, Reaction in Stack
	5th	
15th	1st	Reaction in Bosh & Hearth.
	2nd	Efficiency of B/F process
	3rd	Direct & Indirect Reduction
	4th	Silicon & Sulphur reaction, Burden Calculation.
	5th	
16th	1st	MODERN B/F
	2nd	Bell less Charging. High top pressure Operation.
	3rd	Humidification & Oxygen enrichment of B/F External desiliconisation
	4th	External desulphurization, Reversion.
	5th	

Hasi Shaker Debnath
14/09/2022