DEPARTMENT OF PHYSICS

HONOUR	NUMBER	JULY-SEPTEMBER	OCTOBER –	HONOUR	NUMBER	JANUARY-MARCH	APRIL-JUNE
S	OF	7 weeks	DECEMBER	S	OF	5.5 weeks	7.5 weeks
(CBCS	LECTURE		5 weeks	(CBCS	LECTURE		
Syllabus)	S			Syllabus)	S		
		MATHEMATICAL	MATHEMATIC	Semester-II	THEORY	ELECTRICITY AND	ELECTRICITY AND
Semester-I	THEORY	PHYSICS – I	AL PHYSICS -	C -3	13 weeks	MAGNETISM	MAGNETISM
C -I	12 weeks	Calculus, Vector	Ι				
		Calculus	Calculus, Vector		Credit: 4	NO. OF CLASSES= 22	NO. OF CLASSES=
	Credit: 4	NO. OF CLASSES= 28	Calculus,				30
			Probability				
			NO. OF				
~			CLASSES= 20	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			
Semester –	THEODI	MECHANICS	MECHANICS	Semester-II	THEORY	WAVES AND OPTICS	WAVES AND
I	THEORY		NO 05	C -4	10 1		OPTICS
C-2	12 weeks	NO. OF CLASSES=28	NO. OF		13 weeks	NO. OF CLASSES= 22	
			CLASSES=20				NO. OF CLASSES=
9	Credit: 4			C .	Credit: 4		30
Semester –		MATHEMETICAL	MATHEMETIC	Semester –	PRACTIC	1.To determine an	6.To study the
I P-I	PRACTIC	PHYSICS LAB using	AL PHYSICS	II D 2	AL	unknown Low	response curve of a
P-I	AL	PYTHON	LAB using	P-3	13 weeks	Resistance using Carey	parallel LCR circuit
		NO OF CLASSES 29	PYTHON			Foster's Bridge.	and determine its (a)
	Credit:2	NO. OF. CLASSES= 28	NO. OF.		Credit: 2	2 To conifer the	Anti- resonant
	Credit:2	(subject to the arrival	CLASSES = 20		Credit: 2	2. To verify the Thevenin and Norton	frequency and (b)
		of new computer with				theorems.	Quality factor Q.
		given specifications)	(subject to the arrival of new			3. To verify the	
			computer with			Superposition and	7.To study the
			given			Maximum power	characteristics
			specifications)			transfer theorems.	of a series RC Circuit.
			specifications)			4. To determine self-	of a series ice chedit.
						inductance of a coil by	8.To determine an
						Anderson's bridge.	unknown
						5. To study response	Low Resistance using
						curve of a Series LCR	Potentiometer.
						circuit and determine its	
						(a) Resonant frequency,	
						(b) Impedance at	9.To determine the
						resonance, (c) Quality	resistance of a

						factor Q, and (d) Band width.	galvanometer using Thomson's method. (subject to arrival of the instrument) 10.Measurement of field strength B and its variation in a solenoid (determine dB/dx) (subject to arrival of the instrument)
Semester –	PRACTIC	1. YOUNG'S	8. To	Semester -	PRACTIC		
I P-II	AL	MODULUS	determi	I D 4	AL	To determine the	To study Lissajous
P-11		2. MOMENT OF INERTIA	ne the elastic	P-4	13 weeks	frequency of an electric tuning fork by	Figures to derermine the phase
	Credit: 2	3. COEFFICIENT	Constan			Melde's experiment	difference between
		OF	ts of a		Credit: 2	and verify $\lambda 2$ –T law.	two
		VISCOSITY	wire by			(Subject to arrival of	harmonic oscillatiions.
		4. MODULUS OF	Searle's			the instrument)	
		RIGIDITY	method				
		5. TO STUDY				2. To determine refractive index of the	
		S. TO STUDY RANDOM	9. To			Material of a prism	8. To determine the thickness of a thin
		ERROR	determi			using sodium source.	paper by measuring
		2.11.011	ne the			aonig courant sources	the width of the
			value of			3. To determine the	interference fringes
		6. TO	g using			dispersive power and	produced by a
		DETERMINE	Bar			Cauchy constants of the	wedge-shaped
		'g'AND	Pendulu			material of a prism	Film. (Subject to
		VELOCITY OF A FREELY	m.			using mercury source. (subject to the arrival	arrival of theInstrument)
		FALLING				of Hg source)	or uncensu unicite)
		BODY BY	10. To			or ing source,	
		DIGITAL	determi			4. To determine	
		TIME	ne the			wavelength of sodium	9. Familiarization

		TECHNIQUE	value of			light using Fresnel	with:
		12011.1201	g using			Biprism.	Schuster's focusing;
			Kater's			Diprioni	determination of angle
		7. TO	Pendulu			5. To determine	of
		DETERMINE	m			wavelength of sodium	prism.
		HEIGHT OF A				light using Newton's	prisiii.
		BUILDING				Rings.	
		USING	11. To			Kings.	10. To determine
		SEXTANT	study			6. To determine	wavelength
		SEATANT	the			dispersive power and	of (1) Na source and
			Motion			resolving power of a	(2) spectral lines of
			of			plane diffraction	
						1	Hg
			Spring and			grating.	source using plane
							diffraction grating.
			calculat				(subject to arrival of
			e, (a)			NO. OF CLASSES = 22	the
		NO OF CLASSES 20	Spring			22	Hg. source)
		NO. OF CLASSES=28	constant				
			, (b) g				
			and (c)				11.To investigate the
			Modulu				motion of coupled
			s of				oscillators.
			rigidity.				(Subject to arrival
							of theInstrument)
l			NO. OF				
			CLASSES=20				12.To determine the
			CLASSES=20				wavelength of sodium
							source using
							Michelson's
							interferometer.
							(Subject to arrival
							of theInstrument)
							NO. OF. CLASSES =
							30
Semester-	THEORY	Mathematical Physics	Mathematical	Semester-	THEORY	Mathematical Physics	Mathematical
III	12 weeks	II	Physics II	IV	13 weeks	III	Physics III
C -5				C -8			

	Credit: 4	Fourier Series, Frobenues Methods and Special functions No. of Classes:28 (Subject to the arrival of New computers)	Some Special integrals, Variational Calculus in Physics, Analytical Dynamics, Partial Differential equations No. of Classes:20		Credit: 4	Complex analysis, Integral transform No. of Classes:22 (Subject to the arrival of New Computers)	Boundary value problems, matrices, Eigen value and Eigen vectors No. of Classes:30
Semester- III C -6	THEORY 12 weeks Credit: 4	Thermal Physics Introduction to thermodynamics, Thermodynamic potentials No. of Classes:28	Thermal Physics Thermodynamic potentials, Kinetic theory of gases No. of Classes:20	Semester- IV C -9	THEORY 13 weeks Credit: 4	Elements of Modern Physics Relativistic dynamics, Collection of identical entities No. of Classes:22	Elements of Modern Physics Emergence of Quantum Mechanics, Lasers, Nuclear Physics No. of Classes:30
Semester- III C -7	THEORY 12 weeks Credit: 4	Digital Systems and Applications Introduction,Integrated Circiuts, Digital Circuits, Arithmatic circuits, Data processing circuits No. of Classes:28	Digital Systems and Applications Sequential circuits, Timers, Registers,Counte rs, Computer Organization No. of Classes:20	Semester- IV C -10	THEORY 13 weeks Credit: 4	Analog Systems and Applications History of the development of Electronics,Semiconduc tor diodes, Two terminal devices, BJT No. of Classes:22	Analog Systems and Applications FET, Amplifiers, Oscillators, OPAMP. Application of OPAMP, Conversion No. of Classes:30
Semester- III	Theory + lab (Mixed) 12 weeks	Basic Instrumentation Skills Basic of Instruments,	Basic Instrumentatio n Skills	Semester- IV	Theory + lab (Mixed) 13 weeks	Computational Physics	Computational Physics

Skilled Enhanceme nt Course - I	Credit: 2	Electronic Voltmeter, Cathode Ray Oscilloscope, Signal generators and analysis instruments No. of Classes:14	Impedance bridges and Q meters. Digital Instruments, Digital multimeters No. of Classes:10	Skilled Enhanceme nt Course - II	Credit: 2	Introduction, Scientific programming, Control Statements No. of Classes:12	Programming No. of Classes:16
Semester III P5	Practical Credit: 2	Mathematical Physics II Lab General topics, Sorting, statistical Calculation, Interpolation, Numerical Differentiation	Mathematical Physics II Lab Numerical integration, Integration by Stochastic	Semester IV P8	Practical Credit:2	Mathematical Physics III Lab ODE initial value problem, Solution of Linear System of	Mathematical Physics III Lab Boundary value problems, Newton Raphson method,
		No. of Classes: 28	method,Solution of ODE first order differential equation No. of Classes: 20			equations,Inverse of a matrix, Orthogonalization method,Eigenvalue calculation,Eigen Vectors No. of Classes: 22	Integral transform, Dirac Delta function, Introduction of OCTAVE and its use No. of Classes: 32
Semester III P6	Practical Credit: 2	Thermal Physics Lab1.Stefan's law2.Thermal Conductivity of Bad conductor by Lee's method3.Temperature coefficient of resistance of PRT using constant current source (subject to the arrival of the instrument)	Thermal Physics Lab 6.To calibrate a thermocouple to measure temperature in a specified range using OPAMP (subject to the arrival of the instrument) 7.Measuring Unknown temperature using Diode	Semester IV P9	Practical Credit:2	 Elements of Modern Physics lab 1. Wavelenth of Hα emission of Hydrogen atom 2. Absorption ines of Iodine vapour 3. Value of e/m by bar magnet 4. Wavelength of laser source by diffraction of double slits 5. Wavelenth and 	Elements of Modern Physics lab8. Planck's Constant using blackbody radiation and photo detector9. Photoelectric Effect10. Planck's constant using 4 LEDs of different colours11. Ionization

Semester	Practical	 4. To study thermo emf of a thermocouple 5. To calibrate a thermocouple to measure temperature in a specified range using potentiometer No. of Classes: 28 (subject to the arrival of the Instrument) 	Sensor 8. To determine mechanical equivalent of heat (subject to the arrival of the Instrument) 9. Coefficient of thermal conductivity by Searle's apparatus (subject to the arrival of the Instrument) 10. Coefficient of thermal conductivity by Angstorm's method No. of Classes: 20 (subject to the arrival of the Instrument) Digital System	Semester	Practical	anguar spread of solid state laser by plane diffraction grating 6. Work function of the material of filament by directly heated diode 7. Tunneling effect in tunnel diode by IV characteristics No. of Classes: 22 (subject to the arrival of the instruments)	potential of mercury12. Millican's Oil drop experiment13. Wavelengt oflaser source using diffraction of single slitNo. of Clases: 30(subject to the arrival of the instruments)
III P7	Credit:2	Applications lab Use of CRO Use of Multimeter 	and Applications lab 6.Different types of Adders 7 FlipFlop	IV P10	Credit: 2	Applications lab 1. I-V characteristics of PN junction	Applications lab 10. To add DC voltage using OPAMP in

3. NOT gate usin	g 8. Astable	diode and	inverting and
transistor	Multivibrator	Light emitting	in
4. Use of	and Monostable	diode using	noninverting
Universal gate		both votage	mode
5. For a given	using 555 timer	and current	11. OPAP as
truth table find		source	integrator and
the equation	10. JK Master		differentiator
1		2. To study Zener diode	
and develop th			12. To Study CE
circuit	11. Counters	3. V-I and power	transistor
	12. Shift	curves of Solar	amplifier
No. of Classes: 28	Registors	Cell	13. Various
		4. Characteristics	biasing
	No. of Classes:	of BJT in CE	configuration
	20	configuration	of BJT for
		5. To Study RC	normal Class
		coupled	A operation
		Oscillator	14. To study
		6. Inverting,	Phase shift
		Noninvering	Oscillator
		and buffer	and Colpitt's
		amplifier using	Oscillator
		OPAMP	15. To design
		7. Wien bridge	DAC and
		oscillator	ADC
		8. To deign a	16. Precision
		circuit to	differential
		simulate 1 st	amplifier
		and 2 nd order	17. To Study
		differential	zero crossing
		equation	detector and
		9. To study	comparator
		inverting and	18. To study
		non inverting	Schmitt
		amplifier using	trigger and
		OPAMP and	associated
		study its	circuits
		frequency	circuits
		response	No. of
		No. of Classes:	Classes:30
		22	C1a5555.30
		22	

			DEPARTMENT OF PHYS	ICS			
HONOURS	NUMBER OF LECTURES	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-MARCH		APRIL- JUNE	
PART -III PAPER -V	THEORY	UNIT VB, GROUP D QUANTUM MECHANICS	UNIT VB, GROUP D QUANTUM MECHANICS NO. OF CLASSES= 18	UNIT VB, GROUP E SPECTROSCOPY NO. OF CLASSES= 6			TUTORIAL
		NO. OF CLASSES= 21	NO. OF CLASSES- 18	UNIT VA, GROUP A			AND
				CLASSICAL MECHANICS NO. OF CLASSES= 20	z		UNIVERSITY FINAL EXAMINATION
		UNIT VA, GROUP B SPECIAL THEORY OF RELATIVITY NO. OF CLASSES= 14	UNIT VB, GROUP E SPECTROSCOPY NO. OF CLASSES= 10		TEST EXAMINATION		
		UNIT VA, GROUP C STATISTICAL PHYSICS NO. OF CLASSES= 14			EST EXA		
			UNIT VB, GROUP E X-Ray= 5		Τ		
PART -III PAPER -VI	THEORY	UNIT VIA, GROUP A NUCLEAR PHYSICS NO. OF CLASSES=28	UNIT VIA, GROUP A NUCLEAR PHYSICS NO. OF CLASSES=20	UNIT VIB, GROUP C SOLID STATE PHYSICS NO. OF CLASSES= 18			
		UNIT VIA, GROUP D LASER AND FIBRE OPTICS NO. OF CLASSES= 7	UNIT VIA, GROUP B INSTRUMENTAL METHOD NO. OF CLASSES=5				
PART -III PAPER - VIIA	THEORY		UNIT VIIA ELECTRONICS NO. OF CLASSES= 12	UNIT VIIA ELECTRONICS NO. OF CLASSES= 12			
PART -III PAPER - VIIB	Practical	COMPUTER PROGRAMMING NO. OF CLASSES= 14	COMPUTER PROGRAMMING NO. OF CLASSES= 16	COMPUTER PROGRAMMING NO. OF CLASSES= 10			

			DEPARTMENT OF PHYSIC	.0			
HONOURS	NUMBER OF	JULY-SEPTEMBER	OCTOBER -DECEMBER	JANUARY-		APRIL-	
	LECTURES			MARCH		JUNE	
	Practical	BIPRISM	B-H LOOP(SUBJECT TO	BAND GAP			
PART -III		POLAROID	ARRIVAL OF THE	CROSSED			
PAPER -		GRATING	INSTRUENT)	GRATING			
VIIIA				NO. OF	z		
		NO. OF	ANDERSON BRIDGE	CLASSES=10	NOIL		
		CLASSES=14			ΑT		UNIVERSITY FINAL
			FOURIER SPECTRUM		Z		EXAMINATION
			NO. OF CLASSES=14		AMINA		
					\times		
PART -III		VOLTAGE	TRANSISTOR	REGULATED	ΓE		
PAPER -		AMPLIFIER	CHARACTERISTICS	POWER SUPPLY	TEST		
VIIIB		WIEN BRIDGE	OP-AMP	H Parameters	I		
		OSCILLATOR	BOOLEAN EXPRESSION	NO. OF CLASSES			
		TEMPERATURE		=10			
		CONTROLLER	NO. OF CLASSES=14				
		NO. OF					
		CLASSES=14					

DEPARTMENT OF PHYSICS

DEPARTMENT OF PHYSICS (GENERAL)

Semester I	Theory	JULY-SEPTEMBER	OCTOBER –DECEMBER	Semester II		JANUARY-MARCH	APRIL-
	Credit: 4	7 weeks	5 weeks			5.5 weeks	JUNE
		Particle Dynamics	Particle Dynamics			Vector Analysis	7.5 weeks
		STR	STR			Electrostatics	Linear
		Mathematical methods	Oscillations			Electromegnetic Induction	Network
		Elasticity	Gravitation				Maxwells
			NO. OF Classes $= 20$			NO. OF CLASS = 30	Equations
					~ 4		Wave
		NO. OF Classes $= 28$			Theory Credit: 4		Propagation
					The		Magnetic
					C		Induction
							NO. OF
							CLASSES=
							22

Semester I	PRACTI	1Modulus of rigidity				1. To determine an	6.To study
	CAL		6.To determine the height			unknown Low	the response
		2.Moment of Inertia	of a building using a	Semester II		Resistance using	curve of a
	Credit: 2		Sextant.	Practical		Carey Foster's	parallel LCR
		3.Coefficient of		Credit: 2		Bridge.	circuit and
		Viscosity	7. To determine the elastic				determine its
			Constants of a wire by			2. To verify the	(a) Anti-
		4. Young's Modulus	Searle's method.			Thevenin and	resonant
						Norton theorems.	frequency
		5.To study the random	8.To determine the value of				and (b)
		error in observations of	g using Bar Pendulum.			3. To verify the	Quality
		time period of some	9. To determine the value			Superposition and Maximum	factor Q.
		oscillation using chronometer.	of g using Kater's			power transfer	7. To study
		chronometer.	Pendulum.			theorems.	the
			i chaulum.			uicorenis.	characteristi
			10. To study the Motion of			4. To determine	cs of a series
		NO. OF CLASSES=28	Spring and calculate, (a)			self-inductance of	RC Circuit.
			Spring constant, (b) g and			a coil by	8. To
			(c) Modulus of rigidity			Anderson's	determine an
						bridge.	unknown
			NO. OF CLASSES=20				Low
						5. To study response	Resistance
						curve of a Series	using
						LCR circuit and	Potentiomete
						determine its (a)	r.
					c	Resonant	0.5
						equency, (b)	9. To
						mpedance at resonance	determine the
						(c) Quality factor Q, and (d) Band width.	resistance of
					2	inu (u) Danu wiutii.	a a
							galvanomete
					N	o. of Classes = 22	r using
							Thomson's
							method.

							10. Measuremen t of field strength B and its variation in a solenoid (determine dB/dx) NO. OF CLASS = 30
Semester	THEORY	Thermal Physics and	Thermal Physics and	Semester IV	THEOR	Waves and Optics	Waves and
III	Credit: 4	Statistical Mechanics	Statistical Mechanics		Y	Superposition of	Optics
		Laws of	Theory of Dediction		Cue dite 4	two collinear harmonic	Wave motion
		Thermodynamics,	Theory of Radiation		Credit: 4	oscillations,	general,
		Thermodynamic	Statistical Mechanics			Superposition of two	Fluids,
		potentials, Kinetic				perpendicular harmonic	Sounds,
		theory of gases	No. of Classes: 20			oscillations,	Wave
						Interference	Optics,
		No. of Classes: 28				Michelson Interferometer	Diffraction,
						No. of Classes: 22	Polarization
Semester	PRACTI	Thermal Physics and	Thermal Physics and		PRACTI	Waves and Optics Lab	Waves and
III	CAL	Statistical Lab	Statistical Lab	Semester IV	CAL	1.To determine the	Optics Lab
	Credit: 2					frequency of an electric	7.To
		1. Verification of	7. Measurement of un		Credit: 2	tuning fork by Melde's	determine
		Stefan's Law	temperature using Diode			experiment and verify $\lambda 2$ –T law.	dispersive
		using a torch bulb	sensor. 8. To determine Mech			$\lambda 2 - 1$ law. 2. To determine	power and resolving
		2. To determine	Equivalent of Heat, J,			oefficient of Viscosity of	power of a
		the Coefficient	by Callender and Barne's			water by Capillary Flow	plane
		of Thermal	constant flow method.			Method (Poiseuille's	diffraction
		Conductivity				method).	grating.
		of a bad	9. To determine the				8. To
		conductor by	Coefficient of Thermal			3. To determine refractive index of the Material of a	determine the thickness
		Lee and	Conductivity of Cu by			index of the Material of a	the thickness

Charlton's disc	Searle's Apparatus.	[]	prism using sodium	of a thin
method.	Scare s Apparatus.		source.	paper by
memou.	10. To determine the		source.	measuring
3. To determine	Coefficient of Thermal		4.To determine the	the width of
the	Conductivity of Cu by		dispersive power and	the
Temperature	Angstrom's Method.		Cauchy constants of the	interference
Coefficient of	Aligsuolli s Metiloa.		material of a prism using	fringes
Resistance by			mercury source.	produced by
Platinum			mercury source.	a wedge-
Resistance	No. of Classes: 20		5.To determine wavelength	shaped Film.
Thermometer	NO. OI Classes. 20		of sodium light using	9.
(PRT).using			Fresnel Biprism.	9. Familiarizati
constant			Flesher Diprisiii.	on with:
current source			6.To determine	Schuster`s
(Subject to the arrival			wavelength of sodium	focusing;
of the instrument)			light using Newton's	determinatio
of the instrument)			Rings.	n of angle of
4.To study the variation			Kings.	prism.
of Thermo-Emf of a				10. To
Thermocouple with			No. of Classes: 22	determine
Difference of			NO. OI Classes. 22	wavelength
Temperature of its Two				of (1) Na
Junctions.				source and
Junctions.				(2) spectral
6. To calibrate a				lines of Hg
thermocouple				source using
to measure				plane
temperature in				diffraction
a specified				grating.
Range by Null				11. To
Method using				investigate
a				the motion
potentiometer.				of coupled
Petermenteter				oscillators.
No. of Classes:				12. To
28				determine
				the
				wavelength
				of sodium
				source using
				aree asing

			Michelson's interferomet
			er. (Subject to the arrival
			the arrival of the Instruments
) No. of
			Classes: 30

DEPARTMENT OF PHYSICS

GENERAL	NUMBER OF	JULY-SEPTEMBER	OCTOBER -	JANUARY-MARCH		APRIL-JUNE	
	LECTURES		DECEMBER				
PART -III	THEORY	PRODUCTION	ELECTRONICS	COMMUNICATIONS		COMPUTER	
PAPER –		AND	NO. OF	AND TRANSMISSION		PROGRAMMING	
IV		MEASUREMENT	CLASSES=14	OF E-M WAVE		TUTORIAL CLASSES	
70		OF HIGH		NO. OF CLASSES=14		ON PROGRAMMING	
MARKS		VACUUM				NO. OF CLASSES=14	
		ENERGY					UNIVERSITY
		SOURCES			Z		FINAL
		NO. OF			ATION		EXAMINATION
		CLASSES=14			LA.		
	PRACTICAL	1. CONVERSION	3. INCREASE OF	TO CALIBRATE A	AMIN.	TO FAMILIARISE	
PAPER –		OF AMMETER TO	INTERNAL	GIVEN	AN	WITH THE	
IV		VOLTMETER AND	RESISTANCE OF	TEMPERATURE	X	OPERATING	
30		VICE VERSA	AN ANALOG	SENSOR AND USE	ΤE	SYSTEM AND TO	
MARKS		2. TO CONSTRUCT	VOLTMETER BY	THE SENSOR	TES	SOLVE SIMPLE	
		AN ADJUSTABLE	USING OPAMP	TO DEVELOP A	T	PROBLEMS BY	
		VOLTAGE POWER	4. USE OF OPAMP	PHOTOSENSOR AND		PROGRAMMING IN	
		SOURCE	AS INVERTING,	USE OF IT		C OR FORTRAN	
		NO. OF	NON INVERTING,	NO. OF CLASSES=24		NO. OF CLASSES=32	
		CLASSES=28	DIFFERENTIAL				
			AMPLIFIER AND				
			ADDER				
			NO. OF				
			CLASSES=20				