

**NILASAIL INSTITUTE OF SCIENCE & TECHNOLOGY**

SERGARH-756060, BALASORE (ODISHA)

(Approved by AICTE &amp; affiliated to SCTE &amp; VT, Odisha)

**LESSON PLAN****SUBJECT: TH-1 (Production Technology)****CHAPTERWISE DISTRIBUTION OF PERIODS**

Sl.No.	Name of the chapters per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Metal Forming Processes	07	07
2	Welding	16	16
3	Casting	16	16
4	Powder Metallurgy	07	07
5	Press Work	07	07
6	Jigs and fixtures	07	07
TOTAL		60	60

<b>Discipline:</b> MECHANICAL ENGG.	<b>Semester:</b> 3 <sup>rd</sup>	<b>Name of the Teaching Faculty :Er.Debashis Biswal</b>
		<b>Session : 2023-24</b> <b>Examination : 2023(w)</b>
<b>Week</b>	<b>ClassDay</b>	<b>Topics to be covered</b>
<b>1<sup>st</sup></b>	<b>1<sup>st</sup></b>	1.1 Extrusion: Definition & Classification
	<b>2<sup>nd</sup></b>	1.2 Explain direct, indirect and impact extrusion process.
	<b>3<sup>rd</sup></b>	1.2 Explain indirect, indirect and impact extrusion process.
	<b>4<sup>th</sup></b>	1.3 Define rolling. Classify it
<b>2<sup>nd</sup></b>	<b>1<sup>st</sup></b>	1.3 Define rolling. Classify it
	<b>2<sup>nd</sup></b>	1.4 Differentiate between cold rolling and hot rolling process.
	<b>3<sup>rd</sup></b>	1.5 List the different types of rolling mills used in Rolling process.
	<b>4<sup>th</sup></b>	2.1 Define welding and classify various welding process.
<b>3<sup>rd</sup></b>	<b>1<sup>st</sup></b>	2.2 Explain fluxes used in welding.
	<b>2<sup>nd</sup></b>	2.3 Explain Oxy-acetylene welding process.
	<b>3<sup>rd</sup></b>	2.4 Explain various types of flames used in Oxy-acetylene welding process
	<b>4<sup>th</sup></b>	2.4 Explain various types of flames used in Oxy-acetylene welding process
<b>4<sup>th</sup></b>	<b>1<sup>st</sup></b>	2.5 Explain Arc welding process.
	<b>2<sup>nd</sup></b>	2.5 Explain Arc welding process.
	<b>3<sup>rd</sup></b>	2.5 Explain Arc welding process.
	<b>4<sup>th</sup></b>	2.6 Specify arc welding electrodes.
<b>5<sup>th</sup></b>	<b>1<sup>st</sup></b>	2.7 Define resistance welding and classify it.
	<b>2<sup>nd</sup></b>	2.7 Define resistance welding and classify it.
	<b>3<sup>rd</sup></b>	2.8 Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding.
	<b>4<sup>th</sup></b>	2.8 Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding.
<b>6<sup>th</sup></b>	<b>1<sup>st</sup></b>	2.8 Describe various resistance welding processes such as butt welding, spot welding, flash welding, projection welding and seam welding.
	<b>2<sup>nd</sup></b>	2.9 Explain TIG and MIG welding process
	<b>3<sup>rd</sup></b>	2.9 Explain TIG and MIG welding process
	<b>4<sup>th</sup></b>	2.10 State different welding defects with causes and remedies.
<b>7<sup>th</sup></b>	<b>1<sup>st</sup></b>	3.1 Define casting and classify the various casting processes.
	<b>2<sup>nd</sup></b>	3.1 Define casting and classify the various casting processes.
	<b>3<sup>rd</sup></b>	3.2 Explain the procedure of Sand mould casting
	<b>4<sup>th</sup></b>	3.2 Explain the procedure of Sand mould casting

Week	ClassDay	Topics to be covered
8 <sup>th</sup>	1 <sup>st</sup>	3.3 Explain different types of molding sands with their composition and properties.
	2 <sup>nd</sup>	3.3 Explain different types of molding sands with their composition and properties..
	3 <sup>rd</sup>	3.4Classifydifferentpatternandstatevariouspatternallowances
	4 <sup>th</sup>	3.4Classifydifferentpatternandstatevariouspatternallowances
9 <sup>th</sup>	1 <sup>st</sup>	3.5Classify core
	2 <sup>nd</sup>	3.7Explaindiecasting method.
	3 <sup>rd</sup>	3.7Explaindiecasting method.
	4 <sup>th</sup>	3.8Explaincentrifugalcastingsuchastruecentrifugal casting,
10 <sup>th</sup>	1 <sup>st</sup>	3.8Explaincentrifugalcastingsuchastruecentrifugalcasting,centrifugingwith advantages, limitation and area of application
	2 <sup>nd</sup>	3.9Explainvariouscastingdefectswiththeircausesandremedies.
	3 <sup>rd</sup>	3.9Explainvariouscastingdefectswiththeircausesandremedies.
	4 <sup>th</sup>	4.1 Define powder metallurgy process.
11 <sup>th</sup>	1 <sup>st</sup>	4.2Stateadvantagesofpowdermetallurgytechnologytechnique
	2 <sup>nd</sup>	4.3Describethemethodsofproducingcomponentsbypowder metallurgy technique
	3 <sup>rd</sup>	INTERNAL ASSESSMENT
	4 <sup>th</sup>	INTERNAL ASSESSMENT
12 <sup>th</sup>	1 <sup>st</sup>	4.4Explainsintering.
	2 <sup>nd</sup>	4.5Economicsofpowder metallurgy.
	3 <sup>rd</sup>	4.6Describepressworks,blanking, piercing and trimming.
	4 <sup>th</sup>	4.6Describepressworks,blanking, piercing and trimming.
13 <sup>th</sup>	1 <sup>st</sup>	5.3Explainsimple,Compound&Progressive dies
	2 <sup>nd</sup>	5.3Explainsimple,Compound&Progressive dies
	3 <sup>rd</sup>	5.4Describethevariousadvantages&disadvantagesofabovedies
	4 <sup>th</sup>	5.4Describethevariousadvantages&disadvantagesofabovedies
14 <sup>th</sup>	1 <sup>st</sup>	.1Define jigs and fixtures
	2 <sup>nd</sup>	6.2Stateadvantagesofusingjigsand fixtures
	3 <sup>rd</sup>	6.2Stateadvantagesofusingjigsand fixtures
	4 <sup>th</sup>	6.3Statetheprincipleof locations

Week	ClassDay	Topics to be covered
15 <sup>th</sup>	1 <sup>st</sup>	6.4 Describethemethodsoflocationwithrespectto3-2-1pointlocationof Rectangular jig
	2 <sup>nd</sup>	6.4 Describethemethodsoflocationwithrespectto3-2-1pointlocationof Rectangular jig
	3 <sup>rd</sup>	6.5 List various types of jig and fixtures
	4 <sup>th</sup>	6.5 List various types of jig and fixtures