



# GOVERNMENT POLYTECHNIC, BALASORE

Government of Odisha

ସରକାରୀ ଚନ୍ଦ୍ରବୃତ୍ତି ଅନୁଷ୍ଠାନ, ବାଲେଶ୍ଵର

Academic Lesson Plan for Winter semester-2022

Discipline : Mechanical engineering Subject: PRODUCTION TECHNOLOGY.	Semester: 3rd No of Days / Per week class allotted	Name of the Teaching Faculty : Sibendra Nath Ghose No of week: 15
Week	Class day	Theory/Practical topics
1st	1st	UNIT -01 Metal Forming Processes. 1.1 Extrusion: Definition & Classification.
	2nd	1.2 Explain direct, indirect Extrusion.
	3rd	1.2 impact extrusion process.
	4th	1.3 Define rolling. Classify it.
2nd	1st	1.4 Differentiate between cold rolling and hot rolling process.
	2nd	1.5 List the different types of rolling mills used in Rolling process.
	3rd	1.5 Individual explain it.
	4th	Unit -02 -Welding. Introduction about welding joint.
3rd	1st	2.1 Define welding and classify various welding process.
	2nd	2.2 Explain fluxes used in welding.
	3rd	2.3 Explain Oxy-acetylene welding process.
	4th	2.4 Explain various types of flames used in Oxy-acetylene welding process.
4th	1st	2.5 Explain Arc welding process.
	2nd	2.6 Specify arc welding electrodes.
	3rd	2.7 Define resistance welding and classify it
	4th	2.8 butt welding.
5th	1st	2.8 spot welding.
	2nd	2.8 flash welding.
	3rd	2.8 projection welding.
	4th	2.8 seam welding
6th	1st	2.9 Explain TIG and MIG welding process & Difference
	2nd	2.10 State different welding defects with causes.
	3rd	2.10 remedies explain it.
	4th	UNIT -03 Casting Introduction
	1st	3.1 Define Casting and Classify the various Casting

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2th	2nd	processes.
	3rd	3.2 Explain the procedure of Sand mould casting.
	4th	3.3 Explain different types of molding sands with their composition.
	4th	3.3 Explain different types of molding sands With their properties.
3th	1st	3.4 Classify different pattern and explain it.
	2nd	3.4 state various allowances and explain it.
	3rd	3.5 Classify core & Explain it.
	4th	3.6 Describe construction and working of cupola furnace.
3th	1st	3.6 Describe construction and working of cupola crucible furnace.
	2nd	3.7 Explain die casting method.
	3rd	3.8 Explain centrifugal casting such as true centrifugal .
	4th	3.8 centrifuging with advantages, limitation and area of application.
10th	1st	3.8 Limitation and area of application.
	2nd	3.9 Explain various casting defects with their causes.
	3rd	3.9 Explain various casting defects and remedies
	4th	<b>UNIT-4.0 Powder Metallurgy.</b> Introduction
11th	1st	4.1 Define powder metallurgy process.
	2nd	4.2 State advantages of powder metallurgy technology .
	3rd	4.3 Describe the methods of producing components by powder metallurgy technique.
	4th	4.4 Explain sintering.
12th	1st	4.4 process of sintering.
	2nd	4.5 Economics of powder metallurgy.
	3rd	<b>5.0 Press Work.</b> Introduction.
	4th	5.1 Describe Press Works: blanking.
13th	1st	5.1 piercing and trimming.
	2nd	5.2 List various types of die and punch.
	3rd	5.3 Explain simple, Compound Dies.
	4th	5.3 Progressive die
14th	1st	5.4 Describe various advantages & disadvantages dies.
	2nd	<b>6.0 Jigs and fixtures.</b> Introduction
	3rd	6.1 Define jigs and fixtures.
	4th	6.2 State advantages of using jigs and fixtures.
15th	1st	6.3 State the principle of locations.
	2nd	6.4 Describe methods of location with respect to 3-2-1 point location of rectangular jig.
	3rd	6.5 List various types of jig.
	4th	6.5 List various types of Fixtures.

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