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DEGLOOR COLLEGE,DEGLOOR

DEPT. OF PHYSICS

ANNUAL TEACHING PLAN

NAME OF TEACHER : Dr. Bhanudas Narwade **YEAR:2020-2021**

SEME III **CLASS:B.Sc.II Year**

PAPER NAME & NO.: Waves, Acoustics & Ultrasonics

SR.NO	TOPIC / SUB TOPIC	PLANNING			EXECUTION		
		Expe. Period	Expected Duration		ctl. Period	Actual Duration	
			From	To		From	To
1	**UNIT-I WAVES**						
	Introduction, Relation between wave velocity and partical velocity,Differntial equation of Equation of vibrating string,Velocity of transvrse wave,Frequency and period	10	10/8/2020	1/9/2020	9	4/9	21/9
2	**UNIT-II - STATIONARY WAVES**						
	Analytical treatment of stationary waves Pressure and density at nodes and antinodes Distribution of energy in stationary wave Energy not transferred	11	2/9/2020	24/9/2020	10	22/9	9/10
3	**UNIT-III-FREE AND FORCED VIBRATIONS**						
	Free forced vobrationd, Resonance Energy of oscillatory motion, Damped SHM in electrical circuit, forced vibration,Resonance and sharpness of resonance, phases of resonance and examples of forced and resonant vibration	12	25/9/2020	20/10/2020	10	12/12	23/12
4	**UNIT-IV ACOUSTICS AND ULTRASONICS**						
	Reverbration Reverbration time,Sabin's formula,absorption coefficient, determination of absorbtion coefficient,conditions for good acoustics, Piezo-electric and Magnetostriction effect,Piezo-electric and magnetostriction oscillator,Detection of ultrasonic waves,Acoustic grating,Kunds tube method,Applications of ultrasonics	12	22/10/2020	25/11/2020	12	24/12	1-May

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DEGLOOR COLLEGE,DEGLOOR

DEPT. OF PHYSICS YEAR:2020-21

ANNUAL TEACHING PLAN CLASS:B.Sc.III Year

NAME OF TEACHER: Dr. Bhanudas Narwade
SEMESTER : V
PAPER NAME & NO.: Quantum Mechanics

SR.NO	TOPIC / SUB TOPIC	PLANNING			EXECUTION		
		xpe. Period	Expected Duration		tl. Perio	Actual Duration	
			From	To		From	To
1	UNIT-I -PARTICAL PROPERTIES OF WAVES						
	Introduction, Photoelectric effect,Comton effect,de-Broglies waves, Wave function, de-Broglies wave velocity,Wave and Group velocities,G.P.Thomson experiment, Uncertainty principal and its Applications,Wave particle duality,Numerical Problems	12	1/8/2020	1/9/2020	12	5/9/20	14/10/20
2	UNIT-II SCHRODINGER'S EQUATION						
	Introduction,Schrodinger's equation ,Time dependent form,probability current,Expectation values,Operators, Schrodinger's Equation -steady state form, Eigen values and function problems	10	2/9/2020	1/10/2020	9	15/10/20	5/11/20
3	NIT-III APPLICATION OF QUANTUM MECHANIC						
	Introduction,partical in a box Energy quantization,wave function,Momentum quantization,Harmonic oscillator,Energy level,Particle in 3-D box	11	2/10/2020	1/11/2020	~~9~~ 9	~~2/11/20~~ 5/11/20	21/12/20
4	UNIT-IV QUANTUM THEORY OF *H* ATOM						
	Schrodinger's equation for the Hydrogen atom,in spherical polar co-ordinates,separation of variables,Quantum Numbers-Total quantum numbers,Orbital quantum numbers,magnetic quantum numbers, spin quantum numbers	10	15/11/20	15/12/20	8	12/12	~~31/12~~ 1st Jan 2021

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DEPT. OF PHYSICS

ANNUAL TEACHING PLAN

NAME OF TEACHER : Dr. Bhanudas Narwade **YEAR:2020-2021**

SEM I **CLASS:B.Sc.I Year**

PAPER NAME & NO.: Mechanics and Properties of matter

SR.NO	TOPIC / SUB TOPIC	PLANNING			EXECUTION		
		Expe. Periods	Expected Duration		ctl. Period	Actual Duration	
			From	To		From	To
1	**UNIT-I MECHANICS**	12	1/11/2020	30/11/20	10 ~~11~~ ~~10~~ 11	1/1/2021	10/1/2021
	Introduction, Newton's,laws,Gravitational law, Kepler,s laws,Gravitational field,intensity,potential ,conservation law, work,power, work-energy theorem, conservative and nonconservative force						
2	**UNIT-II -SURFACE TENSION**	8	1/12/2020	15/12/20	6	11/1/21	21/01/21
	Molecular forces, ST and its application, Pressure difference, expression for excess pressureinside soap bubble and drop, ST by Jager's method and Fergusion method						
3	UNIT-III-VISCOSITY	10	16/12/20	15/1/21	9	22 Jan 2021	16 feb 2021
	Coefficient of viscosity ,streamline flow, critical velocity, Reynold's number, Bernouli's theorem,Poisseuille's equation,Experimental determination of coefficent of viscosity						
4	**UNIT-IV ELASTICITY**	15	15/1/21	15/2/21	11	17 feb 2021	3rd March 21
	Introduction, Hooke's Law, Elastic Constants (Y, K & ή), Poisson's Ratio, Twisting couple on a cylinder or a (wire), Torsional pendulum ,Bending of Beam, Bending Moment, Cantilever (Weight of the beam is ineffective, Weight of the beam is effective), Depression of a Beam supported at the ends and loaded at the Centre, Determination of Y by bending of beam.						

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DEPT. OF PHYSICS YEAR:2020-21

ANNUAL TEACHING PLAN CLASS:B.Sc.I Year

NAME OF TEACHER: Dr. Bhanudas Narwade
SEM : II
PAPER NAME & NO.: Heat and Thermodynamics

SR.NO	TOPIC / SUB TOPIC	PLANNING			EXECUTION		
		xpe. Period	Expected Duration		tl. Perio	Actual Duration	
			From	To		From	To
1	UNIT-I -THERMOMETRY						
	Types of Thermometers, Centigrade and Fahrenheit scale, relation between Celsius, Kelvin, Fahrenheit & Rankine scales, Platinum resistance thermometer, Seebeck effect.	12	14/1/21	30/1/21	05	24th May 2021	31st May 2021
2	UNIT-II Real Gases and Behaviour						
	Behavior of gases at high pressure, Boyle temperature, Andrew's Experiment on CO2, Amagat's Experiment, Vander wall's Equation of State, Critical Constants, Corresponding states, Coefficients of Vander wall's Equation, Reduced Equation of State, Joule Thomson Porous Plug Experiment, Temperature of Inversion, Relation between Boyle temperature and Temperature of	12	1/2/2021	25/2/21	06	31st May 2021	11th Jun 2021
3	UNIT-III TRANSPORT PHENOMENA						
	Molecular Collisions, Mean free path, Expression for mean free path, Transport Phenomena, Viscosity of Gases, Thermal Conductivity of Gases, Diffusion, Inter relation between three transport coefficients	9	26/2/21	15/3/21	08	15th Jun 2021	10th Jul 2021
4	UNIT-IVTHERMODYNAMICS						
	First Law of Thermodynamics, Relation connecting P, V and T in an Adiabatic Process, Second Law of Thermodynamics (Kelvin and Clausius statements), Carnot's cycle, Carnot's heat Engine, Carnot's Theorem, Entropy, Entropy of Irreversible processes entropy of reversible process, Third Law of Thermodynamics. Internal energy, Helmholtz' function, Enthalpy, Gibb's function, Maxwell's Thermodynamical elations, T- dS equations, Clausius-	12	16/3/21	15/4/21	07	18th Jul 2021	18th Jul 2021

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DEPT. OF PHYSICS

ANNUAL TEACHING PLAN

NAME OF TEACHER: Dr. Bhanudas Narwade YEAR:2020-21

SEM : IV CLASS:B.Sc.II Year

PAPER NAME & NO.: Optics and Laser

SR.NO	TOPIC / SUB TOPIC	PLANNING			EXECUTION		
		xpe. Period	Expected Duration		tl. Perio	Actual Duration	
			From	To		From	To
1	UNIT-I -GEOMETRICAL OPTICS						
	Cardinal points , equivalent focal length,Eyepieces and their cardinal points	9	17/1/2021	5/2/2021	07	27/3/21	18th may 21
2	UNIT-II INTERFERENCE AND DIFFRACTION						
	Newtons ring, Michelson's interferometr determination of wavelength Rayleigh criterian, RP. of grating	14	6/2/2021	5/3/2021	10	18Th may 21	31st May 2021
3	UNIT-III POLARIZATION						
	Polarization by reflection ,Brewster's law ,Malus law ,Double refraction ,Nicol prism, Double refraction in uniaxial crystal,Quarter wave plate,Half wave plate,Optical rotation,Activity, Laurentz half shade method	12	6/3/2021	1/4/2021	10	12Th Jun 2021	23rd Jun 2021
4	UNIT-IVLASERS						
	Spontaneous and stimulated emission,absorption,Einstein's coefficients, population inversion,lasing action ,optical and electrical pumping,properties of laser He-Ne laser	10	1/4/2021	25/4/2021	7	24th Jun 2021	30Th Jun 2021

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ANNUAL TEACHING PLAN

NAME OF TEACHER: Dr. Bhanudas Narwade YEAR:2020-21

SEM : VI CLASS:B.Sc.III Year

PAPER NAME & NO.: Digital and Communication Electronics

SR.NO	TOPIC / SUB TOPIC	PLANNING			EXECUTION		
		xpe. Period	Expected Duration		tl. Perio	Actual Duration	
			From	To		From	To
1	UNIT-I -NUMBER SYSTEM						
	Decimal,binary ,octaal and hexadecimal number systems,their interconversion,Arithmatic,1's and 2's complements, BCD, Gray code and Excess code	12	17/1/2021	12/2/2021	13	22nd Mar 2021	28Th April 2021
2	UNIT-II LOGIC GATES						
	AND,OR,NOT, NAND,NOR,EX-OR,EX-NOR gates ,Universal properties of NAND ,NOR, Boolean operation,logic expression,De-Morg,n's theorem, simplification usin K-map,Half and full adder	12	13/2/2021	10/3/2021	09	29Th April 2021	10Th May 2021
3	MODULATION AND DEMODULATION						
	Types of modulation, expression for AM, AM voltage,Frequency spectrum,power output in AM,Frequency modulation, expression for FM, DEMODULATION,Linear diode detector	12	11/3/2021	1/4/2021	08	28Th May 2021	26Th Jun 2021
4	UNIT-IV COMMUNICATION ELECTRONICS						
	,essential elements,transmitter ,AM Receiver, TRF receiver,Hetrodyne receiver ,characteristics of radio receiver, sensitivity, selectivity, fidelity and their measurement	9	2/4/2021	20/4/2021	05	28Th Jun 2021	29Th Jun 2021

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