UtkalmaniGopabandhu Institute of engineering, Rourkela
Department of mechanical Engineering

LESSON PLAN

Session :: Winter – 2022

Semester date::01/07/24 to 08/11/24

Course Type :: Theory

Semester/Branch :: 3rd Semester, Mechanical Engineering

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

Contact hours/week :: 4

Name of Faculty :: Kalebar Singh

week	class	topic
1st	1	Lesson plan, Syllabus importance and Course Outcomes, pattern of Internal assessment,classtest introduction to metal forming process, Classification of Metal forming and Recrystallisation
2nd	1	Definition & Classification of Extrusion,dirrect extrusion process
	2	indirect extrusion, impact extrusion
	3	Definition and Classification ofRolling.
	4	cold rolling and hot rolling process.
3rd	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
4th	1	Different welding techniques
	2	types of flames used in Oxy-acetylene welding process.
	3	Arc welding process
	4	Electrodes and its speciifications
5th	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
6th	**1**	MIG welding process, difference beteen TIG and MIG
	2	welding defects causes and remedies
	3	welding defects, causes and remedies
	4	definition of casting, classification of casting process
7TH	**1**	procedure of Sand mould casting
	2	types of molding sands with their composition
	3	properties molding sand
	4	types of pattern
8th	**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
9th	**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
10th	**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
11th	**1**	advantages of powder metallurgy
	2	methods of producing powder from materials
	3	methods of producing components by powder metallurgy technique
	4	sintering process
12th	**1**	Economics of powder metallurgy
	2	Introduction to press work, blanking operation
	3	piercing and trimming
	4	various types of die and punch
13th	**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
14th	**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
15th	**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
16th	**1**	Revision of Unit-4and 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

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

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

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

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