



ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

Dicipline: <i>mining</i>	Semester: <i>3rd</i>	Name of the Teaching Faculty: <i>DEPT. Sanjaya Pothayyan</i>	
Subject: <i>MOM</i>	No of Days/Week Class Allotted: _____	Semester From date: <i>01.10.2021</i> To date: <i>18.01.2022</i>	No. of Weeks: _____

WEEK	Class Day	Theory Topics
<i>1st</i>	1st	Define Elasticity & Hook's Law.
	2nd	Define Limit of Proportionality.
	3rd	Define Young's modulus & Problems.
	4th	Various Factor of Safety, lateral strain & Poisson's ratio.
	5th	
<i>2nd</i>	1st	Explain stress - strain curve for ductile materials.
	2nd	Explain the effect of axial load on a bar of uniform section & variable section.
	3rd	Solve numerical problem on uniform section & variable section.
	4th	Define bending moment & Shear force.
	5th	
<i>3rd</i>	1st	Describe various types of beam & types of loading.
	2nd	Explain Shear force diagram & Bending moment diagram.
	3rd	Describe cantilever with concentrated loading.
	4th	Cantilever with U.D.L over whole span. System.
	5th	

WEEK	Class Day	Theory Topics
4 th	1st	Describe simply supported beam with Concentration loading.
	2nd	Simply supported beam with U.D.L over whole span.
	3rd	State bending formula & solve some problem.
	4th	Define section modulus & discuss of problems on it.
	5th	
5 th	1st	Discuss out section modulus for beam section of simple class.
	2nd	Define torsion & state its effects & application of torsion formula.
	3rd	Describe working of shaft couplings such as hydraulic & magnetic couplings.
	4th	Working principle of Belt, Chain & rope Drive.
	5th	
6 th	1st	Function of simple & compound gear train, & Torque Converters.
	2nd	Function of Flywheel and governors.
	3rd	Explain working of watt, Porter and Proell governors.
	4th	Define various type & properties of fluid.
	5th	

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WEEK	Class Day	Theory Topics		
7 th	1st	DESCRIBE PRESSURE OF FLUID & PRESSURE head.		
	2nd	DISCUSS WORKING PRINCIPLE OF VARIOUS PRESSURE MEASURING DEVICE.		
	3rd	WORKING PRINCIPLE OF PIEZOMETER tube.		
	4th	STATE & EXPLAIN CONTINUITY EQUATION.		
	5th			
8 th	1st	DISCUSS & EXPLAIN BERNOULLI'S THEOREM.		
	2nd	WORKING PRINCIPLE OF VENTURIMETER. SOLVE NUMERICAL PROBLEM.		
	3rd	DEFINE & CLASSIFY ORIFICES & USES.		
	4th	DEFINE FORMULA & DISCHARGE FOR RECTANGULAR ORIFICES & SOLVE PROBLEMS.		
	5th			
9 th	1st	DEFINE & DIFFERENTIATE BETWEEN ORIFICE AND NOTCH.		
	2nd	CLASSIFY VARIOUS TYPES OF NOTCHES.		
	3rd	STATE FORMULA FOR DISCHARGE THROUGH NOTCHES & SOLVE PROBLEM ON ABOVE.		
	4th	STATE & EXPLAIN LAWS OF FLUID FRICTION.		
	5th			

WEEK	Class Day	Theory Topics
10 th	1st	Discuss loss of head due to friction.
	2nd	Darcy weisbach formula & solve some problems.
	3rd	Explain hydraulic gradient & discuss problems on it.
	4th	Explain energy gradient & discuss some problems.
	5th	
11 th	1st	Discuss & introduction of compressed air as a power.
	2nd	Classify compressor & state working principle.
	3rd	Various methods of transmission & storage of compressed air.
	4th	
	5th	
12 th	1st	Discuss use of compressed air in mines.
	2nd	Advantages & disadvantages of compressed air use in mines.
	3rd	Discuss the working principle of Pneumatic machines.
	4th	Solve some problems above as.
	5th	

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13 th	1st	Discuss various air cycles utilized in I/C Engines.		
	2nd	Discuss utilized of I/C engine, OTTO cycle, Diesel cycle.		
	3rd	" "		
	4th	Explain working principle of 2 stroke petrol & diesel engine.		
	5th	⊙		
14 th	1st	Explain working principle of 4 stroke petrol & diesel engine.		
	2nd	Define I.H.P, B.H.P & mechanical efficiency of I/C engine.		
	3rd	" "		
	4th	State various applications of I/C engines in various field.		
	5th			
15 th	1st	Review class.		
	2nd	Review class.		
	3rd	Doubt clear class		
	4th	Doubt clear class.		
	5th			