

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN Session-2023-2024

Discipline: Mettallurgical Engg. Semester: 3rd

Subject: FR

Name of the Teaching Faculty: Dillip Kumar Meher

Subject: FR No. of Days/per week class allotted 04

Semester From Date: 1/8/23 To Date: 30/11/23 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
01	1	Define fuel
	2	classify types of fuel
	3	Importance of solid, liquid & gaseous fuels
	4	Describe different fuels & resources in India
02	5	Explain origin of coal
	6	Composition of coal
	7	characteristics & significance of coal
	8	Proximate & Ultimate analysis
03	9	Define C.V. of coal
	10	Swelling index of coal (Description)
	11	Criteria of selection of metallurgical coal
	12	Carbonization of coal with objectives


Signature of the Faculty

Subject: FR No. of Days/per week class allotted 4

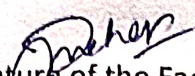
Semester From Date: 1/8/23 To Date: 30/11/23 No. of Weeks: 15

Week	Class Day	Theory /Practical Topics
04	13	Explain Carbonisation of Coal
	14	Difference between HTC & LTC
	15	Merits & demerits of HTC & LTC
	16	Shatter & Micum index test for coke
05	17	Origin of Petroleum
	18	Constitution of Petroleum (explanation)
	19	Constitution of Petroleum
	20	Properties of petroleum products
06	21	Distillation of Crude Petroleum
	22	Production & uses of Coal tar
	23	Sp. gravity, viscosity, cloud pt. etc. (Definition)
	24	Pour point, aline point, cetane number etc. (Definition)


Signature of the Faculty

Subject: FR No. of Days/per week class allotted 4
Semester From Date: 11/8/23 To Date: 30/11/23 No. of Weeks: 15

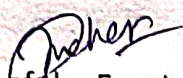
Week	Class Day	Theory / Practical Topics
07	25	Testing of sp. gravity, viscosity
	26	Testing of flash point, Pour pt. etc.
	27	Production of methane, water gas
	28	Utilisation of water gas & methane
08	29	Production of producer gas
	30	Production of carbureted water gas
	31	Production & utilisation of coke oven gas
	32	Production of blast furnace gas
09	33	Utilisation of B/F gas
	34	Production of natural gas
	35	Utilisation of natural gas
	36	Production of mixed gas


Signature of the Faculty

Subject: FR No. of Days/per week class allotted 4

Semester From Date: 1/8/23 To Date: 30/11/23 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
10	37	Introduction to Combustion
	38	Elementary Principle of Combustion
	39	Hess's law of constant heat summation
	40	Hess's law of constant heat summation
11	41	Kirchoff's law (Definition)
	42	Kirchoff's law (explanation)
	43	Simple problems on Combustion
	44	Problems on Combustion
12	45	Define refractories
	46	Classify refractories
	47	Properties of refractories
	48	Properties of refractories


Signature of the Faculty

Subject: FR No. of Days/per week class allotted 4

Semester From Date: 1/8/23 To Date: 30/11/23 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
13	49	Silica, Fire clay (Raw material, making process)
	50	Magnesia, Dolomite (Raw material, making process)
	51	Chrome magnesite (Raw material, making process)
	52	Graphite, Carbon bricks (Raw material, making process, Properties)
14	53	Discuss special properties as high alumina
	54	Discuss special properties as mullite, SiC
	55	Special properties of Zirconia
	56	BIF, L.D. (selection criteria of) refractories
15	57	Open hearth, arc furnace (Selection Criteria)
	58	Ladle & soaking pit (Selection Criteria)
	59	Coke oven, Copper smelting flash (selection Criteria)
	60	Reheating furnace, reverberatory furnace (Selection Criteria)


Signature of the Faculty