

SYNERGY POLYTECHNIC, BBSR

The Lesson Plan

Discipline: Mechanical,	Semester: 3rd.	Name of the Teaching Faculty: Gayed Inma Hasan.
Subject: Engineering Materials.	No of Days/per week class allotted: 5	Semester from Date: 15/9/22 to Date: 22/12/22 No of Weeks: 15
Week	Class Day	Theory/Practical Topics
1st 1st	1st 15-9	Introduction class - Engineering Materials.
	2nd 16-9	Definition and Discussion of Engg. Material
	3rd	
	4th	
	5th	
2nd 2nd	1st 19/9	Classification and Types of Engg. Material
	2nd 20/9	Ferrous and Non-ferrous metals/Alloys.
	3rd 21/9	Physical Properties of materials.
	4th 22/9	Chemical Properties of materials.
	5th 23/9	Requirement of materials based on Performance.
3rd 3rd	1st 26/9	Reliability and Safety of Materials.
	2nd 27/9	Ferrous Material - Characteristics, Application
	3rd 28/9	Non-ferrous material - Classification - Types.
	4th 29/9	Low - High / medium Carbon Steels.
	5th 30/9	Types of Steels - Stainless, Tool Steel.
4th Pooja Vaettim	1st	
	2nd	
	3rd	
	4th	
	5th	
5th	1st 10/10	Effects of alloy on Fe-C, W, Cr, Mn
	2nd 11/10	Carbon - System, Definition, Diagram
	3rd 12/10	Phase diagram - Explanation, Type
	4th 13/10	Cooling curve diagrams.
	5th 14/10	Iron Carbon - diagram - details.

Gayed Inma Hasan
13/9/22
Sign of Faculty

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HOD

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Principal

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Discipline: Mechanical,	Semester: 3rd	Name of the Teaching Faculty: Syed Imra Hasan,
Subject: Engineering Materials-1	No of Days/per week class allotted: 5	Semester from Date: 15.9.22 to Date: 22.12.22 No of Weeks: 15
Week	Class Day	Theory/Practical Topics
1st 6th	1st 12/10	Chapter - Test / Curpse Test.
	2nd 18/10	Crystal System → Types, Definition
	3rd 19/10	Crystal Imperfections + Perfect Crystal.
	4th 20/10	Types of Imperfections, Point, Line, Surface.
	5th 21/10	Details of Point Imperfection
2nd 7th	1st 24/10	Cause and type of Line Imperfection
	2nd 25/10	Effect of defect on material Properties.
	3rd 26/10	Slip and twinning
	4th 27/10	Chapter Test.
	5th 28/10	Heat Treatment - Definition, Purpose
3rd 8th	1st 31/10	Different Process of Heat Treatment
	2nd 1/11	Annealing Process details
	3rd 2/11	Normalizing Process details
	4th 3/11	Hardening Process details
	5th 4/11	Tempering - Types and Process.
4th 9th	1st 7/11	Stress Relieving methods
	2nd 8/11	Carburizing and Nitriding Process
	3rd 9/11	Effect of Heat Treatment on steel.
	4th 10/11	Hardenability and Hardness of Steel,
	5th 11/11	Chapter - Test.
5th 10th	1st 14/11	Non-ferrous alloys → Aluminium → details
	2nd 15/11	Copper alloy - composition, Property.
	3rd 16/11	Lead based alloys, Property.
	4th 17/11	Zinc alloy - uses, types.
	5th 18/11	Low alloying Elements

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Subject:	No of Days/per week class allotted:	Semester from Date: to Date: No of Weeks:
Week	Class Day/ Date	Theory/Practical Topics
11th	1st 21/11/2022	ISO Symbol of Pneumatic component.
	2nd 23/11/2022	Pneumatic circuit - Direct control. Min/Out.
	3rd 24/11/2022	Single acting / double acting cylinder.
	4th 26/11/2022	Hydraulic control system - Directional/Actv
12th	1st 21/11	Pressure control / Relief valve, Regulators.
	2nd 23/11	D.C.V, Flow control valve - diagram / working
	3rd 24/11	Throttle valve - diagram - Diagram / working
	4th 26/11	Class Test on Pneumatic / Hydraulic.
13th	1st 28/11	External and Internal Gear Pump - Construction.
	2nd 30/11	Vane Pump - working / construction
	3rd 1/12	Radial piston pumps. / working
	4th 3/12	ISO Symbol of Hydraulic component.
14th	1st 5/12.	Hydraulic Actuator - types.
	2nd 7/12	Hydraulic circuit - Diagrams -
	3rd 8/12	operation of double acting cylinder.
	4th 10/12	Meters in/out double acting cylinder
15th	1st 12/12	Comparison of hydraulic / pneumatic
	2nd 14/12	chapter Test.
	3rd 15/12	Qual Answer discussion - Semester
	4th 17/12	Problem solving - doubts.

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Week	Class Day/ Date	Theory/Practical Topics
1st 16	1st 19/12	Short Answer type - discussion.
	2nd 21/12	Previous Year Q and A discussion.
	3rd 22/12	Doubt clearing class.
	4th	
2nd	1st	
	2nd	
	3rd	
	4th	
3rd	1st	
	2nd	
	3rd	
	4th	
4th	1st	
	2nd	
	3rd	
	4th	
5th	1st	
	2nd	
	3rd	
	4th	

San
13/12/22
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HOD

Shahu
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