

LESSON PLAN-3rd SEMESTER ( 2020 )				
SUBJECT:FERROUS METALLURGY				
NAME OF THE FACULTY: SOURAV ADHYA				
MONTH	MODULE/UNIT	COURSE TO BE COVERED	CLASSES REQUIRED	REMARKS
AUGUST	1	<b>Raw Materials for iron Marking</b>	4	
		Defferent Raw Materials and their function	2	
		Deposits of iron ores flux and coal in india with particulars reference to Odisha	2	
	2	<b>Quality requirement of raw materials</b>	8	
		Defferent types of iron ores	1	
		Composition and characteristics of raw material	1	
		Evaluation of iron ores	1	
		Metallurgical Coal	1	
		Difference between coal and coke	1	
		Required properties of coke for making iron	1	
		Flux and its types	1	
		Evaluation of Flux (available base & basicity)	1	
SEPTEMBER	3	<b>Burden Preparation</b>	8	
		Quality of burden (physical & chemical properties)	3	
		Different types of agglomeration required for burden preparation for blast furnace	5	
	4	<b>Blast Furnace Fuel</b>	8	
		Funcion of coke	1	
		Quality requirement of coke	2	
		Preparation of B.F fuel in India	1	
		Auxiliary fuels	2	
		Fuel Injection	1	
		Factors affecting fuel consumption in blast furnace	1	
October	5	<b>Blast Furnace Operation</b>	8	
		Charging methods and process of (Blowing in , Drying,Filing)	1	
		Charging methods and process of (Blowing out ,Banking in,Blowing down)	2	
		Charging methods and process of (Tapping,Fanning,Back draughting)	2	
		Disposal of slags	2	
		Slags granulation & their utilization	1	
	6	<b>Blast furnace Accessories</b>	8	
		Blast furnace refractories, Stack lining, Hearth walls,Bosh lining.	2	
		Blast furnace cooling arrangement, shift coolers, Hearth & bosh coolers, Tap hole driling machine, Cast house.	2	

		Tuyeres assembly ,Raw materials section, Charge hosting appliances, Top Charging system.	3	
		(Blowers, boilers, pumps ) Gas cleaning plant, Blast furnace stoves	1	
NOVEMBER	7	<b>Blast furnace irregularities and Remedies</b>	8	
		Hanging ,Scaffolding	2	
		Slip, Chilled hearth, Pillaring ,Break out.	2	
		Chocking of gas off take, Flooding and coke ejection through tap holes, Leaking tuyers tap holes and coolers.	3	
		Channeling	1	
	8	<b>Chemistry of Blast Furnace operation</b>	8	
		Blast furnace profile, (Thermal, physical and chemical profile), Physical chemistry of blast furnace process.	3	
		Reaction in tuyere zone, Reaction in stack, Reaction in hearth, Reaction in bosh.	3	
		Efficiency of B.F .Process, Direct & indirect reduction, Silicon & sulphur reaction.	2	