

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH



PROGRESS REGISTER Session-2022-2023

Discipline: Metallurgical Engg.

Semester: 4th

Subject: SIFA

Name of the Teaching Faculty: Anadi Charan Jena

Subject: SIFA No. of Days/per week class allotted 04Semester From Date: 14.2.23 To Date: 23.5.23 No. of Weeks: 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
14.2.23	Review of sponge iron making	Reviews	History of sponge iron	<u>At</u>
15.2.23	Development of sponge iron making	Same	Same	<u>At</u>
17.2.23	Chronological evolutions	Chronological evolutions	Same	<u>At</u>
20.2.23	Conventional & Direct Feed	Adv. of DRI	Comparison	<u>At</u>
21.2.23	Thermodynamics	Same	Principles	<u>At</u>
22.2.23	DRI, Reactions	Same	reductions	<u>At</u>
24.2.23	Reaction between coal, O ₂ , CO ₂	Same	Same	<u>At</u>
27.2.23	Reduction between ore & CO	same	Reaction CO & ore	<u>At</u>
28.2.23	Reaction mechanism	In coal based processes	same	<u>At</u>
1.3.23	Reaction mechanism gas-based processes	Same	Same	<u>At</u>
3.3.23	Reduction by CO and H ₂	Downward reaction	Importance	<u>At</u>

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

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6.3.23	Reduction by Carbon	Reduction reaction	Importance	<u>AA</u>
10.3.23	Carbon deposition reaction	Same	Mechanism, Importance	<u>AA</u>
13.3.23	Kinetics in DRI	Same	Rate of reaction	<u>AA</u>
14.3.23	Reducibility of iron ore	Same	Different factors	<u>AA</u>
15.3.23	Rate controlling factors	Rate controlling factors	Same	<u>AA</u>
17.3.23	Major DRI processes	Classification	List of DRI processes	<u>AA</u>
20.3.23	Coal-based DRI processes	Same	Same	<u>AA</u>
21.3.23	cont to	Same	Same	<u>AA</u>
22.3.23	Gas-based DRI processes	Same	Midrex, Diagram	<u>AA</u>
24.3.23	Gas based DRI process	Same	Fluidised, HYL process	<u>AA</u>
27.3.23	cont to	Same	HYL process	<u>AA</u>

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
28.3.23	Use of DR1	uses in Iron & steel industries	same	<u>AA</u>
29.3.23	Parameters of spongy iron making	Raw materials	same	<u>AA</u>
31.3.23	Physical and chemical tests	composition, reducibility etc.	same	<u>AA</u>
3.4.23	Tests on non-coke load	same	same	<u>AA</u>
4.4.23	Effect of size on reducibility	Effect of size	explanation	<u>AA</u>
5.4.23	Carbon enrichment	Carbon enrichment	adv.	<u>AA</u>
10.4.23	Flow of solids in reactor	same	same	<u>AA</u>
11.4.23	Process parameters	Process parameters	same	<u>AA</u>
12.4.23	Non-magnetic	same	adv & dsad.	<u>AA</u>
17.4.23	Abnormalities	same	pressure, temp. etc	<u>AA</u>
18.4.23	Major problems in DR1	same	same	<u>AA</u>

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Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
19.4.23	start up, shut down process	Procedure	same	<u>HA</u>
21.4.23	Acidation, plant operation	same	detailed discussion	<u>HA</u>
24.4.23	Quality control in DRI plant	same	sampling processes	<u>HA</u>
25.4.23	chemical analysis	in sponge, iron ore dolomite etc	same	<u>HA</u>
26.4.23	Scheme of quality control	same	Reaction feed, iron ore, Back spill slimes coal	<u>HA</u>
28.4.23	Fe(T), Fe(M) determination	same	calculations	<u>HA</u>
1.5.23	Environmental management	same	same	<u>HA</u>
2.5.23	Air pollution, fugitive dust water pollution	same	control	<u>HA</u>
3.5.23	Solid waste generation, wastes	same	control	<u>HA</u>
8.5.23	Health & safety	Precautions standards	same	<u>HA</u>
9.5.23	Ferro-alloys production	Introduction	Introduction	<u>HA</u>

