

LESSON PLAN

Discipline: Mining	Semester: 3rd	Name of the Teaching faculty: G C SWAIN	
Subject: MOM (Th4)	No of Days/Week class alloted:3	Semester from Date:01.07.2026 No of weeks: 15	To Date: 05.11.2026
Week	Class Day	Topics	
1st	1st	Define Elasticity & Hook's Law ,Limit of Proportionality. Young's Modulus. Factor of safety.	
	2nd	Numerical problem solve	
	3rd	Lateral strain and Poisson's ratio. Explain stress-strain curve for ductile materials. Explain the effect of axial load on bar of Uniform section ,Numerical problem solve	
2nd	1st	Variable section o Solve numerical problems on above	
	2nd	Define bending moment and shear force. State types of beam and types of loading.	
	3rd	Explain shear force diagram and bending moment diagram for Cantilever with concentrated loading Cantilever with U.D.I. over whole span. Numerical problem solve	
3rd	1st	Simply supported beam with concentration loading.	
	2nd	Simply supported beam with U.D.I. over whole span. Numerical problem solve	
	3rd	State bending formula. Define section modules & Find out section modules for beam section of simple cases	
4th	1st	Define torsion and state its effects	
	2nd	State application of torsion formula.	
	3rd	Explain working of Shaft couplings such as hydraulic and magnetic couplings	
5th	1st	Belt, chain and rope Drive.	
	2nd	Simple and compound gear train.	
	3rd	Torque converter	
6th	1st	Flywheel & Governors	
	2nd	Watt & Porter Governor	
	3rd	Proell Governor	
7th	1st	State various fluid properties. Define pressure of fluid and pressure head.	
	2nd	State and explain working principle of various pressure measuring devices such as: Pieccometer tube	
	3rd	State and explain continuity equation. State and explain Bernoulli's theorem.	
	1st	Explain working of venturimeter. Solve numerical problems on above.	

8th	2nd	Define and classify orifices. State the formula and discharge for rectangular orifices and solve problems..
	3rd	Define and differentiate between orifice and notch. Classify notches
9th	1st	State formula for discharge through notches & solve problem on above. o State and explain laws of fluid friction.
	2nd	State and explain loss of head due to friction (Darcy weisbach formula)
	3rd	Explain hydraulic gradient and energy gradient
10th	1st	Explain introduction of compressed air as a power. Classify Compressor & state working principle.
	2nd	Classify Compressor & state working principle.
	3rd	State various method of transmission and storage of compressed air.
11th	1st	State the various methods of transmission and storage of compressed air.
	2nd	State and explain the advantages of use of compressed air in mines.
	3rd	Explain the working principle of pneumatic machines.
12th	1st	Monthly Test
	2nd	Explain various air cycles utilized in I/C Engines such as: OTTO Cycle
	3rd	OTTO Cycle
13th	1st	Diesel Cycle
	2nd	Explain working principle of 2 stroke and 4 stroke petrol engines
	3rd	Explain working principle of 2 stroke and 4 stroke petrol engines
14th	1st	Explain working principle of 2 stroke and 4 stroke Diesel engines
	2nd	Explain working principle of 2 stroke and 4 stroke Diesel engines
	3rd	Define I.H.P., B.H.P. & Mechanical efficiency of I/C Engine
15th	1st	State various applications of I/C Engines in Mining field
	2nd	Previous yr Question with Answer Discussion
	3rd	Previous yr Question with Answer Discussion

Signature of Faculty

Principal
Synergy School of Engineering
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