

TEACHING PLAN FOR THEORY

Subject Teacher : Mrs. ShilpaNarhe

Subject: Engineering Physics		Class: C	Branch: F.Y.B.Tech.	Year 2017-2018
Lecture No	Scheduled Date	Topics to be covered on the scheduled date		
1	18/7/2017	Syllabus Discussion, Discussion on course objective & course outcome		
Unit I : Electron Ballistics				
2	19/7/2017	Introduction, Motion of electron in a uniform electric field a) parallel to uniform electric field		
3	20/7/2017	b) Perpendicular to uniform electric field		
4	21/7/2017	Motion of electron in a magnetic field a) Perpendicular to an extensive uniform magnetic field, Motion of electron in transverse uniform limited magnetic field		
	21/7/2017	TUTORIAL NUMERICALS(Motion of electron in a magnetic field)		
5	25/7/2017	b) Deflection of electron due to transverse magnetic field, Motion of electron in crossed electric & magnetic field		
6	26/7/2017	Electrostatic focusing, Magnetic focusing		
7	27/7/2017	Devices-CRT, CRO		
8	28/7/2017	Cyclotron,MCQ		
	31/7/2017	TUTORIAL NUMERICALS ON CYCLOTRON		
Unit II : Ultrasonics				
9	1/8/2017	Introduction, Prtduction of ultrasonics waves		
10	2/8/2017	Piezoelectric and magnetostriction effect &numericals		
11	3/8/2017	TAE 1		
12	4/8/2017	Piezoelectric and magnetostriction oscillator		
13	7/8/2017	HOLIDAY RAKSHABANDHAN		
14	8/8/2017	Detection of ultrasonics, engineering applications of ultrasonics		
15	9/8/2017	Acoustics of Building: Definitions: Velocity, frequency, wavelength, intensity, loudness, timber, reflection of sound, echo		

16	10/8/2017	Reverberation, reverberation time, Sabine's formula, remedies over reverberation, Absorption of sound, absorbent materials
17	11/8/2017	Conditions for good acoustics of the building, Noise,
	14/8/2017	TUTORIAL NUMERICALS (ACOUSTICS OF BUILDING)
	15/5/2017	HOLIDAY (INDEPENDENCE DAY)
18	16/8/2017	Its effects and remedies
19	17/8/2017	TAE 2 : Surprise Test
		MCQ
20	18/8/2017	REVISION
	21/8/2017 TO 23/8/2017	CAE I
Unit : III LASER & HOLOGRAPHY:		
21	24/8/2017	Absorption, spontaneous emission, requirement for lasing action (Stimulated emission, population inversion),
	25/8/2017	HOLIDAY (GANESH CHATHURTHI)
	28/8/2017	TUTORIAL NUMERICALS (ELECTRON BALLASTICS)
22	29/8/2017	Metastable state, active medium, resonant cavity, various pumping
23	30/8/2017	Characteristics of laser, various levels of laser systems with examples i) two level - semiconductor laser
24	31/8/2017	TAE 3 (HOME ASSIGNMENT) ii) Three level - ruby laser
25	1/9/2017	iii) Four level - He - Ne laser
	4/9/2017	TUTORIAL NUMERICALS (ELECTRON BALLASTICS)
26	5/9/2017	Applications in industry (drilling, welding etc), Medicine, Communication (Principle and advantages only),
27	6/9/2017	Information Technology (Holography - Recording and reconstruction), MCQ
Unit IV : BAND THEORY OF SOLIDS		
28	7/9/2017	Band theory in solids, free electron theory (qualitative), electrical conductivity in conductor and semiconductor
29	8/9/2017	Influence of external factors on conductivity (temperature, ; light and impurity), Fermi energy concept of effective mass, electron and holes

	11/9/2017	TUTORIAL NUMERICALS (Fermi energy)
30	12/9/2017	Fermi - Dirac probability distribution function, position of fermi level in intrinsic semiconductor with derivation and extrinsic semiconductors, intrinsic semiconductor with derivation and extrinsic semiconductors
31	13/9/2017	TAE 4 : ATTENDANCE Dependence of fermi level on temperature and Doping concentration, diffusion and drift current
32	14/9/2017	Bans structure of PN junction diode under i) zero bias ii) forward bias iii) reverse bias
33	15/9/2017	Working of transistors (NPN only) on the basis of Band diagram
	18/9/2017	TUTORIAL NUMERICALS, (intrinsic semiconductor ,Extrinsic semiconductors)
34	19/9/2017	Hall effect,
35	20/9/2017	Applications: Photovoltaic effect, working of solar cell on the basis of band diagram and its applications, MCQ
	21/9/2017 TO 23/9/2017	CAE II
Unit V : QUANTUM MECHANICS		
	25/9/2017	TUTORIAL NUMERICALS(Hall effect, Numericals)
36	26/9/2017	Wave particle duality of radiation & matter, de broglie concept of matter waves, expressing de broglie wavelength in terms of kinetic energy and potential
37	27/9/2017	TAE 5 (SEMINAR)
38	28/9/2017	Concept and derivation of group and phase velocity, matter waves, Heisenberg's uncertainty principle
39	29/9/2017	Illustation of it by electron diffraction at single slit, why an electron cnanot exit in the nucleus, Numericals
		HOLIDAY DASARA
	2/10/2017	HOLIDAY (MAHATMA GANDHI JAYANTI)
40	3/10/2017	Concept of wave function and probability interpretation ,Schrodienger's time independent and dependent form
41	4/10/2017	applications of schrodienger's time independent wave eqautions i) particle in 1-D rigid box (infinite potential well)

42	5/10/2017	(Comparison of Quantum mechanical and classical mechanical predictions ii) Particle in 1-D non rigid box (finite potential well qualitative, results only)
43	6/10/2017	Tunneling effect, example of tunneling effect in tunnel diode and scanning tunneling microscope, MCQ
Unit VI : ADVANCED TRENDS IN PHYSICS (X RAYS)		
	9/10/2017	TUTORIAL NUMERICALS (Wave equation)
44	10/10/2017	Introduction, origin of X rays, Control of intensity and penetrating power
45	11/10/2017	Properties of X-rays, X-rays spectra, Continuous X-ray Spectrum
		TAE 6 : EXTRA CURRICULAR
46	12/10/2017	Characteristics of X-ray Spectrum : Line Spectrum
47	13/10/2017	MOSELEY'S Law, Explanation based on Bohr's theory, Important of Moseley's Law
	16/10/2017	TUTORIAL NUMERICALS(Schrodinger's time independent and dependent form)
48	17/10/2017	Practical Application of X-rays
49	18/10/2017	Numericals Practises, MCQ Practises
	19,20/10/2017	HOLIDAY (DIWALI)
	23/10/2017 TO 25/10/2017	CAE III
50	26/10/2017	REVISION
51	27/10/2017	REVISION
	30/10/2017	TUTORIAL NUMERICALS REVISION
52	31/10/2017	REVISION
53	1/11/2017	REVISION
54	2/11/2017	REVISION
55	3/11/2017	REVISION
	6/11/2017 TO 8/11/2017	CAE IV

56,57	9/11/2017 TO 10/11/2017	REVISION