

# ADITYA ENGINEERING COLLEGE (A)

Aditya Nagar, ADB Road - Surampalem

## LESSON PLAN

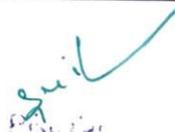
Academic  
Year  
2020-21

Year & Sem. : III B.Tech - I Semester  
Branch : MECHANICAL ENGINEERING  
Subject : DESIGN OF MACHINE MEMBERS

Date	Topic to be covered	Mode of Teaching	No. of Periods
I WEEK 05-04-2021 to 10-04-2021	UNIT - I Design of Bearings: Introduction of Bearing	Chalk & Talk	1
	Classification of bearings- applications, Types of journal bearings	PPT	1
	Lubrication, bearing modulus, Clearance ratio, heat dissipation of bearings	PPT	1
	Bearing materials, journal bearing design, Hydrostatic bearing design Ball	Chalk & Talk	1
II WEEK 12-04-2021 to 17-04-2021	13-04-2021 - Ugadi		
	14-04-2021 - Dr.B.R.Ambedkar's Birthday		
	Roller bearings, Static loading of ball, Roller bearings	PPT	1
	Unit - II Introduction of Design of Engine Parts	Chalk & Talk	1
III WEEK 19-04-2021 to 24-04-2021	21-04-2021 - Sri Rama Navami		1
	Connecting Rod, Thrust in connecting rod	Chalk & Talk	1
	Stress due to whipping action on connecting rod ends	Chalk & Talk	1
	Cranks and crank shafts	Practical Demonstration	1
IV WEEK 26-04-2021 to 01-05-2021	Strength and proportions of over hung and center cranks	PPT	1
	Crank pins, Pistons-forces acting on piston	Seminars	1
	Construction design and proportions of piston	PPT	1
	04-11-2021 - Deepavali		
V WEEK 03-05-2021 to 08-05-2021	Construction design and proportions of cylinder	Chalk & Talk	1
	Construction design and proportions of cylinder liners	Assignment	1
	UNIT-III: Introduction Design of Curved Beams and Power Screws	Chalk & Talk	1
	Introduction, stresses in curved beams	PPT	1
VI WEEK 10-05-2021 to 15-05-2021	14-05-2021 - Ramzan(Eid-ul-Fitr)		
	Expression for radius of neutral axis for rectangular	Chalk & Talk	1
	Expression for radius of neutral axis for Circular	Chalk & Talk	1
	Expression for radius of neutral axis for trapezoidal	Chalk & Talk	1
VII WEEK 17-05-2021 to 22-05-2021	Expression for radius of neutral axis for T section	Chalk & Talk	1
	Design of crane hooks, Problem Solving Using Crane Hooks	Chalk & Talk	1
	Problem Solving Using Crane Hooks, C clamps	Chalk & Talk	1
	Problem Solving Using C clamps	Tutorial	1
VIII WEEK 24-05-2021 to 29-05-2021	I Sessional Exams		

<b>IX WEEK</b> 31-05-2021 to 05-06-2021	Power Screws: Design of screw, square ACME	Chalk & Talk	1
	Buttress screws, design of nut	PPT	1
	Design of compound screw	Chalk & Talk	1
	Design of differential screw	Simulation- Based Learning	1
<b>X WEEK</b> 07-06-2021 to 12-06-2021	Ball screw possible failures	Chalk & Talk	1
	UNIT-IV: Introduction of Design of Power Transmissions Systems & Pulleys	PPT	1
	Belt and rope drives	Videos Demonstration	1
	Selection of belt drives	PPT	1
<b>XI WEEK</b> 14-06-2021 to 19-06-2021	Types of belt drives	Flipped Classroom	1
	Transmission of power by belt and rope drives	Chalk & Talk	1
	Velocity ratio of belt drives, slip of belt, creep of belt	Chalk & Talk	1
	Tension for flat belt drive, angle of contact	Chalk & Talk	1
<b>XII WEEK</b> 21-06-2021 to 26-06-2021	Centrifugal tension, maximum tension of belt, transmission efficiencies	Chalk & Talk	1
	Belts - flat and V types ropes	Brain Storming	1
	Pulleys for belt and rope drives, materials, chain drives	PPT	1
	Length, angular speed ratio	Chalk & Talk	1
<b>XIII WEEK</b> 28-06-2021 to 03-07-2021	Classification of chains, sprocket design	PPT	1
	UNIT-V: Introduction of Design of Spur	Chalk & Talk	1
	Helical Gear Drives	PPT	1
	<b>25-12-2021 - CHRISTMAS</b>		
	<b>01-01-2022 - New Year</b>		
<b>XIV WEEK</b> 05-07-2021 to 10-07-2021	Spur gears, Helical gears	PPT	1
	Load concentration factor, Dynamic load factor	PPT	1
	Surface compressive strength bending strength (Lewis equation)	Chalk & Talk	1
	Problem Solving in Spur Gear	Chalk & Talk	1
<b>XV WEEK</b> 12-07-2021 to 17-07-2021	Design analysis of spur gears, Estimation of centre distance	Chalk & Talk	1
	Module and face width, Check for plastic deformation	Chalk & Talk	1
	Problem Solving in Helial Gear	Chalk & Talk	1
	<b>21-07-2021 - Bakrid (Eid-ul-Azha)</b>		
<b>XVI WEEK</b> 19-07-2021 to 21-07-2021	<b>II Sessional Exams</b>		
<b>Total number of classes</b>			<b>50</b>

  
Course Coordinator

  
Head of the Department  
Department of Mechanical Engineering  
Aditya Engineering College (A)

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**SURAMPALEM - 533 437**