

**GOVT. POLYTECHNIC BOLANGIR  
LESSON PLAN**

Discipline : Mechanical		Semester:5th		Name of the Teaching Faculty : Anandananda Biswal	
Subject :DME		No. of Days / per week class allotted : 4		Semester From date : 20.08.2024 to Date : 08.11.2024 No. of Weeeks : 11	
Week	Class Day	Module	Topics		
Dt. 20.08.2024 to Dt.24.08.2024	1st	1	Introduction to machine design and its classification		
	2nd		Different mechanical engineering materials used in design with their uses Physical and mechanical properties of engineering materials		
	3rd		Working stress, yield stress, ul-timate stress &factor of safety Numericals on working,yield and ultimate stress.		
	4th		Stress-strain curve for m.s & c.i and salient points		
Dt. 26.08.2024 to Dt.31.08.2024	1st		Modes of failure by elastic deflection Modes of failure by general yielding		
	2nd		Modes of failure by fracture		
	3rd		Failure of machine elements due to fatigue and creep Factors governing the design of machine Elements		
	4th		Design procedure		
Dt. 02.09.2024 to Dt.07.09.2024	1st	2	Joints and their classification & types of welded joints		
	2nd		Advantages of welded joints over other joints		
	3rd		Design of welded joints for normal loads		
	4th		Numericals on design of welded joints		
Dt. 09.09.2024 to Dt.14.09.2024	1st		Design of welded joints for eccentric loads		
	2nd		Numericals on design of welded joints		
	3rd		Types of riveted joints and types of rivets		
	4th		Failure of riveted joints		
Dt. 16.09.2024 to Dt.21.09.2024	1st		Strength & efficiency of riveted joints		
	2nd		Numericals on design of riveted joints		
	3rd		Design of riveted joints for pressure vessel		
	4th		Numericals on design of pressure vessel		
Dt. 23.09.2024 to Dt.28.09.2024	1st	3	Function of shafts Materials of shafts		
	2nd		Design solid & hollow shafts to transmit a givenpower at given rpm based on strength and numericals		
	3rd		Design solid & hollow shafts to transmit a givenpower at given rpm based on rigidity		
	4th		Numericals on design of solid shafts and hollow shafts based on rigidity, standard size of shaft asper i.s.		
Dt. 30.09.2024 to Dt.05.10.2024	1st		Function of keys, types of keys & material of key & Failure of key, effect of key way		
	2nd		Design of rectangular sunk key considering its Failure against shear & crushing and numericals		
	3rd		Design rectangular sunk key by using empirical Relation for given diameter of shaft and numericals		
	4th		Specification of parallel key, gib-head key, taper Key as per i.s.		
Dt. 14.10.2024 to Dt.19.10.2024	1st	4	Shaft coupling, difference between clutch and Coupling		
	2nd		Requirements of a good shaft coupling		
	3rd		Advantages of using shaft couplings		
	4th		Types of coupling		
Dt. 21.10.2024 to Dt.26.10.2024	1st		Design of sleeve or muff-coupling		
	2nd		Numericals on design of sleeve coupling		
	3rd		Design of clamp or compression coupling		
	4th		Numericals on clamp coupling		
Dt. 28.10.2024 to Dt.02.11.2024	1st	5	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		
Dt. 04.11.2024 to Dt.08.11.2024	1st		Numericals of stress on helical springs of Circular wire		
	2nd		Deflection of helical spring of circular wire		
	3rd		Numericals on deflection of springs & surge inspring		
	4th		Numerical on design of helical spring		

Signature of  
Concerned Faculty

*AmBiswal*  
27/11/24

*(SBI)*  
27/09/24  
HOD(IIC),  
Mechanical Engg.