

KIIT POLYTECHNIC
Department of Mechanical Engineering

LESSON PLAN

Session :: Winter – 2022
Course Type :: Theory
Semester/Branch :: 3rd Semester, Mechanical Engineering
Subject (with code) :: **Production Technology (Theory-1)**
Contact hours/week :: 4
Name of Faculty :: **Rabi Sankar Pattanaik**

SL. No.	CLASS ID	COURSE CONTENT	MODE OF DELIVERY	EXHIBIT/ REFERENCE
1	1	Metal Forming Processes Classification of Metal forming and Recrystallisation, Definition & Classification of Extrusion.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
2	2	Explanation of Direct, Indirect and Impact extrusion.	Hybrid learning	https://youtu.be/CdgBwlz1A14
3	3	Definition and Classification of Rolling.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
4	4	Difference between Hot rolling and Cold rolling.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
5	5	Explanation of the different types of rolling mills.	Hybrid learning	https://youtu.be/dpbQK7D97H4
6	6	Recap/Summarize		
7	7	Powder Metallurgy, Definition and advantages of powder metallurgy.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
8	8	Methods of producing components by powder metallurgy technique: Production of Metal Powder, Blending, Compacting, Presintering, Sintering	Hybrid learning	nptel.ac.in/courses/113/106/113106098/
9	9	Economics of Powder Metallurgy.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
10	10	Recap/Summarize		
11	11	Assignments/ Class test		
12	12	Welding, Definition, Classification, advantages, and disadvantages	Hybrid learning	https://youtu.be/CCzhT81GrBo

13	13	Fluxes used in welding.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
14	14	Oxy-acetylene welding process, Definition with working principle and types of flames used in Oxy-acetylene welding process.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
15	15	Arc welding process, Definition and working principle.	Student Presentation	
16	16	Arc welding electrodes.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
17	17	Resistance welding and its classification	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
18	18	Describe various resistance welding processes such as spot welding, seam welding, flash welding and projection welding.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
19	19	TIG welding process, Its definition and working principle.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
20	20	MIG welding process, Its definition and working principle.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
21	21	State different welding defects with causes and remedies.	Problem based learning	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
22	22	Recap/Summarize		
23	23	Assignments/ Class test		
24	24	Casting, Definition and Classification, procedure of Sand mould casting.	Hybrid learning	https://youtu.be/Eceb02UhvyE https://youtu.be/EIBDp6U8bHo
25	25	Different types of moulding sands with their composition and properties.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
26	26	Pattern and its Classification	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
27	27	pattern allowances	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
28	28	Cupola furnace, its construction and working.	Lecture (Model)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
29	29	Crucible furnace, its construction and working.	Lecture (Model)	Study material/ textbook by G. Thirupati Reddy.

30	30	Hot chamber die casting method with relative advantages, disadvantages and field of application.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
31	31	Cold chamber die casting method with relative advantages, disadvantages and field of application.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
32	32	Centrifugal casting, True centrifugal casting, with advantages, limitation and area of application.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
33	33	Centrifuging Casting	Video presentation	https://youtu.be/VvQoBzE-ZIY https://youtu.be/otdVxjv-zzU
34	34	Investment casting with relative advantages, limitation and area of application.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
35	35	Various casting defects with their causes and remedies.	Lecture (Explanation)	
36	36	Recap/Summarize		
37	37	Assignments/ Class test		
38	38	Press Work: Press tool: Dies and Punches	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
39	39	List various types of die and punch. Simple die with its advantages & disadvantages	Student presentation	
40	40	Compound die with its advantages & disadvantages	Hybrid learning	https://youtu.be/qTuPkrfZB00 https://youtu.be/LKEG3p3yx1g
41	41	Progressive die with its advantages & disadvantages	Hybrid learning	https://youtu.be/8LmwXRpsH7s
42	42	Recap/Summarize		
43	43	Jigs and fixtures: Definition and the advantages of using jigs and fixtures.	Lecture (Explanation)	Study material/ A textbook of Production Technology by G. Thirupati Reddy.
44	44	Principle of locations. Describe the methods of location with respect to 3-2-1-point location of rectangular jig.	Lecture (Explanation)	
45	45	List various types of jig and fixtures.	Lecture (Explanation)	
46	46	Recap/Summarize		
47	47	Assignments/ Class test		
48	48	Revision and Discussion of Previous year questions		

Signature of Concern Teacher