

DISCIPLINE: MECHANICAL  
Subject: Design of Machine Elements

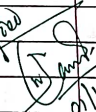
Semester: 5<sup>th</sup>  
No. of Days / week class allotted: 8<sup>th</sup>

Name of the teaching faculty: Sripathi Srinivasulu Reddy  
Semester from: 1st Oct 21 to: 2<sup>nd</sup> Jan 2021

Week	No. of period	Topics to be covered.
1st Oct	1st	Introduction to Machine Design & Classify it.
2nd Oct		(Gandhi Jayanti)
4 <sup>th</sup> Oct	1st	Diff. mechanical engineering material used in design, with use of their mech. & physical prop.
to	2nd	Define working stress, Yield stress, Ultimate stress & stress-strain curve for M.S. & C.I.
9 <sup>th</sup> Oct	4 <sup>th</sup>	Modes of failure (By elastic deflection)
	5 <sup>th</sup>	State the factors governing $d_{me}$ & procedure.
11 <sup>th</sup> Oct		
18 <sup>th</sup> Oct		- DURGA PUJA HOLIDAYS -
19 <sup>th</sup> Oct	1st	Joints and their classification
to	2nd	(Kumar Purnima)
22 <sup>nd</sup> Oct	3rd	State types of welded joints
	4 <sup>th</sup>	State advantages of welded joints over riveted joints
	5 <sup>th</sup>	Design of welded joints for eccentric load, types of riveted joints & types of rivets
25 <sup>th</sup> Oct	1st	Describe failure of riveted joints
to	2nd	Determine strength & efficiency of riveted joints
30 <sup>th</sup> Oct	3rd	Design Riveted joints for pressure vessel
	4 <sup>th</sup>	Solved numerical on welded joint and Riveted joints
	5 <sup>th</sup>	
1 <sup>st</sup> Nov	1st	State function of shafts
to	2nd	state materials for shafts
8 <sup>th</sup> Nov	3rd	Design solid & hollow shafts to transmit power or give rpm based on St. strength & rigidity. State std. size of shaft as I.S.
	4 <sup>th</sup>	
	5 <sup>th</sup>	

Week	No. of Period	Topics to be covered.
8th Nov	1st	State function of keys, types of keys & material of keys.
to	2nd	
13th Nov	3rd	Describe failure of key, effect of keyway
	4th	Design Rectangular sunk key considering its failure against shear and crushing.
	5th	Design Rectangular sunk key by using empirical relation.
15th Nov	1st	last Monday of Kartika.
to	2nd	State specification of parallel key, gib head key, taper key as per I.S.
20th Nov	3rd	State sp. of parallel key, gib head, Numericals.
	4th	Solve numerical on Design of shaft & key.
	5th	Numericals.
22nd Nov	1st	Revision of types of joints.
to	2nd	Design of shaft coupling.
27th Nov	3rd	Requirements of a good shaft coupling.
	4th	Types of coupling.
	5th	Pnathamastami.
29th Nov	1st	Design of Sleeve or Muff coupling.
to	2nd	Design of clamp or Comp. coupling.
	3rd	Solve simple numerical on above.
4th Dec	4th	Solved Numericals on shaft.
	5th	Revision.
6th Dec	1st	Revision.
to	2nd	Discussion of Numericals on joints.
	3rd	Revision of coupling.
11th Dec	4th	Solve problems on above.
	5th	Numericals on welded joints.

Week	No. of period.	Topics to be covered.
12th Dec	1st	Numericals on keys.
to	2nd	Revision.
16th Dec	3rd	Materials used for helical spring.
	4th	Standard size spring wire (SWG).
	5th	Last Thursday of Margashira
20th Dec	1st	Terms used in compression spring.
to	2nd	Stress in helical spring of a circular wire.
25th Dec	3rd	Discussed uses of Riveted joints & their function.
	4th	Revision of welded joints.
	5th	Design of sleeve (or) Muff coupling.
27th Dec	1st	Deflection of helical spring of circular wire.
to	2nd	Burge in spring.
1st Jan	3rd	Revision of Clamped Comp. Coupling.
	4th	Numerical on parallel rect. key.
	5th	New year.
3rd Jan	1st	Numericals on design of closed coil helical compression spring.
to	2nd	Revision.
8th Jan	3rd	Revision.
	4th	Solved previous year question.
	5th	Solve previous year question.

~~Worked~~  
  
 01/10/2021

B.K. Sharma