PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF ENGINEERING & TECHNOLOGY, BARGARH

PROGRESS REGISTER

Session-2022-2023

Discipline: Metallurgical Engg.

Semester: 4th Subject: PM

Name of the Teaching Faculty: Arad Charan Jena

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

Semester From Date : 14.2.23 To Date : 23.6.23 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	Crystal and Crystallography	Definitions, explanations	Same	
15.2.23	Space lattice unit cell	Definitions	Structures	
17.2.23	Crystal lattices	Types of lattices	explanation	
20.2.23	BCC, FCC, HCP structures	Same	Structures	
21.2.23	Planes, miller indices, directions	Same	explanation with figures	
23.2.23	Isotropic and anisotropic properties	Same	explanations	
24.2.23	Crystal defects	Types	explanation of differences	
25.2.23	Crystal defects	classification	Same	
27.2.23	Solid solutions, alloys	definitions	Curves	
28.2.23	Solidification of metals	Same	Cooling Curves	
2.3.23	Crystallisation of metals	Same	explanation with diagrams	

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

Semester From Date : 14.2.23 To Date : 23.6.23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
3.3.23	Free energy concept	definitions	factors	
4.3.23	cooling concepts	Super and undercooling	explanations	
6.3.23	Degree of Super cooling	Same	Same	
9.3.23	Solidification Mechanisms	factors	explanation with figures	
10.3.23	Nucleation and grain growth	Explanations	factors	
11.3.23	Types of nucleation	Critical size of nucleus	Same	
13.3.23	Equilibrium diagrams	Same	Importance	
14.3.23	Uses of eq. diagram	concepts	Same	
16.3.23	Binary equi diagrams	Explanation, drawing	Same	
17.3.23	Types of equilibrium diagrams	For binary alloys	How to draw -	
18.3.23	Isomorphous eq. diagrams	Same	Concepts, curves	

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Semester From Date : 14.2.23 To Date : 23.3.23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
20.3.23	Eutectic type diagrams	explanation with curves	Same	
21.3.23	Eutectoid type diagrams	explanations	Same	
23.3.23	Peritectic type eq. diagrams	Same	Diagram explanations	
24.3.23	Peritectoid type eq. diagrams	Same	Same	
25.3.23	Phase or lever rule	Statement	explanation	
27.3.23	Applications of phase rule	To metallic systems	examples	
28.3.23	Iron-carbon equi diagrams	Same	Explain with figures	
31.3.23	Phases and microstructures	Same	Definitions	
3.4.23	Role of carbon in iron-carbon eq. diagram	Same	Factors	
4.4.23	Lever rule to to Fe-C diagram	Applications	Same	
6.4.23	Solid solutions	Definitions	explanations	

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Semester 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
8.4.23	Types of solid solutions	explanation with figures	Same	
10.4.23	Alloys	Purposes	Types of alloys	
11.4.23	Types of solutions	Substitutional solid solution	explanation	
13.4.23	Interstial solid solution	explanation	same	
15.4.23	Chemical compounds	Formations	Same	
17.4.23	Intermetallic compounds	its properties	Same	
18.4.23	ordered solid solutions	Same	Same	
20.4.23	Disordered solid solutions	explanation	explanation with figures	
21.4.23	Hume-rothery rule	Statement	Applications	
24.4.23	solid solution formation	Factors affecting	same	
25.4.23	cast iron	definitions	Structures	

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

Semester From Date : 14.2.23 To Date : 23.6.23 No. of Weeks : 15

Date	Topics to be covered as per Lesson Plan	Topics actually covered	Points/contents Discussed (in brief)	Signature of Teacher
27.4.23	Cast iron	Types of cast irons	Microstructures	
28.4.23	Difference between steel and cast iron	Same	Same	
29.4.23	Alloy steel	Different from alloy cast iron	Same	
1.5.23	Types of cast irons	compositions	Compositions Microstructures	
2.5.23	Graphitisation	properties	factors	
4.5.23	Microscopes	Different form biological microscope	Same	
6.5.23	Principles of operation	Same	Same	
8.5.23	Types of microscopes	Working principle	Same	
9.5.23	Magnifying power, resolving power	Statement	difference	
11.5.23	Electron microscopy	Principles	Same	
12.5.23	Sample preparation	Same	Procedure	