Physics 2017-18

Programme Outcomes (POs)

Upon completion of the BSc Physics programme, students will be able to:

PO1	Analyze and compare alternative solutions to physical quantities.
PO2	Design and implement different energy resources that meet specified design and performance requirements
PO3	Recognize the need for and an ability to engage in continuing professional development.
PO4	Work and communicate effectively in interdisciplinary environment, either independently or in team, and demonstrate scientific leadership in academia and industry.
PO5	Communicate effectively by oral, written, computing and graphical means.

Programme Specific Outcomes (PSOs)

Students will be able to attain the following program specific outcomes:-

PSO1	Develop competence in basic technical subjects in physics like Atomic
	disorder, nanotechnology, solid state devices.
PSO2	Identify, analyze, formulate and develop crystal structure, elasticity, sound
PSO3	Map real life scenarios to various theoretical optimal solutions.
PSO4	Provide simplest automated solutions to various legacy systems.
PSO5	Work professionally with positive attitude as an individual or in
	multidisciplinary teams and communicate effectively.
PSO6	Appreciate the importance of goal setting and to recognize the need for life-
	long learning.

Programme Course Outcomes (COs)

B.Sc. P	hysics pag	per I M	echanics a	nd Prop	erties of	Matter		part- I
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On successful completion of this course, the students will be able to

CO1	Analogy of rotational motion with translational motion, kater's pendulum
CO2	Be familiar with the elasticity, general concept of fluid flow
CO3	Understand the fundamentals of Bifilar pendulum

B.Sc. Physics paper II oscillation , waves, optics

Upon successful completion of this course, students will be able to

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CO1	Understand the basic terminology used oscillation such as Damped oscillations, Over damped, critically damped, forced oscillations, amplitude resonance and Q
	factor .
CO2	Understand the concept of waves. Group velocity, phase velocity
CO3	Use to detect the Ultrasonic, Piezo-electric effect, and their application.
CO4	Get the knowledge of diffraction and interference in nature

CO1	To analyze and interprets temperature, Andrew's curve, thermodynamical state, isothermal changes
CO2	Acquire knowledge in fundamentals of thermodynamics.
CO3	Be able to analyze the difference between law of thermodynamics
CO4	Able to handle with Clauisus and Maxwell's equation for mean free path.

B.Sc. Physics paper IV Electricity, Magnetism and Basic Electronics

Upon successful completion of this course, students will be able to

CO1	Understand the basic concept of Complex numbers and their application in solving
	a. c. series LCR circuit, Ballistic galvanometer, semiconductor.
CO2	Acquire knowledge about the basic concept of construction and working of diode,
	transistor, their application.
CO3	Role of bridge rectifier, Pi-filter, Clippers and Clampers. Transistor as an amplifier.
CO4	Use of Thevenin's theorem, Norton's theorem, Application to simple networks with
	D. C. sources.
CO5	Role of Functions involving the idea of magnetism.

B.Sc. Physics paper V General Physics, sound, and Acoustics Part II

Upon successful completion of this course, students will be able to

CO1	Study a body of knowledge relating to vectors, professional motion, sound
CO2	Understand the principles of Del operator, gradient of a scalar, divergence of a
	vector and their physical significance, curl of a vector, line integral, surface
	integral, volume integral.
CO3	To identify Transducers and their characteristics, pressure microphone, moving coil
	loud speaker, process of recording and reproduction of sound in compact disc.
CO4	Develop Reverberation time, Factors affecting acoustics of buildings, Sabine's
	experimental work and formula, optimum reverberation time. Requirements of
	good acoustics.

B.Sc. Physics paper VI Electronics

Upon successful completion of this course, students will be able to

CO1	Study of NAND, NOR, Ex-OR and Ex-NOR gates. De Morgan's theorems, NAND
	and NOR as the universal gates, Half adder and Full adder. R-S flip flop, J-K flip-
	flop.get the experimental result.
CO2	Understand the concept of opamp and their characteristics.
CO3	Understand and implement application of opamp as adder, substrator, comparator,
	integrator
CO4	Develop the knowledge about CRO, the Principle, construction & working of CRT,
	block diagram of CRO. Uses of CRO such as measurement of A.C, D.C. voltage,
	Lissajous figures, Time period and frequency measurement