TENTATIVE TEACHING PLAN (THEORY)

Department: **Civil Engineering**

Name of Teacher: **Engr. Maroosha Larik**

Subject: **Applied Physics**   Course Code: **CE109**   Batch: **23CE(A+B+C+D)**

Year: **First**   Semester: **1ˢᵗ**

Semester Starting Date: 15-08-2023   Semester Suspension Date: 24-11-2023

Course Learning Outcomes:
After completing the 'Applied Physics' course, each student will be able to:

CLO No.	Description	Taxonomy Level	Linking to PLOs
1	SOLVE the two-dimensional Force System and Equilibrium conditions by applying the basic principles of statics.	C4	1
2	APPLY fundamental concepts of kinetics and kinematics to the analysis of a body when it is subjected to different types of motion	C3	1
3	UNDERSTAND fundamental concepts of basic electrical and mechanical engineering	C2	1

S #	Topic	CLO's	No: of lec. hrs required
1.	**Introduction:** Concept of mass, force, time and space	1	1
2.	Scalar and vector quantities	1	1
3.	**System of Forces:** Force and its characteristics, force system and its types	1	1
4.	Addition of a force in case of rectangular components Using polygon law and analytical methods	1	3
5.	Addition of a forces in case of non-rectangular components using parallelogram law	1	1
6.	Addition of forces in case of non-rectangular components using triangular law and sine rule	1	1
7.	Resolution of force	1	2
8.	Related problems	1	2
9.	Moment and its application	1	1
10.	Principle of transmissibility, Principle of moment	1	2
11.	Related problems	1	2
12.	**Equilibrium of Rigid Bodies:** Equilibrium and its conditions, Equilibrium of rigid bodies	1	1
13.	Concept of free body diagram	1	1
14.	Related problems	1	2
15.	**Friction:** Friction and its types, angle of friction, co-efficient of friction	1	2
16.	Friction on horizontal and inclined plane	1	2
17.	Related problems	1	3
18.	**Kinematics:** Newton's laws of Motion	2	1
19.	Motion under constant acceleration	2	2
20.	Related problems	2	2
21.	Motion under variable acceleration	2	2
22.	Projectile motion	2	2
23.	Simple harmonic motion	2	2
24.	**Electrical Elements and circuits:** Electric current, voltage, power and energy, Ohm's law, inductance, capacitance.	3	2
25.	Kirchhoff's voltage law and current law.	3	2

26.	**Basic Mechanical Concepts:** Fundamentals of heat transfer, conduction, Thermal conductivity, Overall heat transfer coefficients.	3	3
27.	Practical equations, Laws of thermodynamics.	3	2
	Total Lecture Hrs.		**48**

Signature of Teacher: Dated: 15-10-2023

Remarks of DMRC: **APPROVED**

Signature of Chairman: Dated: 20-10-2023