

Utkalmani Gopabandhu Institute of engineering, Rourkela
Department of mechanical Engineering

LESSON PLAN

Session :: Winter – 2023

Semester date::01/08/23 to 30/11/23

Course Type :: Theory

Semester/Branch :: 3rd Semester, Mechanical Engineering

Subject (with code) :: Production Technology (Th-1)

Number of hours/week :: 4

Name of Faculty :: Kalebar Singh

week	class	topic
1 st	1	Lesson plan, Syllabus importance and Course Outcomes, pattern of Internal assessment, classtest introduction to metal forming process, Classification of Metal forming and Recrystallisation
2 nd	1	Definition & Classification of Extrusion, direct extrusion process
	2	indirect extrusion, impact extrusion
	3	Definition and Classification of Rolling.
	4	cold rolling and hot rolling process.
3 rd	1	different types of rolling mills used in Rolling process.
	2	Definition of welding and classification of various welding processes.
	3	Fluxes and its uses
	4	Oxy-acetylene welding process
4 th	1	Different welding techniques
	2	types of flames used in Oxy-acetylene welding process.
	3	Arc welding process
	4	Electrodes and its specifications
5 th	1	principles of resistance welding and classification
	2	Butt welding and flash welding
	3	Projection welding and seam welding
	4	TIG welding and its equipments

6 th	1	MIG welding process, difference between TIG and MIG
	2	welding defects causes and remedies
	3	welding defects, causes and remedies
	4	definition of casting, classification of casting process
7 th	1	procedure of Sand mould casting
	2	types of molding sands with their composition
	3	properties molding sand
	4	types of pattern
8 th	1	various pattern allowances
	2	Definition of core and its Classification
	3	construction and working of cupola furnace
	4	construction and working of crucible furnace
9 th	1	principles of die casting process, hot chamber die casting
	2	cold chamber die casting, advantages, limitations, applications
	3	Centrifugal casting, true centrifugal casting, advantages, limitation and application.
	4	Semi centrifugal casting, centrifuging
10 th	1	advantages, limitation and application of semi centrifugal casting and centrifuging
	2	casting defects with their causes and remedies
	3	Internal assessment-01(unit 1,2,3)
	4	powder metallurgy process
11 th	1	advantages of powder metallurgy
	2	methods of producing powder from materials
	3	methods of producing components by powder metallurgy technique
	4	sintering process
12 th	1	Economics of powder metallurgy
	2	Introduction to press work, blanking operation
	3	piercing and trimming
	4	various types of die and punch
13 th	1	Simple die ,advantage and disadvantage
	2	Compound die advantage and disadvantage
	3	press work on progressive dies, advantages, disadvantages applications
	4	definitions of jigs and fixture, advantages, disadvantages
14 th	1	principle of locations of jigs
	2	methods of location with respect to 3-2-1 point location of rectangular jig

	3	various types of jig and fixtures
	4	various types of jig and fixtures
15 th	1	Class test-02(Unit-4,5,6)
	2	Revision of Unit-1 and previous year question discussion
	3	Revision of Unit-2 and previous year question discussion
	4	Revision of Unit-3 and previous year question discussion
16 th	1	Revision of Unit-4 and previous year question discussion
	2	Revision of Unit-5 and previous year question discussion
	3	Revision of Unit-6 and previous year question discussion

Learning Resources

Sl. No. Author Title of the book

1 O.P. Khanna Production Technology, Vol- I& II

2 B.S Raghuwanshi Workshop technology, Vol- I& II

3 P.N. Rao Manufacturing technology, Vol I&II

4 P.C.Sharma Manufacturing technology, Vol- I