6th Semester

Mechanical metallurgy Lesson plan

Total number of class = 60

Week No.	Class No.	Chapter Name	Topic Name	Remark	Sign
1	1	Introduction	Introduction to mechanical metallurgy		
	2	-do-	Introduction of dislocation and its types	completed successfully	[illegible]
	3	Introduction	Basic behaviour of deformation		
	4	Introduction	Dislocation in various crystals		
2	1	-do-	Introduction about twinning		
	2	-do-	Difference between slip & twinning		
	3	Deformation of metals	Elastic behaviour of metals		[illegible]
	4		Plastic behaviour of metals		
3	1	-do-	Difference between elastic and plastic behaviour	completed successfully	
	2	Deformation of metals	Yielding criteria of deformation of metals.		[illegible]
	3	-do-	Critically resolved shear stress		
	4	-do-	Derivation and calculation of critically resolved shear stress	completed successfully	
4	1	-do-	Sums about CRSS and derivation of the angles.		[illegible]
	2	-do-	Assignment 1 and its discussion		

Week No.	Class No.	Chapter Name	Topic Name	Remark	Sign
	3		Deformation of polycrystalline aggregates.		
	4	Strengthening mechanism	Introduction about strengthening mechanism	completed successfully	[illegible]
5	1	-do-	Role of grain boundary in strengthening		
	2	Strengthening mechanism	Hall petch equation		[illegible]
	3	-do-	Problems and their solutions of Hall petch equation		
	4	-do-	Yield point phenomenon and its diagram in detail	completed successfully	
6	1	Strengthening mechanism	Lower yield point, ~~to~~ yield elongation and ultimate tensile strength		[illegible]
	2	-do-	Details about strain-aging		
	3	-do-	solid solution strengthening from fine particles		
	4	-do-	solid solution from fibre strengthing	completed successfully	[illegible]
7	1	Strengthening mechanism	Doubt clearing and Revision		

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	2	Strengthening mechanism	Detail about martensitic strengthening Diffusionless transformation	completed successfully	[illegible]
	3	-do-	strain hardening its effect on alloy steel		
	4	Strengthening mechanism	Bauschinger's effect. Hysteresis loop.		[illegible]
8	1	-do-	Assignment 02 Important Questions and discussion	completed successfully	
	2	Fundamentals of Metal working	Different metal working process		[illegible]
	3		Edging, Fullering, swaging types of metalworking process		
	4	-do-	Hot working of metals		
9	1	fundamentals of metal working	Hot working of alloys and cold working of metals & alloys		[illegible]
	2	-do-	Advantages and disadvantages of hotworking & coldworking and their uses.	completed successfully	
	3	-do-	Difference b/w hotworking and coldworking process		
	4	-do-	Doubt clearing class.		

Week No	class No.	chapter Name	Topic Name	Remarks	Sign
10	1	Recovery, recrystallization and grain growth	Recovery process and grain structure changes		[illegible]
	2	-do-	Recrystallization and property changes of grain and crystal	completed successfully	
	3	-do-	Grain growth and crystal structure changes		[illegible]
	4	-do-	Recovery, Recrystallization and Grain growth		
11	1	Rolling	Principles of Rolling		[illegible]
	2	-do-	Hot Rolling and its advantages	completed successfully	
	3	-do-	cold Rolling and its advantage and disadvantage		
	4	-do-	compare between hot rolling and cold rolling		[illegible]
12	1	Rolling	Types of roll pass - open pass and box pass	completed successfully	[illegible]
	2	Rolling	Different types of rolling defects and their remedies		

Week No.	class No.	Chapter Name	Topic Name	Remark	Sign
	3	Forging	Types of forging process		[illegible]
	4	- do -	Properties of forged products	completed successfully	
13	1	- do -	Defects of forged products and their control		
	2	- do -	Remedies of the defects observed in forging process		[illegible]
	3	Extrusion	~~Na~~ Elementary principle of extrusion		
	4	- do -	defects in extruded product		[illegible]
14	1	- do -	manufacturing of seamless pipes		
	2	- do -	Elementary principle of wire drawing	completed successfully	
	3	Wire drawing	Defects of wire drawing		[illegible]
	4	- do -	classification of all the defects of wire drawing and their ~~cla~~ remedies		
15	1	- do -	Elementary concept of deep drawing		
	2	Forming method	Different sheet metal		[illegible]

	Chapter Name	Topic Name	Remark	Sign
		forming process		[illegible]
3	Forming method	Bending, shearing and blanking process in detail	completed successfully	
4	- do -	Revision of whole syllabus Discussion of important questions and answers		[illegible]