

Fr. Conceicao Rodrigues College of Engineering, Bandra

Subject: Applied Physics- II					
Name of Faculty: Dileep Chandra. C				Academic Year: 2019-20	
Division: A				Semester: II	
No of	Sr. No.	Name of the Topic	Planned Date	Executed Date	Remark
Module 1 Laser & Fiber optics(6)					
1	1	Absorption and emission as quantum processes, Metastable states, population inversion and pumping.	01/08/2020	01/08/2020	Temp TT
2	2	Einstein's Coefficients – derivation, He-Ne laser.	01/10/2020	01/10/2020	
3	3	Nd-YAG laser and semiconductor laser, Applications of laser-Holography	15/1/2020	15/1/2020	
4	4	Optical fiber: construction, Classification & characteristics.	16/1/2020	15/1/2020	
5	5	Numerical aperture and acceptance angle - Numericals.	17/1/2020	16/1/2020	
6	6	V-number and number of Modes - Numericals	20/1/2020	17/1/2020	
Module 2 Diffraction of light(4)					
7	1	Diffraction of light – Basic principles & classification	22/1/2020	20/1/2020	
8	2	Diffraction at single slit - Derivation.	27/1/2020	22/1/2020	
9	3	Diffraction at multiple slit – diffraction Grating.	29/1/2020	27/1/2020	
10	4	Applications and parameters of grating & Numericals	02/03/2020	29/1/2020	
Module 3 Relativity (3)					
11	1	Inertial & non inertial frames of references	02/05/2020	02/03/2020	
12	2	Galilean & Lorents transformations	02/10/2020	02/05/2020	
13	3	Time dialation, Length contraction, Mass energy relation.	02/12/2020	02/10/2020	
Module 4 Electrodynamics (5)					
14	1	Scaler and Vector fields, Vector differentiation	03/02/2020		
15	2	Physical significance of gradient, curl and divergence	03/04/2020		
16	3	Gauss's law, Faraday's Law, Ampere's Circuital law	03/09/2020		
17	4	Derivation of Maxwell's four equations.	03/11/2020		
18	5	Numerical problems	16/3/2020		
Module 6 Nanotechnology(3)					
19	1	Introduction to nano, Two main approaches in nano technology.	18/3/2020		
20	2	Tools used in nano technology- SEM, STM & AFM	23/3/2020		
21	3	Nano materials: Methods to synthesize nanomaterials (Ball milling, Sputtering, Vapour	30/3/2020		
Module 6 Physics of Sensors(5)					
22	1	Resistive sensors: Pt100 construction & calibration	04/01/2020		
23	2	Pressure sensors: capacitive, flux and inductive methods	04/08/2020		
24	3	Piezo electric transducer: distance and velocity - using Ultrasonic sensors	15/4/2020		

25	4	Optical sensors: Photo diode -construction & application	20/4/2020		
26	5	Pyroelectric sensors: Construction & Working, Bolometer.	22/4/2020		