

# GOVT.POLYTECHNIC NAYAGARH

## 3<sup>rd</sup> SEMESTER MECHANICAL ENGINEERING (2024-25) SUBJECT-PRODUCTION TECHNOLOGY

NAME OF FACULTY: Mrs. Monalisa Sahoo, W/S Suptd. & HOD

TOTAL PERIODS-60  
THEORY-4P/WEEK

Semester from :01/07/2024 to 08/11/2024

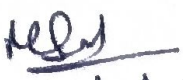
Sl No.	week	Day	Topics to be covered
1	1 <sup>st</sup>	1 <sup>st</sup> day	Introduction to Metal Forming Processes
		2 <sup>nd</sup> day	Extrusion: Definition & Classification
		3 <sup>rd</sup> day	Direct and Indirect Extrusion process
		4 <sup>th</sup> day	Explain Impact extrusion process
Sl No.	week	Day	Topics to be covered
2	2 <sup>nd</sup>	1 <sup>st</sup> day	Define Rolling and Classification
		2 <sup>nd</sup> day	Differentiate between cold rolling and hot rolling process
		3 <sup>rd</sup> day	List the different types of rolling mills used in Rolling process
		4 <sup>th</sup> day	Doubt clearance and Revision
Sl No.	week	Day	Topics to be covered
3	3 <sup>rd</sup>	1 <sup>st</sup> day	Introduction to Welding
		2 <sup>nd</sup> day	Define Welding and classify various welding processes
		3 <sup>rd</sup> day	Fluxes used in welding.
		4 <sup>th</sup> day	Oxy-acetylene welding process
Sl No.	week	Day	Topics to be covered
4	4 <sup>th</sup>	1 <sup>st</sup> day	Types of flames used in Oxy-acetylene welding process
		2 <sup>nd</sup> day	Arc welding process
		3 <sup>rd</sup> day	Difference between DC and AC Arc welding process
		4 <sup>th</sup> day	Specification of Arc welding electrodes
Sl No.	week	Day	Topics to be covered
5	5 <sup>th</sup>	1 <sup>st</sup> day	Define Resistance welding and Classification
		2 <sup>nd</sup> day	Butt welding and Spot welding Process
		3 <sup>rd</sup> day	Flash welding and Projection welding Process
		4 <sup>th</sup> day	Seam welding with advantages and applications
Sl No.	week	Day	Topics to be covered
6	6 <sup>th</sup>	1 <sup>st</sup> day	TIG Welding process with advantages and applications



		2 <sup>nd</sup> day	MIG Welding process with advantages and applications
		3 <sup>rd</sup> day	State different Welding defects with causes
		4 <sup>th</sup> day	Remedies of welding defects
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
7	7 <sup>th</sup>	1 <sup>st</sup> day	Define Casting and Classify the various Casting processes.
		2 <sup>nd</sup> day	Explain the procedure of Sand mould casting
		3 <sup>rd</sup> day	Difference between Green sand and Dry sand mould casting
		4 <sup>th</sup> day	Explain different types of molding sands with their composition and properties
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
8	8 <sup>th</sup>	1 <sup>st</sup> day	Classify different pattern and State various pattern allowances
		2 <sup>nd</sup> day	Classification of Cores
		3 <sup>rd</sup> day	Describe construction and working of cupola furnace
		4 <sup>th</sup> day	Describe construction and working of crucible furnace
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
9	9 <sup>th</sup>	1 <sup>st</sup> day	Die casting method with advantages, application and limitations
		2 <sup>nd</sup> day	True centrifugal casting with advantages, limitation and area of application
		3 <sup>rd</sup> day	Centrifugal casting with advantages, limitation and area of application
		4 <sup>th</sup> day	Various casting defects with their causes and remedies
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
10	10 <sup>th</sup>	1 <sup>st</sup> day	Define powder metallurgy process
		2 <sup>nd</sup> day	State advantages of powder metallurgy technology technique
		3 <sup>rd</sup> day	Describe the methods of producing components by powder metallurgy technique
		4 <sup>th</sup> day	Sintering process of powder metallurgy
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
11	11 <sup>th</sup>	1 <sup>st</sup> day	Economics of powder metallurgy
		2 <sup>nd</sup> day	Introduction to Press Work



		3 <sup>rd</sup> day	Blanking and Piercing operation of Press work
		4 <sup>th</sup> day	Trimming operation of Press work
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
12	12 <sup>m</sup>	1 <sup>st</sup> day	List various types of dies and punch
		2 <sup>nd</sup> day	Explain Simple and Compound Dies
		3 <sup>rd</sup> day	Various advantages and disadvantages of above dies
		4 <sup>th</sup> day	Define jigs and fixtures
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
13	13 <sup>m</sup>	1 <sup>st</sup> day	State advantages of using jigs and fixtures
		2 <sup>nd</sup> day	State the principle of locations
		3 <sup>rd</sup> day	Describe the methods of location with respect to 3-2-1 point location of rectangular jig
		4 <sup>th</sup> day	Describe the methods of location with respect to 3-2-1 point location of rectangular jig
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
14	14 <sup>m</sup>	1 <sup>st</sup> day	List various types of Fixtures
		2 <sup>nd</sup> day	List various types of Jigs
		3 <sup>rd</sup> day	Limitation of Jigs and Fixtures
		4 <sup>th</sup> day	Progressive and Compound Dies
<b>Sl No.</b>	<b>week</b>	<b>Day</b>	<b>Topics to be covered</b>
15	15 <sup>m</sup>	1 <sup>st</sup> day	Doubt clearance and Revision
		2 <sup>nd</sup> day	Doubt clearance and Revision
		3 <sup>rd</sup> day	Doubt clearance and Revision
		4 <sup>th</sup> day	Doubt clearance and Revision

  
 29/7/24