



Govt. Polytechnic Korea, Baikunthpur
Course Completion Unit Plan

Department-Science & Humanities Semester- I (Civil & Electrical) Subject-Applied Physics
Hour/Week- 03 Sesson-2024-25 Lab/Week-04

Unit (1)	S.No (2)	Topic to Taught (3)	NO. of lecture required (4)	Date of delivery (5)	Topic covered (6)	Remark (7)	
1.	1.1	Units of Physical Quantity					
	1.11	Fundamental and Derived Unit		18.09.24	AS 1.11		
	1.2	Unit System					
	1.21	CGS,MKS and SI Advantages/disadvantages of SI unit system			19.09.24	AS 1.21	
		Seven basic and Supplementary units.			20.09.24	AS 1.21	
	1.3	Dimensional Analysis					
	1.31	Dimensional formula and equations.		21.09.24	AS 1.31		
	1.32	Applications of Dimensional equations.		21.09.24	AS 1.32		
	1.33	Numerical problems on Dimensional analysis.		23.09.24	AS 1.33	close on 01/10/24	
	1.4	Measurement					
	1.41	Accuracy, Precision and Errors.					
	1.42	Absolute, Relative and percentage Error.		14.10.24	AS 1.42		
	1.5	Significant figures and rounding off.		16.10.24	AS 1.5		
2.	2.1	Force					
	2.11	Types of Forces Conservative and non- conservative forces			21.10.24	AS 2.11	
		Frictional Forces, Limiting static and dynamic friction.			22.10.24	AS 2.11	
		Centripetal and centrifugal force			22.10.24	AS 2.11	
		Gravitational Force 'G' and 'g' and their interrelation, Factors affecting 'g'			23.10.24 04.10.24	AS 2.11	
	2.2	Elasticity					
	2.21	Hooke's law			05.11.24	AS 2.21	
Elastic limit and elastic fatigue			05.11.24	AS 2.21			
2.22	Modulii of elasticities				AS 2.22		

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	Young's modulus, Bulk Modulus, Shear modulus of rigidity	8.11	6.11.24	AS 2.22	
2.3	Surface Tension		11.11.24		
2.31	Molecular force, surface energy, effect of temperature		11.11.24	AS.	
2.32	Cohesive and adhesive force		12.11.24		
2.33	Excess pressure and its illustration, rise of liquid in capillary tube		13.11.24		
2.4	Viscosity		15.11.24		
2.41	Coefficient of viscosity, Newton's law of viscosity		18.11.24		20/11/24 CT
2.42	Streamline and turbulent flow, Reynolds number		26.11.24		
2.43	Poiseuille's equation (no derivation of formula), Stoke's law and their applications		26.11.24		
3.1	Refraction				
3.11	Laws of refraction		27.11.24		
3.12	Lenses & combination of lenses		27.11.24		
3.2	Absolute & relative refractive index		27.11.24		
3.21	Refraction through prism, Angle of Minimum deviation and its relation		02.12.24		
3.3	Total internal reflection of light		03.12.24		
3.31	Critical angle.		04.12.24		
3.32	Applications of TIR		04.12.24		
3.33	Optical fiber, NA of Optical fiber		04.12.24		
3.4	Optical instruments		09.12.24		
3.41	Simple & compound microscope		09.12.24		
3.42	Spectrometer		10.12.24		
3.5	Electromagnetic spectrum		10.12.24		
3.51	Pure & Impure spectrum, Visible range		11.12.24		
4.1	Electric Charge, Coulomb's Law		11.12.24		
4.2	Electric Field, Potential, Potential Difference between Two Points, Equipotential Surfaces		16.12.24		
4.3	Types of dielectrics and dielectric Strength		16.12.24		
4.4	Capacity, Units, Principle of Capacitor		17.12.24		
4.41	Factors Affecting Capacity, type of capacitors		17.12.24		
4.5	Magnetism: -				
4.51	Magnetic lines of force, lines of induction		23.12.24		

4.6	Current Electricity			
4.61	Resistance, Specific Resistance		23.12.24	
4.62	Series & parallel combination of resistance		24.12.24	
4.63	Internal resistance of a cell		30.12.24	
4.64	Potential difference and E.M.F of a cell		30.12.24	
4.65	Combination of cells in series & in parallel.		31.12.24	
4.66	Simple applications of Wheatstone bridge, metre bridge & Potentiometer.		31.12.24	
4.67	Electrical power		01.01.25	
5.1	Photoelectric effect			
5.11	Laws of photoelectric emission, Photoelectric equation & threshold frequency		14.01.25	
5.12	Photo cell		15.01.25	
5.2	X-rays		16.01.25	(CT-1)
5.21	Production of X rays, properties & uses.		27.01.25	
5.3	Laser		27.01.25	
5.31	Spontaneous and Stimulated emission		27.01.25	
5.32	population inversion, pumping scheme & active system Ruby Laser & semiconductor laser		28.01.25	
5.4	Ultra-sonics		28.01.25	
5.41	Frequency range			
5.42	Methods of production Magnetostriction & Piezo electric method		28.01.25	
5.43	Properties of ultra-sonics		29.01.25	
5.44	Applications of ultra-sonics.		29.01.25	03,04,05/01/25

- Reference:-1. Fundamental of Physics by Halliday, David, Resnik: John Wiley & sons; Tenth edition 2013
 2. The Feynman Lectures on Physics; Feynman P. Richar; Pearson Education India; First edition 2012
 3. Physics; Text Book for Class XI & XII by NCERT

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