Bhoj Reddy Engineering College for Women: Hyderabad

Department of Physics

Lesson plan of faculty member for the academic year 2017–18

Class: I B Tech Branch - Section: EEE Semester: I

Subject: Engineering Physics Lectures per week: 4

Lecture Number	Topic to be covered	Date (s)
UNIT-I : Interference & Diffraction		
1	Introduction	01 August 2017
2	Coherence	02 August 2017
3	Division of amplitude	03 August 2017
4	Division of wave front	04 August 2017
5	Interference in thin films(transmitted light)	08 August 2017
6	Interference in thin films(reflected light)	09 August 2017
7	Newton's rings experiment	10 August 2017
8	Distinction between Fresnel and Fraunhoffer diffraction	11 August 2017
9	Diffraction due to single slit	16 August 2017
10	N- slits	17 August 2017
11	Diffraction grating experiment	18 August 2017
UNIT-II :Polarization& Lasers		
12	Introduction of Polarization	21 August 2017
13	Malus's law	22 August 2017
14	Double refraction	23 August 2017
15	Nicol prism	24 August 2017
16	Quarter wave plate	29 August 2017
17	Half wave plate	30 August 2017
18	Lasers : Characteristics of lasers, spontaneous and stimulated emission of radiation	31 August 2017
19	Einstein coefficients	01 September 2017
20	Population inversion	05 September 2017
21	Ruby laser	06 September 2017
22	Helium-neon laser	07 September 2017
23	Semi conductor laser	08 September 2017
24	Applications of lasers	12 September 2017
UNIT-III : Fiber Optics		
25	Principle of optical fiber, construction of fiber	13 September 2017
26	Acceptance angle and acceptance cone, Numerical aperture	14 September 2017
27	Revision	15 September 2017
28	Revision	19 September 2017
29	Types of optical fibers	03 October 2017
30	Step index and graded index fibers	04 October 2017
31	Attenuation in optical fibers	05 October 2017
32	Applications of optical fibers in medicine and sensors	06 October 2017
UNIT-IV : Crystallography		
33	Space lattice, unit cell and lattice parameters	10 October 2017
34	Crystal systems	11 October 2017
35	Bravais lattices	12 October 2017
36	Atomic radius	13 October 2017
37	Co-ordination number and packing factor of SC,	17 October 2017

	BCC, FCC	
38	HCP and diamond ,Miller indices	19 October 2017
39	Crystal planes and directions	20 October 2017
40	Inter planar spacing of orthogonal crystal systems	24 October 2017
UNIT-V :X-ray Dif fraction and Defects in Crystals		
41	Bragg's law	25 October 2017
42	X-ray diffraction methods	26 October 2017
43	Laue method	27 October 2017
44	Powder method	31 October 2017
45	Point defects	01 November 2017
46	Vacancies	02 November 2017
47	Substitutional defects	03 November 2017
48	Interstitial defects	07 November 2017
49	Frenkel defects	08 November 2017
50	Schottky defects	09 November 2017
51	Line defects (qualitative) and Burger's vector	10 November 2017
52	Surface defects	14 November 2017
53	Stacking faults	15 November 2017
54	Twin, tilt and grain boundaries	16 November 2017
55	Revision	17 November 2017
56	Revision	21 November 2017
57	Revision	22 November 2017

Text books:

1) Physics vol.2, Halliday, Resnick and Kramer Jhon Wiley and Sons, Edition 4
2) Modern Engineering Physics, K.Vijaya Kumar and S.Chandra Lingam, S.Chand and Co.Pvt.Ltd.
3) Introduction to Solid State Physics, Charles Kittel, Wiley Student edition

Name and Signature of the Faculty: J S Vijitha ……

Name and Signature of the Head of the Dept: G Vijayalaxmi ……