P.N. DAS COLLEGE

ACADEMIC CALENDER

DEPARTMENT OF PHYSICS

CBCS + NEP SYSTEM

2023-24

SEMESTER-I-(GENERAL)(PHSG)

UNDER NEP 2020

SESSION-AUG,2023-FEB,2024

PAPER	UNIT	TOPIC	NO OF LECTURES	NAME OF THE TEACHER
	I	VECTORS	10	Dr. SHARMILADE
	II	PARTICLE DYNAMICS	14	
	III	GRAVITATION	07	PRODESH SARKAR
	IV	OSCILLATIONS	06	
	V	ELASTICITY	08	
	1.	TO DETERMINE MOMENT OF INERTIA OF A REGULAR BODY USING ANOTHER AUXILARY BODY AND A CRADLE SUSPENDED BY A METAL WIRE	04	Dr. SHARMILADE
	2.	TO DETERMINE g AND VELOCITY OF FOR A FREELY BODY USING DIGITAL TIMING TECHNIQUE	05	

	3.	**TO DETERMINE YOUNG'S MODULUS BY FLEXURE METHOD**	**04**	**PRODESH SARKAR**
	4.	**TO DETERMINE THE MODULUS OF RIGIDITY OF A WIRE BY A TORSIONAL PENDULUM**	**05**	
	5.	**TO DETERMINE THE VALUE OF g USING BAR PENDULUM**	**04**	
	6.	**TO DETERMINE THE VALUE OF g USING KATER'S PENDULUM**	**04**	
	7.	**To determine the coefficient of Viscosity of water by capillary flow method.**	**04**	

SEMESTER-II-(GENERAL)(PHSG)

UNDER NEP 2020

SESSION-MAR-AUG,2024

PAPER	UNIT	TOPIC	NO OF LECTURES	NAME OF THE TEACHER
	I	VECTOR ANALYSIS	12	Dr. SHARMILADE
	II	ELECTROSTATICS	18	
	III	MAGNETISM	10	
	IV	ELECTROMAGNETIC INDUCTION	06	PRODESH SARKAR
	V	LINEAR NETWORK	05	
	VI	MAXWELL'S EQUATION AND ELECTROMAGNETIC WAVE PROPAGATION	09	
	1.	TO DETERMINE AN UNKNOWN LOW REGISTANCE USING CAREY FOSTER'S BRIDGE	03	Dr. SHARMILADE
	2.	TO VERIFY THEVENIN AND NORTON THEORMS	03	

	3.	TO VERIFY SUPERPOSITION AND MAXIMUM POWER TRANSFER THEORM	03	PRODESH SARKAR
	4.	TO DETERMINE SELF INDUCTANCE OF A COIL BY ANDERSON'S BRIDGE	03	
	5.	TO STUDY RESPONSE CURVE OF A SERIES LCR CIRCUIT AND DETERMINE ITS (a) RESONANT FREEQUENCY (b) IMPEDANCE AT RESONANCE (c) QUALITY FACTOR AND (d) BAND WIDTH	03	
	6.	TO STUDY THE RESPONSE CURVE OF A PARALLEL LCR CIRCUIT AND DETERMINE ITS (a) ANTI-RESONANT FREQUENCY AND (b) QUALITY FACTOR	03	
	7.	TO STUDY THE CHARACTERISTICS OF A SERIES RC CIRCUIT	03	
	8.	TO DETERMINE UNKNOWN LOW REGISTANCE USING POTENTIOMETER	03	
	9.	TO DETERMINE THE REGISTANCE OF A GALVANOMETER USING THOMSON'S METHOD	03	
	10.	MEASUREMENT OF FIELD STRENGTH B AND ITS VARIATION IN A SOLENOID	03	

SEMESTER-III-(GENERAL)(PHSG)

UNDER CBCS

SESSION-SEP,2023-FEB,2024

PAPER	UNIT	TOPIC	NO OF LECTURES	NAME OF THE TEACHER
PHSGCOR03T (Theory)	I	LAWS OF THERMODYNAMICS	22	PRODESH SARKAR
	II	THERMODYNAMIC POTENTIALS	10	
	III	KINETIC THEORY OF GASES	10	
	IV	THEORY OF RADIATION	06	
	V	STATISTICAL MECHANICS	12	
PHSGCOR03P (Practical)	1.	VERIFICATION OF STEFAN'S LAW USING A TORCH BULB	03	PRODESH SARKAR
	2.	TO DETERMINE THE COEFFICIENT OF THERMAL CONDUCTIVITY OF A BAD CONDUCTOR BY LEE AND CHARLTON'S DISC METHOD	03	
	3.	TO THE TEMPERATURE COEFFICIENT OF REGISTANCE BY PLATINUM REGISTANCE THERMOMETER USING CONSTANT CURRENT SOURCE	03	
	4.	TO STUDY THE VARIATION OF THERMO-EMF OF A THERMOCOUPLE WITH A DIFFERENCE OF TEMPERATURE OF ITS TWO JUNCTIONS	03	
	5.	TO CALIBRATE A THERMOCOUPLE TO MEASURE TEMPERATURE IN A SPECIFIC RANGE BY NULL METHOD USING A	03	

		POTENTIOMETER		
	6.	**TO CALIBRATE A THERMOCOUPLE TO MEASURE TEMPERATURE IN A SPECIFIED RANGE BY DIRECT MEASUREMENT USING OP-AMP DIFFERENTIAL AMPLIFIER AND TO DETERMINE NEUTRAL TEMPERATURE**	**03**	
	7.	**MEASUREMENT OF UNKNOWN TEMPERATURE USING DIODE SENSOR**	**03**	
	8.	**TO DETERMINE MECHANICAL EQUIVALENT OF HEAT, J , BY CALLENDER AND BARNE'S CONSTANT FLOW METHOD**	**03**	
	9.	**TO DETERMINE COEFFICIENT OF THERMAL CONDUCTIVITY OF CU BY SEAELE'S APPARATUS**	**03**	
	10.	**TO DETERMINE THE COEFFICIENT OF THERMAL CONDUCTIVITY OF CU BY ANGSTROM'S METHOD**		

SEMESTER-IV-(GENERAL)(PHSG)

UNDER CBCS

SESSION- MAR-JUL,2024

PAPER	UNIT	TOPIC	NO OF LECTURES	NAME OF THE TEACHER
PHSGCOR04T (Theory)	I	SUPERPOSITION N OF TWO COLLINEAR HARMONIC OSCILLATIONS	04	PRODESH SARKAR
	II	SUPERPOSITION OF TWOPERPENDICULAR HARMONIC OSCILLATIONS	02	
	III	WAVES MOTION GENERAL	07	
	IV	FLUIDS	06	
	V	SOUND	06	
	VI	WAVE OPTICS	03	
	VII	INTERFERENCE	10	
	VIII	MICHELSON'S INTERFEROMETER	03	
	IX	DIFFRACTION	14	
	X	POLARIZATION	05	

PHSGCOR04P (Practical)	1.	TO DETEERMINE THE FREQUENCY OF AN ELECTRIC TUNING FORK BY MEDLE'S EXPERIMENT	03	PRODESH SARKAR
	2.	TO DETERMINE COEFFICIENT OF VISCOSITY OF WATER BY CAPILLARY FLOW METHOD	03	
	3.	TO DETERMINE REFRACTIVE INDEX OF THE MATERIAL OF A PRISM USING SODIUM SOURCE	03	
	4.	TO DETERMINE THE DISPERSIVE POWER AND CAUCHY CONSTANTS OF THE MATERIAL OF A PRISM USING MERCURY SOURCE	03	
	5.	TO DETERMINE WAVELENGTH OF SODIUM LIGHT USING FRESNEL BIPRISM	03	
	6.	TO DETERMINE WAVELENGTH OF SODIUM LIGHT USING NEWTON'S RING	02	
	7.	TO DETERMINE DISPERSIVE POWER AND RESOLVING POWER OF A PLANE DIFFRACTION GRATING	02	
	8.	TO DETERMINE THE THICKNESS OF A THIN PAPER BY MEASUREING THE WIDTH OF THE		

		INTERFERENCE FRINGES PRODUCED BY A WEDGE-SHAPED FILM		
	9.		02	
		FAMILIARIZATION WITH: SCHUSTER'S FOCUSING: DETERMINATION OF ANGLE OF PRISM		
	10.		02	
		TO DETERMINE WAVELENGTH OF (1) Na SOURCE AND (2) SPECTRAL LINES OF Hg SOURCE USING PLANE DIFFRACTION GRATING		
	11.		02	
		TO INVESTIGATE THE MOTION OF COUPLED OSCILLATORS		
	12.		02	
		TO DETERMINE THE WAVELENGTH OF SODIUM SOURCE USING MICHELSON'S INTERFEROMETER		

SEMESTER-V-(GENERAL)(PHSG)

UNDER CBCS

SESSION-SEP,2023-FEB,2024

PAPER	UNIT	TOPIC	NO OF LECTURES	NAME OF THE TEACHER
PHSGDSE01T (Theory)	I	DIGITAL CIRCUITS	15	PRODESH SARKAR
	II	SEMICONDUCTOR DEVICES AND AMPLIFIERS	15	
	III	OPERATIONAL AMPLIFIERS	14	
	IV	INSTRUMENTATIONS	16	
PHSGDSE01P (Practical)	1.	TO MEASURE (a) VOLTAGE AND (b) FREQUENCY OF A PERIODIC WAVEFORM USING CRO	03	PRODESH SARKAR
	2.	TO VERIFY AND DESIGN AND, OR, NOT AND XOR GATES USING NAND GATES	03	
	3.	TO MINIMIZE A GIVEN LOGIC CIRCUIT	03	
	4.	HALF ADDER, FULL ADDER AND 4-BIT BINARY ADDER	03	
	5.		03	
	6.	ADDER-SUBSTRACTOR USING FULL ADDER I.C.	03	
	7.	TO DESIGN AN ASTABLE MULTIVIBRATOR OF GIVEN SPECIFICATIONS USING 555 TIMER	03	
		TO DESIGN A		

	8.	MONOSTABLE MULTIVIBRATOR OF GIVEN SPECIFICATIONS USING 555 TIMER	03	
	9.	TO VERIFY IV CHARACTARISTICS OF PN DIODE, ZENER AND LIGHT EMITTIG DIODE	03	
	10.	TO STUDY THE CHARACTARISTICS OF A TRANSISTOR IN CE CONFIGARATION TO DESIGN A CE AMPLIFIER OF GIVEN GAIN USING VOLTAGE DIVIDER BIAS	03	

SEMESTER-VI-(GENERAL)(PHSG)

UNDER CBCS

SESSION-MAR-JULY,2024

PAPER	UNIT	TOPIC	NO OF LECTURES	NAME OF THE TEACHER
PHSGDSE04T (Theory)	I	GENERAL PROPERTIES OF NUCLEI	09	PRODESH SARKAR
	II	NUCLEAR MODELS	11	
	III	RADIOACTIVE DECAY	10	
	IV	NUCLEAR REACTION	08	
	V	INTERRACTION OF NUCLEAR RADIATION WITH MATTER	08	
	VI	DETECTOR FOR NUCLEAR RADIATION	07	
	VII	PARTICLE PHYSICS	14	