Discipline: Mechanical Engineering	Semester : 5th Semester-2020-21	Name of the Teaching Faculty: Miss,Shradha Suman Adabar Lect. In Mechanical Engineering
Subject: MACHINE DESIGN	No. of Days/week Class Allotted: 60	Semester from date: 01/09/ 2020 to date: 19/03/2021 No of weeks: 18
week	**Class Day**	**Theory Topics**
1st	1st	Introduction to Machine Design and Classify it.
	2nd	Different mechanical engineering materials used in design with theiruses and their mechanical and physical properties..
	3rd	Define working stress, yield stress, ultimate stress & factor of safety and stress –strain curve for M.S & C.I.
	4th	Modes of Failure (By elastic deflection, general yielding & fracture)
2nd	1st	State the factors governing the design of machine elements.
	2nd	Describe design procedure.
	3rd	Joints and their classification**.**
	4th	State types of welded joints
3rd	1st	State advantages of welded joints over other joints.)
	2nd	Design of welded joints for eccentric loads.
	3rd	Design of welded joints for eccentric loads.
	4th	Describe failure of riveted joints.
4th	1st	Determine strength & efficiency of riveted joints.
	2nd	Design riveted joints for pressure vessel.
	3rd	Solve numerical on Welded Joint and Riveted Joints.
	4th	Solve numerical on Welded Joint and Riveted Joints.
5th	1st	Solve numerical on Welded Joint and Riveted Joints.
	2nd	State function of shafts. State materials for shafts.
	3rd	Design solid & hollow shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress, (ii) Combined bending tension;

	4th	Design solid & hollow shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress, (ii) Combined bending tension;
6th	1st	Design solid & hollow shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress, (ii) Combined bending tension;
	2nd	Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulusof rigidity
	3rd	Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulusof rigidity
	4th	State standard size of shaft as per I.S. State function of keys, types of keys & material of keys.
7th	1st	Describe failure of key, effect of key way
	2nd	Design rectangular sunk key considering its failure against shear & crushing
	3rd	Design rectangular sunk key by using empirical relation for given diameter of shaft.
	4th	State specification of parallel key, gib-head key, taper key as per I.S.
8th	1st	Solve numerical on Design of Shaft and keys.
	2nd	Solve numerical on Design of Shaft and keys.
	3rd	Solve numerical on Design of Shaft and keys.
	4th	Design of Shaft Coupling
9th	1st	Requirements of a good shaft coupling
	2nd	Major components and their function
	3rd	Types of Coupling.
	4th	Design of Sleeve or Muff-Coupling.
10th	1st	Design of Clamp or Compression Coupling.
	2nd	Solve simple numerical on above.

	3rd	Solve simple numerical on above.
	4th	Solve simple numerical on above.
11th	1st	Materials used for helical spring
	2nd	Standard size spring wire. (SWG
	3rd	Terms used in compression spring.
	4th	Stress in helical spring of a circular wire.
12th	1st	Deflection of helical spring of circular wire.
	2nd	Surge in spring
	3rd	Solve numerical on design of closed coil helical compressionspring.
	4th	Solve numerical on design of closed coil helical compressionspring.
13th	1st	Solve numerical on design of closed coil helical compressionspring.
	2nd	Solve numerical on design of closed coil helical compressionspring.
	3rd	Revision of Chapter – 1
	4th	Revision of Chapter – 2.
14th	1st	Revision of Chapter – 2.
	2nd	Revision of Chapter – 2
	3rd	Revision of Chapter – 3
	4th	Revision of Chapter – 3
15th	1st	Revision of Chapter – 3
	2nd	Revision of Chapter – 3
	3rd	Revision of Chapter – 4
	4th	Revision of Chapter – 4
16th	1st	Revision of Chapter – 4
	2nd	Revision of Chapter – 4
	3rd	Revision of Chapter – 5
	4th	Revision of Chapter – 5

17th	1st	Revision of Chapter – 5
	2nd	Revision of Chapter – 5
	3rd	Discussion of Probable Questions and Answers (1)
	4th	Discussion of Probable Questions and Answers(2)
18th	1st	Discussion of Probable Questions and Answers (3)
	2nd	Discussion of Probable Questions and Answers(4)
	3rd	Discussion of Probable Questions and Answers (5)
	4th	Discussion of Probable Questions and Answers (6)