Lesson Plan & Work-done Diary for AY:2022-23, Even Semester

Course with Code: Elements of Mechanical Engineering				Faculty: Mr. ANIL KUMAR K			Semester & Section: II	
Class No.	**Date planned (DD/MM)**	**Topics to be covered**	**TLP Planned**	**Class No.**	**Date of Conduction (DD/MM)**	**Topics Covered**	**TLP Executed**	**Remarks if any deviation**
MODULE-1: Introduction, Steam Formation and Application, Powerplants, Hydraulics Turbines and pumps								
1	29-05	Introduction to Mechanical Engineering: Discussion on Syllabus	Chalk & Talk					
2	30-05	Role of Mechanical Engineering in Industries and Society	PPT					
3	01-06	Emerging Trends and Technologies Energy, Manufacturing, Automotive, Aerospace, and Marine sectors and contribute to the GDP	PPT					
4	02-06	Formation of steam and thermodynamic properties of steam	Chalk & Talk, PPT					
5	05-06	Simple Problems using Steam Tables	Chalk & Talk					
6	08-06	Applications of steam in industries namely, Sugar, Dairy, Paper, Food processing industry for Heating/ Sterilization etc.	PPT					
7	09-16	Review of energy sources; Construction and working of Hydel power plant,	PPT					
8	12-06	Thermal power plant, nuclear power plant.	PPT					
9	15-06	Tidal power plant, Wind power plant	PPT					
10	19-06	Visit Solar power plant at ATME	Field Visit					

MODULE-2: Machine Tool Operations								
11	22-06	**Lathe**: Principle of working of a center lathe	PPT					
12	23-06	lathe operations: Turning, facing, knurling	PPT					
13	23-06	Thread cutting, taper turning by swivelling the compound rest.	PPT					
14	26-06	**Drilling Machine**: Working of simple drilling machine	PPT					
15	30-06	drilling operations: drilling, boring, reaming	PPT					
16	30-06	tapping, counter sinking, counter boring	PPT					
17	03-07	**Milling Machine**: Working and types of milling machine	PPT					
18	10-07	milling operations: plane milling, end milling and slot milling.	PPT					
19	13-07	Machine shop Lab visit	Lab Visit					
20	14-07	**Introduction to Advanced Manufacturing Systems:** Introduction	PPT					
21	14-07	components of CNC, advantages and applications of CNC,	PPT					
22	17-07	3D printing	PPT					
23	20-07	Revision	PPT/ Chalk & Talk					
MODULE-3: Fundamentals of IC Engines, Insight into future mobility technology; Refrigeration and Air-Conditioning								
24	21-07	Review of Internal Combustion Engines	PPT					
25	21-07	Components &working principle	PPT					
26	24-07	4-StrokePetrol engines Application	PPT					

27	27-07	4-StrokeDiesel engines Application Insight into future mobility	PPT					
28	28-07	Performance & Numerical	Chalk & Talk					
29	28-07	Principle of refrigeration, Refrigeration effect, Ton of Refrigeration, COP, Refrigerants and their desirable properties.	PPT					
30	31-07	Working Principles of Air Conditioning, Classification, and Applications of Air Conditioners.	PPT					
MODULE-4: Mechanical Power Transmission / Concept of Chain, Rope drives and their applications								
31	03-08	Types - spur, helical, bevel, worm and rack and pinion, Velocity ratio	PPT					
32	04-08	Gear Trains and their application: simple and compound Gear Trains,	PPT					
33	04-08	Simple numerical problems on Gear trains involving velocity ratios	Chalk & Talk					
34	10-08	**Belt Drives:** Components of belt drive and concept of velocity ratio; Types of belt drives, Flat-Belt Drive, V-Belt Drive and Application of Belt Drives.	PPT					
35	11-08	Simple numerical problems on Belt drives involving velocity ratios. Concept of Chain, Rope drives and their applications	Chalk & Talk					
36	14-08	Simple numerical problems	PPT					
37	17-08	Joining Processes: Soldering, Brazing and Welding	PPT					
38	18-08	classification of welding process, Arc welding, Gas welding	PPT					

MODULE-5								
39	18-08	**Insight into future mobility technology**: Electric and Hybrid Vehicles	PPT					
40	21-08	Components of Electric and Hybrid Vehicles	PPT					
41	24-08	Advantages and disadvantages of Electric Vehicles (EVs) and Hybrid vehicles	PPT					
42	25-08	Introduction to Mechatronics and Robotics.	PPT					
43	28-08	**open-loop and closed-loop mechatronic systems**	PPT					
44	31-08	Joints & links, Robot anatomy,	PPT					
45	01-08	Applications	PPT					
46	04-08	Revision	PPT					

Summary of the Lesson Plan and Work-Done

	Activity	Planned	Actual	Remarks
1	Theory Classes	45		
2	Demonstrations & Lab Visit/ Experiment conduction	5		
2	Assignments/ Quizzes/ reports	2+5		
3	Tutorials/ Extra classes	-		
4	Internal Assessments	3		
5	ICT based Teaching (% of usage in Curriculum)	88%		
Planning			**Execution**	
Faculty Signature:			**Faculty Signature:**	
HoD Signature:			**HoD Signature:**	