

**DHABALESWAR INSTITUTE OF POLYTECHNIC**  
Academic Lesson Plan for Winter semester- 2021

Department: Mechanical Engineering  
Semester: 3<sup>rd</sup>  
Periods per week: 4  
End semester exam: 80  
Total Marks: 100

Faculty Name-RAKESH KUDEI  
Subject: Production Technology  
Total Periods: 60  
Class test: 20

Sl. No.	Week	Period	Topic to be covered
1.	1 <sup>st</sup>	1 <sup>st</sup>	Extrusion: Definition & Classification
2.		2 <sup>nd</sup>	Explain direct, indirect and impact extrusion process.
3.		3 <sup>rd</sup>	Define rolling. Classify it.
4.		4 <sup>th</sup>	do
5.	2 <sup>nd</sup>	1 <sup>st</sup>	Differentiate between cold rolling and hot rolling process.
6.		2 <sup>nd</sup>	List the different types of rolling mills used in Rolling process.
7.		3 <sup>rd</sup>	do
8.		4 <sup>th</sup>	Define welding and classify various welding processes.
9.	3 <sup>rd</sup>	1 <sup>st</sup>	do
10.		2 <sup>nd</sup>	do
11.		3 <sup>rd</sup>	Explain fluxes used in welding
12.		4 <sup>th</sup>	Explain Oxy-acetylene welding process
13.	4 <sup>th</sup>	1 <sup>st</sup>	Explain various types of flames used in Oxy-acetylene welding process.
14.		2 <sup>nd</sup>	do
15.		3 <sup>rd</sup>	Explain Arc welding process.
16.		4 <sup>th</sup>	Specify arc welding electrodes
17.	5 <sup>th</sup>	1 <sup>st</sup>	Define resistance welding and classify it.
18.		2 <sup>nd</sup>	Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding.
19.		3 <sup>rd</sup>	do
20.		4 <sup>th</sup>	Explain TIG and MIG welding process
21.	6 <sup>th</sup>	1 <sup>st</sup>	do
22.		2 <sup>nd</sup>	do
23.		3 <sup>rd</sup>	State different welding defects with causes and remedies.
24.		4 <sup>th</sup>	Define Casting and Classify the various Casting processes.
25.	7 <sup>th</sup>	1 <sup>st</sup>	do
26.		2 <sup>nd</sup>	Explain the procedure of Sand mould casting.
27.		3 <sup>rd</sup>	Explain different types of molding sands with their composition and properties.
28.		4 <sup>th</sup>	do
29.	8 <sup>th</sup>	1 <sup>st</sup>	Classify different pattern and state various pattern allowances
30.		2 <sup>nd</sup>	Do
31.		3 <sup>rd</sup>	Classify core
32.		4 <sup>th</sup>	Describe construction and working of cupola and crucible furnace.
33.	9 <sup>th</sup>	1 <sup>st</sup>	do
34.		2 <sup>nd</sup>	Explain die casting method
35.		3 <sup>rd</sup>	do
36.		4 <sup>th</sup>	Explain centrifugal casting such as true centrifugal casting, centrifuging with advantages, limitation and area of application

37.	10 <sup>th</sup>	1 <sup>st</sup>	do
38.		2 <sup>nd</sup>	do
39.		3 <sup>rd</sup>	do
40.		4 <sup>th</sup>	Explain various casting defects with their causes and remedies
41.	11 <sup>th</sup>	1 <sup>st</sup>	Define powder metallurgy process.
42.		2 <sup>nd</sup>	State advantages of powder metallurgy technology technique
43.		3 <sup>rd</sup>	Describe the methods of producing components by powder metallurgy technique
44.		4 <sup>th</sup>	do
45.	12 <sup>th</sup>	1 <sup>st</sup>	do
46.		2 <sup>nd</sup>	Explain sintering
47.		3 <sup>rd</sup>	Economics of powder metallurgy
48.		4 <sup>th</sup>	Describe Press Works: blanking, piercing and trimming.
49.	13 <sup>th</sup>	1 <sup>st</sup>	List various types of die and punch
50.		2 <sup>nd</sup>	Explain simple, Compound & Progressive dies
51.		3 <sup>rd</sup>	do
52.		4 <sup>th</sup>	Describe the various advantages & disadvantages of above dies
53.	14 <sup>th</sup>	1 <sup>st</sup>	Define jigs and fixtures, State advantages of using jigs and fixtures
54.		2 <sup>nd</sup>	State the principle of locations
55.		3 <sup>rd</sup>	do
56.		4 <sup>th</sup>	Describe the methods of location with respect to 3-2-1 point location of rectangular jig
57.	15 <sup>th</sup>	1 <sup>st</sup>	do
58.		2 <sup>nd</sup>	List various types of jig and fixtures.
59.		3 <sup>rd</sup>	do
60.		4 <sup>th</sup>	do

MECHANICAL DEPARTMENT