



# G H RAISONI COLLEGE OF ENGINEERING NAGPUR

(An Autonomous Institute affiliated to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur)

CRPF Gate No.3, Hingna Road, Digdoh Hills, Nagpur. Maharashtra-440016 (India)

## Course wise Teaching Plan for Session : Summer Term 2018

Course : Applied Physics

Faculty : bspatankar - Ms. Bhakti

Shridatta Patankar

Unit	Topic Code	Topic Covered	Date	Course	Section
1	1	Motion of charges in uniform parallel electric field, energy equation.	03/05/2018	BPHL102	A
1	2	Motion of charges in uniform electric field perpendicular and at an angle $\theta$	03/05/2018	BPHL102	A
1	3	Numerical on electric field, Motion of charges in uniform parallel magnetic field and concept of constant energy, Motion of charges in uniform perpendicular magnetic field	04/05/2018	BPHL102	A
1	4	Motion of charges in uniform magnetic field at an angle $\theta$	04/05/2018	BPHL102	A
1	5	Motion of charges in crossed fields, numerical on magnetic and crossed field Electron optics : Bethe's law	05/05/2018	BPHL102	A
1	6	Electrostatic lens, Cathode Ray Tube	05/05/2018	BPHL102	A
1	7	Block diagram of CRO, Working of each block of CRO , Applications of CRO	07/05/2018	BPHL102	A
1	8	Numerical on first unit, (TAE-1:- Numerical Test)	07/05/2018	BPHL102	A
2	9	Laser characteristics and Applications, Three Quantum Process : Absorption, spontaneous and stimulated emission of radiation	08/05/2018	BPHL102	A
2	10	Population inversion, metastable state, active medium	08/05/2018	BPHL102	A
2	11	Pumping and pumping schemes: Three and four level scheme	10/05/2018	BPHL102	A
2	12	Optical resonator: working	10/05/2018	BPHL102	A
2	13	Ruby laser : Construction and working	11/05/2018	BPHL102	A
2	14	He-Ne Laser: Construction and working, applications of laser	11/05/2018	BPHL102	A
2	15	Expressions for coherence length and coherence time	12/05/2018	BPHL102	A
2	16	Numerical on Laser, TAE2 : Short Answer question test	12/05/2018	BPHL102	A
3	17	Concept of division of amplitude, Interference in parallel thin films	14/05/2018	BPHL102	A



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3	18	Interference in non-uniform thin films: wedge shape and Newton's rings	14/05/2018	BPHL102	A
3	19	Application of interference : Anti reflection coating, surface testing	15/05/2018	BPHL102	A
3	20	Brewster's law, Malus law, optics axis, double reflection in Quartz prism	15/05/2018	BPHL102	A
3	21	Quarter and half wave plate, Polarization and its types	17/05/2018	BPHL102	A
3	22	Production and detection of linear, circular and elliptical polarizations	17/05/2018	BPHL102	A
3	23	Application of polarization, Numerical on Polarisation	18/05/2018	BPHL102	A
3	24	(TAE3: Derivation Test)	18/05/2018	BPHL102	A
4	25	Compton Effect ; concept, equations for conservation of momentum and energy, Compton shift equation, significance	19/05/2018	BPHL102	A
4	26	Wave particle duality, De Broglie Hypothesis	19/05/2018	BPHL102	A
4	27	De Broglie model of an atom justification for Bohr's postulate	21/05/2018	BPHL102	A
4	28	Davisson and Germer Expt, wavelength calculations by Bragg's law and de broglie concept	21/05/2018	BPHL102	A
4	29	Numerical On Compton and DeBroglie (TAE4: Concept Test)	22/05/2018	BPHL102	A
4	30	Phase velocity, Group Velocity ,Concept of Wave Packet Heisenberg's Uncertainty Principle with significance	22/05/2018	BPHL102	A
4	31	Heisenberg's Uncertainty Principle with significance	24/05/2018	BPHL102	A
4	32	Wave Function and its probability interpretation	24/05/2018	BPHL102	A
4	33	Schrödinger's Wave equations: time dependent and time independent from time dependent	25/05/2018	BPHL102	A
4	34	Infinite potential well, Eigen values and eigen function,	25/05/2018	BPHL102	A



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Unit	Topic Code	Topic Covered	Date	Course	Section
4	35	Finite potential well: Tunneling, Quantum confinement	26/05/2018	BPHL102	A
4	36	Numerical on Eigen function and values, (TAE-5 Seminar/PPT on Applications of Polarization, Interference, Laser, Semiconductor)	26/05/2018	BPHL102	A
5	37	Formation of energy bands in solids, Classification of solids into insulators, semiconductors and conductors	28/05/2018	BPHL102	A
5	38	Fermi function and Fermi energy level,	28/05/2018	BPHL102	A
5	39	Intrinsic semiconductor	29/05/2018	BPHL102	A
5	40	Energy band diagrams of silicon and germanium, band diagrams of carbon (diamond)	29/05/2018	BPHL102	A
5	41	Extrinsic semiconductor, dependence of Fermi energy on temperature	31/05/2018	BPHL102	A
5	42	Dependence of Fermi energy on doping concentration, derivation of law of mass action	31/05/2018	BPHL102	A
5	43	Current conduction in semiconductor	01/06/2018	BPHL102	A
5	44	Hall effect : concept, derivation of hall coefficient, Applications	01/06/2018	BPHL102	A
5	45	p-n junction diode, diode rectifier equation	02/06/2018	BPHL102	A
5	46	Zener diode, Avalanche and Zener break down mechanisms, LED	02/06/2018	BPHL102	A
5	47	Numerical on Semiconductor	04/06/2018	BPHL102	A
5	48	TAE : for missed out and low scorer TAE : Diagram Tests	04/06/2018	BPHL102	A
6	49	Advanced trends in physics : Supercapacitors introduction	05/06/2018	BPHL102	A
6	50	Advanced trends in physics : Supercapacitors applications	05/06/2018	BPHL102	A
6	51	Advanced trends in physics : Supercapacitors applications	07/06/2018	BPHL102	A
6	52	Advanced trends in physics : Supercapacitors applications	07/06/2018	BPHL102	A
6	53	Revision	08/06/2018	BPHL102	A



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6	54	Revision	08/06/2018	BPHL102	A
6	55	Revision	09/06/2018	BPHL102	A
6	56	Revision	09/06/2018	BPHL102	A