

(2023-W)

SEMESTER - 3rd

Sub - Engineering materials

Basudev Mishra.

Discipline	mech.	Sem.	3rd	Name of teaching faculty	Basudev Mishra.
Subj.	Engineering materials	No. of days per week	04	Semester from	1/2/23- 9/12/23

Week	Class/Day	Theory
	MON	material classification, ferrous and non-ferrous material, physical properties of materials.
	TUES	x
1st	Wed	chemical properties of material
	Thurs	performance requirement of materials
	Fri	material reliability and safety
	Sat	x
	MON	characteristic and application of ferrous material.
	TUES	x
	Wed	classification, composition, application of ferrous material low carbon steel
2nd	Thurs	classification, composition, application of medium carbon steel
	Fri	classification, composition, application of high carbon steel
	Sat	x
	MON	Low alloy steel, high alloy steel
	TUES	x
	Wed	stainless steel, tool steel
3rd	Thurs	concept of phase diagram and cooling curve
	Fri	concept of phase diagram and cooling curve
	Sat	x
	MON	Anotropic form of iron
	TUES	x
	Wed	micro constituent of iron and steel
4th	Thurs	micro constituent of iron and steel
	Fri	Iron carbon equilibrium diagram.
	Sat	x

	mon	iron carbide equilibrium diagram
	Tues	x
	Wed	Crystal and crystal classification
5th	Thurs	Crystal and crystal imperfections
	Fri	Point defect, type and causes
	Sat	x
	mon	Vacancies, interstitial and impurities
	Tues	x
6th	Wed	Line defects, type and causes
	Thurs	Edge and screw dislocations
	Fri	Surface defect
	Sat	x
	mon	Volume defect
	Tues	x
7th	Wed	Effect of impurities in material properties
	Thurs	Deformation by slip
	Fri	Deformation by twinning
	Sat	x
	mon	Effect of deformation in material properties
	Tues	x
8th	Wed	Purpose of heat treatment
	Thurs	Annealing
	Fri	Normalizing
	Sat	x

	mon	Hardening
	Tues	x
9th	Wed	Tempering
	Thurs	Stress relieving measures
	Fri	Carburising
	Sat	x
	mon	Nitriding.
	Tues	x
	Wed	Effect of heat treatment on properties of steel
10th	Thurs	Hardness of steel.
	Fri	aluminium alloys.
	Sat	x
	mon	CU-alloys
	Tues	x
11th	Wed	CU-alloys
	Thurs	Zn-alloys
	Fri	Ni-alloys
	Sat	x
	mon	Low alloy materials
	Tues	x
12th	Wed	Low alloy materials and high alloy materials
	Thurs	High alloy materials
	Fri	CU-based bearing materials
	Sat	x

	mon	tin based bearing materials
	TUES	x
13th	Wed	Lead based bearing materials
	THURS	Cadmium based bearing materials
	FRI	Iron based spring materials
	SAT	x
	mon	Iron based and Cu-based spring materials
	TUES	x
	Wed	Cu-based spring materials
14th	THURS	Thermosetting and thermoplastic polymers
	FRI	Particulate composite and fibre reinforced composites
	SAT	x
	mon	Classification and use of ceramics
15th	TUES	x
	Wed	Prevention of corrosion and surface wear
	THURS	Paintings and methods of industrial painting
	FRI	
	SAT	x

[Signature]
 9/12/23