

B.SC.PHYSICS

Programme Outcomes(POs)

Pos	Upon completion of B.Sc. Degree Programme, the graduates will be able to:
PO - 1	apply the acquired scientific knowledge to face day to day needs.
PO - 2	create innovative ideas through laboratory experiments.
PO - 3	carry out field works and projects in collaboration with other institution.
PO - 4	reflect upon green initiatives and take responsible steps to build a sustainable environment.
PO - 5	face challenging competitive examinations that offer rewarding careers in science and education.
PO - 6	impart communicative skills and ethical values.
PO - 7	equip students with hands on training through various courses to enhance entrepreneurship skills.

Programme Specific Outcomes (PSOs)

PSOs	Upon completion of B.Sc. Degree Programme, the graduates of Physics will be able to:
PSO - 1	understand the core theories and principles of physics which include mechanics, thermodynamics, electronics, material science etc.
PSO - 2	develop extensive comprehension of fundamental and diverse applications of Physics.
PSO - 3	apply knowledge of principles, concepts in Physics and analyze their local, national and global impact.
PSO - 4	apply the critical reasoning and computing skills to analyze and solve problems in physics.
PSO - 5	analyze the observed experimental data and relate the results with theoretical expectations.
PSO - 6	communicate appropriately and effectively, in a scientific context using present technology.
PSO - 7	develop entrepreneurial skills, empowered according to the professional requirement and become self-dependent.

PSO - 8	understand the professional, ethical, legal, security, social issues and responsibilities.
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Course Outcomes

Semester I

Course Name :Mechanics

Major Core - I

CourseCode: PC2011

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO- 1	Understand and define the laws involved in mechanics	PSO-1	U
CO- 2	Apply conservation laws in collision experiments	PSO-3	Ap
CO- 3	Interpret the principles of gravitation and moment of inertia through theory and experiments	PSO-2	Ap
CO- 4	analyze the fundamentals of center of mass and rocket motion	PSO-4	An
CO-5	apply pressure-velocity relation in fluid flow in the field of fluid dynamics	PSO-2	Ap

Semester I

Course Name : Allied Physics I

Allied

Course code: AP2021

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO 1	Acquire knowledge on elementary ideas of electricity and magnetism, electronics, optics and nuclear physics.	PSO-1	U
CO 2	Analyze the concepts and study their applications in the field of electricity and magnetism, electronics, optics and nuclear physics.	PSO-2	An
CO 3	Apply their depth knowledge of Physics in day today life.	PSO-3	Ap
CO 4	Develop their knowledge and carry out the practical by applying these concepts	PSO-5	Ap

Semester I**Course Name :Physics in Everyday Life – I****Non Major Elective Course - I****Course Code: PNM201**

COs	Upon completion of this course, students will be able to	PSO addressed	CL
CO – 1	Understand their knowledge of basic scientific principles and fundamental concepts in physics.	PSO - 1	U
CO – 2	Recall the various phenomena of sound waves applied in day today life	PSO - 3	R
CO – 3	Understand the basic laws of physics and different forces involved in nature.	PSO - 1	Ap
CO – 4	Explain the physics concepts behind the sports	PSO - 3	E
CO – 5	Categorize different characteristic nature of light and its properties like refraction, reflection and diffraction.	PSO - 1	C

Semester I**Course Name :Professional English for Physical Sciences-I****Add on Course****Course Code: APS201**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	recognise their own ability to improve their own competence in using the language	PSO - 1	U
CO - 2	use language for speaking with confidence in an intelligible and acceptable manner	PSO - 6	E
CO - 3	understand the importance of reading for life	PSO - 1	U
CO - 4	Understand the importance of writing in academic life	PSO - 1	U
CO - 5	Write simple sentences without committing error of spelling or grammar	PSO - 7	An

Semester : II

Course Name: Properties of Matter and Sound

Major Core-II

Course code: PC2021

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO- 1	identify the materials suitable for construction of buildings, based on the moduli of elasticity.	PSO-4	Ap
CO- 2	paraphrase the properties of liquids and its determination.	PSO-1	U
CO- 3	analyze the physics of sound and its applications	PSO-2	An
CO- 4	integrate the concepts of acoustic comfort and better understanding of the theories used in building acoustics	PSO-3	Ap

Semester : II

Course Name: Allied Physics II

Course code : AP2021

CO	Upon completion of this course the students will be able to:	PSO addressed	CL
CO 1	Acquire knowledge on elementary ideas of electricity and magnetism, electronics, optics and nuclear physics.	PSO-1	U
CO 2	Analyze the concepts and study their applications in the field of electricity and magnetism, electronics, optics and nuclear physics.	PSO-2	An
CO 3	Apply their depth knowledge of Physics in day today life.	PSO-3	Ap
CO 4	Develop their knowledge and carry out the practical by applying these concepts	PSO-5	Ap

Semester II**Course Name: Physics in Everyday Life –II****Non Major Elective Course - II****Course Code: PNM201**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	understand the principle and working of simple devices used in day to day life.	PSO - 1	U
CO - 2	identify the symbols used for various electronic components and infer the electronic tools.	PSO - 3	R
CO - 3	distinguish different heavenly bodies (star, planet, comets, galaxies)	PSO - 3	R
CO - 4	recall various applications of physics concepts in everyday life	PSO - 3	K

Semester I&II**Course Name: Physics Lab – I****Major Practical I****Course Code: PC20P1**

LOs	Upon completion of this course students will be able to:	PSO addressed	CL
LO - 1	understand the basic principles of Physics through experiments.	PSO - 1	U
LO - 2	measure and determine the various physical parameters.	PSO - 5	An
LO - 3	develop an idea about the handling of various instruments.	PSO - 7	C
LO - 4	get an idea about basic Scientific knowledge and implications of its broad working principle.	PSO - 3	Ap
LO - 5	analysing, interpreting and evaluating data.	PSO - 5	E
LO - 6	build a foundation in Scientific Career.	PSO - 2	Ap

Semester II

Course Name : Professional English for Physical Sciences-II
Course Code: APS202

Add on Course

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	recognise their own ability to improve their own competence in using the language	PSO - 1	U
CO - 2	use language for speaking with confidence in an intelligible and acceptable manner	PSO - 6	Ap
CO - 3	understand the importance of reading for life	PSO - 1	U
CO - 4	Understand the importance of writing in academic life	PSO - 1	U
CO - 5	Write simple sentences without committing error of spelling or grammar	PSO - 7	An

Semester III

Course Name : Heat and Thermodynamics

Major Core III

Course Code: PC2031

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO-1	understand experimental methods to determine the transmission of heat.	PSO - 4	U
CO-2	analyze the work and heat interactions associated with a prescribed process path and to perform a analysis of a flow system	PSO - 1	An
CO-3	understand the basic concepts of thermodynamics like system, properties, equilibrium, pressure, specific volume, temperature and the laws of thermodynamics	PSO - 4	U
CO-4	evaluate entropy changes in a wide range of processes and determine the reversibility or irreversibility of a process from such calculations.	PSO - 3	An
CO-5	analyze Maxwell's thermo dynamical relations and their applications	PSO - 5	E

Semester III**Course Name: Non Conventional Energy Sources****Elective I (a)****Course Code: PC2032**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO- 1	Apply the solar energy in various sectors. (industry, agriculture and domestic purposes)	PSO-3	Ap
CO- 2	Explain the basic principles of wind energy conversion, various Biomass conversion Processes and its classification.	PSO- 1	U
CO- 3	Discuss the geothermal energy resources and chemical energy resources. (fuel cells)	PSO-2	An
CO- 4	Solve the present and future energy crisis.	PSO- 8	C

Semester III**Course Name: Fundamental of Physics- I****Elective I (b)****Course Code: PC2033**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO-1	Understand the fundamentals of dynamics.	PSO – 1	U
CO-2	Determine the behavior of a ray at any optical surface (lenses, Prisms).	PSO – 6	E
CO-3	Outline the extraction of useful energy from Earth, Ocean, Wind and Sun.	PSO- 3	Ap
CO-4	Determine the significance of steady current and alternating current.	PSO-2	E
CO-5	Apply Kirchoff's laws to simple electrical circuits.	PSO - 5	A

Semester III**Course Name: Microprocessor Fundamentals****Elective I (c)****Course Code: PC2034**

COs	Upon completion of this course students will be able to:	PSO addressed	CL
CO-1	know the basic ideas on microprocessor, memory and I/O devices	PSO-1	U
CO-2	be familiar with the basic concepts of microprocessor architecture and interfacing	PSO-1	U
CO-3	acquire skills in the programming instruction sets of microprocessor	PSO-2	A
CO-4	apply the programming instructions to perform simple programs using microprocessor	PSO-2	C

Semester III**Course Name: Allied Physics I for Chemistry****Allied****Course Code: AP2031**

COs	Upon completion of this course students will be able to:	PSO addressed	CL
CO- 1	Understand to know, various modulus involved in the materials, flow of liquids due to viscous forces, transmission of heat due to process of conduction, convection and radiation and various laws involved in heat transformation, various thermodynamic laws and.	PSO-1	U
CO -2	Analyze the concepts and study the concept of entropy, and the phenomenon like interference and diffraction, optical activity of liquids and its uses.	PSO -3	An
CO- 3	Apply their depth knowledge of Physics in day today life.	PSO -2	Ap
CO- 4	Develop their knowledge and carry out the practical by applying these concepts	PSO -4	R

Semester III**Course Name: Professional English for Physical Sciences-III****Add on Course****Course Code: APS203**

CO	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	recognise their own ability to improve their own competence in using the language	PSO - 1	U
CO - 2	use language for speaking with confidence in an intelligible and acceptable manner	PSO - 6	Ap
CO - 3	understand the importance of reading for life	PSO - 1	U
CO - 4	Understand the importance of writing in academic life	PSO - 1	U
CO - 5	Write simple sentences without committing error of spelling or grammar	PSO - 7	An

Semester III**Course Name: Physics for Competitive Examination - I****Self – Learning Course****Course Code:PC20S1**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	recall the principles of mechanics and conservation laws.	PSO - 1	R
CO - 2	understand the concept of fluid dynamics.	PSO - 2	U
CO - 3	categorize different kinds of oscillations.	PSO - 3	An
CO - 4	examine the various aberrations and geometry involved in optics.	PSO - 7	An
CO - 5	apply the laws of thermodynamics on heat phenomena.	PSO - 4	Ap

Semester IV**Course Name: Optics and Spectroscopy****Course Code: PC2041****Major Core IV**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO – 1	gain knowledge of geometric optics, helps in the practical design of many optical systems and instruments including aberrations in lens system.	PSO - 2	U
CO – 2	determine the behavior of a ray and wave at any optical surface.	PSO - 1	R
CO - 3	analyze the intensity variation of light due to polarization, interference and diffraction.	PSO - 4	An
CO - 4	study the phenomena: interference, diffraction, and polarization lays the foundation for an understanding of concepts such as as holograms, interferometers.	PSO -5	E
CO - 5	gain knowledge on Spectroscopy helps to extract the dynamic information about the molecule.	PSO - 3	Ap

Semester IV**Course Name: Computer Programming in C++****Course Code: PC2042****Elective II (a)**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO-1	understand the different types of operators and expressions in C++ language.	PSO - 4	U
CO-2	implement different operation an arrays and use function to solve the given problem	PSO - 4	Ap
CO-3	understand member functions and constructors	PSO - 4	U
CO-4	analyze pointers, operator overloading and inheritance.	PSO - 4	An
CO-5	analyze input/output opertations	PSO- 4	An

Semester IV**Course Name: Medical Physics****Elective II (b)****Course Code: PC2043**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	Understand the Anatomical terms of the body.	PSO - 2	U
CO - 2	Explain the physical dynamics of the body.	PSO - 2	Ap
CO - 3	Analyse the heat and pressure system of the body.	PSO - 5	An
CO - 4	Discuss the optical and electrical behavior of the human body.	PSO - 3	An
CO - 5	Gain knowledge and application ideas regarding diagnostic systems.	PSO - 2	Ap

Semester IV**Course Name: Optoelectronics****Elective II (c)****Course Code: PC2044**

COs	Upon completion of this course the students will be able to:	PSO addressed	CL
CO-1	Explain the various methods of propagation of light waves through various types of fibres.	PSO-4	U
CO - 2	Understand the basic concepts of fiber optics and types of fibers	PSO-4	U
CO-2	Explain the structure and performance of LEDS and Lasers.	PSO-2	U
CO-3	Classify the optical sources and detectors and to discuss their principle.	PSO-1	U
CO-4	Discuss the channel impairments such as losses and dispersion.	PSO-5	C
CO-5	Analyse various coupling losses.	PSO-5	An

Semester IV**Course Name: Allied Physics II for Chemistry****Allied****Course Code:AP2041**

COs	Upon completion of this course students will be able to:	PSO addressed	CL
CO -1	Acquire knowledge on elementary ideas of electricity and magnetism, electronics, atomic and nuclear physics.	PSO-1	U
CO- 2	Analyze the concepts and study their applications in the field of electricity and magnetism, electronics and nuclear physics.	PSO -3	An
CO- 3	Apply their depth knowledge of Physics in day today life.	PSO -2	Ap
CO- 4	Develop their knowledge and carry out the practical by applying the concepts of a rectifier, amplifiers and oscillator, basic digital electronics principles through logic gates and the laws governing them.	PSO -4	R

Semester IV

Course Name: Professional English for Physical Sciences-IV

Add on Course

Course Code:APS204

COs	Upon completion of this course, students will be able to:	PSOs addressed	CL
CO - 1	recognise their own ability to improve their own competence in using the language	PSO - 1	U
CO - 2	use language for speaking with confidence in an intelligible and acceptable manner	PSO - 6	Ap
CO - 3	understand the importance of reading for life	PSO - 1	U
CO - 4	Understand the importance of writing in academic life	PSO - 1	U
CO - 5	Write simple sentences without committing error of spelling or grammar	PSO - 7	An

Semester III &IV

Course Name: Physics Lab II

Major Practical II

Course Code:PC20P2

LOs	Upon completion of this course, students will be able to:	PSOs addressed	CL
LO - 1	understand the scientific method and an ability to apply the scientific method in practice.	PSO - 1	U

LO - 2	recall the basic experiments; improve the basic skills and attitude which help them to apply these skills in their field of physics	PSO - 3	R
LO - 3	understand the practical knowledge of various bridges (Desauty's and Owen's bridge) by demonstration of experiments	PSO - 1	U
LO - 4	verify the Thevenins and Nortons theorem.	PSO - 2	Ev
LO - 5	compile a record of an experiment in a clear and logical written form (e.g., lab manual report, Record) augmented with figures and graphs where appropriate.	PSO - 5	C
LO - 6	analyze the physical principle involved in the various instruments and design simple circuits	PSO - 5	An
CO - 7	apply conceptual understanding of the physics to general real-world situations; develop interpersonal and communication skills including communicating in small groups, writing, working effectively with peers.	PSO - 3	Ap

Semester III & IV

Course Name: General Physics Lab

Course Code: AP20P1

Allied Practical

LOs	Upon completion of this course students will be able to:	PSO addressed	CL
LO - 1	understand the basic principles of Physics through experiments.	PSO - 1	U
LO - 2	measure and determine the various physical parameters.	PSO - 5	An
LO - 3	develop an idea about the handling of various instruments.	PSO - 7	C
LO - 4	get an idea about basic Scientific knowledge and implications of its broad working principle.	PSO - 3	Ap
LO - 5	analysing, interpreting and evaluating data.	PSO - 5	E
LO - 6	build a foundation in Scientific Career.	PSO - 2	Ap

Semester IV**Course Name: Physics for Competitive Examination -II****Self – Learning Course****Course Code:PC20S2**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	discuss the principles and generation of electric charges.	PSO - 1	R
CO - 2	classify the different types of magnetic materials.	PSO - 2	U
CO - 3	correlate the mechanisms involved between magnetism and electricity.	PSO - 3	An
CO - 4	discuss the principles behind the phenomena of atomic physics and nuclear reactions.	PSO - 2	An
CO - 5	differentiate metals, conductors and insulators.	PSO - 4	Ap
CO - 6	recognize the elements of microprocessors and computers	PSO - 2	U

Semester V**Course Name: Classical and Statistical Mechanics****Major Core V****Course Code: PC2051**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO- 1	understand the basic mechanical concepts related to system of particles	PSO-1	U
CO-2	apply various mechanical principles to find solution for physical problem	PSO-4	Ap
CO- 3	solve the equations of motion using Hamiltonian formalism	PSO-6	C
CO- 4	explain the fundamental postulates of statistical mechanics and Maxwell Boltzmann statistics	PSO-1	R
CO- 5	understand and develop a scientific knowledge in quantum statistics	PSO-7	U

Semester V**Course Name: Analog Electronics****Core VI****Course Code:PC2052**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO-1	understand the fundamental principles of semiconductors including P-N junctions and zener diode	PSO-1	U
CO-2	illustrate network theorems like Thevenin's theorem, Norton's theorem etc.,	PSO-2	U
CO-3	analyzethe operation of transistor , amplifier, oscillator and multivibrator	PSO-3	E
CO-4	demonstrate practical skills in the simulation, construction and testing of simple electrical and electronic circuits.	PSO-6	Ap

Semester V**Course Name: Solid State Physics****Core VII****Course Code:PC2053**

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	illustrate various types of bonding present in solids with example.	PSO - 1	U
CO - 2	explain the various crystal parameters and structures.	PSO - 3	E
CO - 3	discuss the various theories involved in magnetic materials. (dia, para, ferro, ferri and antiferro magnetism)	PSO - 3	C
CO - 4	describe polarization processes and analyze the information contained in the temperature and frequency dependence of dielectric materials.	PSO - 1	C
CO - 5	analyze the structure and physical properties of semiconductors.	PSO - 5	An
CO - 6	describe and discuss the theory of superconductivity and superconducting materials.	PSO - 2	C

Semester V
Course Name: Project
Course Code:PC20PR

Core VIII

COs	Upon completion of this course the students will be able to:	PSO addressed	CL
CO - 1	Explore new areas of research in physics	PSO - 7	Ap
CO - 2	Analyze a research problem and construct tools for data collection.	PSO - 5	An
CO - 3	Write research reports and present results in the scientific community.	PSO - 8	Ap
CO - 4	Develop skills to serve in science related industries and agencies.	PSO - 2	Ap

Semester: V &VI

Course Name: Physics Lab III (Non-Electronics)

Major Practical III

Course code: PC20P3

LOs	Upon completion of this course, students will be able to:	PSO addressed	CL
LO - 1	demonstrate the experimental techniques and develop competence in handling optical instruments.	PSO - 1	U
LO - 2	analyze the diffraction and dispersion phenomena in optical elements (grating or prism) using spectrometer.	PSO - 4	An
LO - 3	develop practical hands-on experience applying widely used techniques to investigate optical phenomena. (oblique incidence, i – d curve)	PSO - 2	Ap
LO - 4	record, analyze, interpret and critically evaluate Cauchy's constant and Hartmann's interpolation formula experimentally.	PSO - 6	C
LO - 5	Evaluate thermal parameters using M.G, B.G and potentiometer.	PSO - 7	Ap

Semester: V &VI

Course Name: Physics Lab IV (Electronics)

Major Practical IV

Course code: PC20P4

LOs	Upon completion of this course, students will be able to:	PSO addressed	CL
LO - 1	develop knowledge and skills relating to electricity and electronics through hands-on learning experience.	PSO - 4	Ap
LO - 2	understand the fundamental concepts and mechanisms used in Digital Electronics. (Logic gates and Flip – Flops)	PSO - 2	U
LO - 3	design and analyse digital systems / logical circuits. (De Morgans theorems using IC)	PSO - 1	An
LO - 4	analyse and design various combinational and sequential circuits. (Flip flop, Encoder, Decoder, Op-amp etc.)	PSO - 5	An/E
LO - 5	infer the operation of basic logic gates, understand Boolean algebra and simplify simple Boolean functions by using basic Boolean properties.	PSO - 6	Ap

Semester: V &VI

Course Code: Physics Lab V (Computer)

Major Practical V

Course code: PC20P5

LOs	Upon completion of this course, students will be able to:	PSO addressed	CL
LO - 1	understand the principles of object oriented program to construct computer programs and modeling of experimental data for the solution of problems in physics. (period of a pendulum and Young's modulus of a material).	PSO - 1	U
LO - 2	apply object oriented programming techniques to solve computing problems. (addition, subtraction, multiplication and division)	PSO - 3	Ap
LO - 3	develop programs using functions and classes. (objects, array of objects, friend functions, passing and returning objects, function declaration with/without using the return	PSO - 2	Ap/C

	statement).		
LO - 4	formulate the applications of pointers and virtual functions. Distinguish formatted and unformatted I/O operations.	PSO - 6	E
LO - 5	develop programs using constructor, destructor, operator overloading and inheritance. (generate a series of Fibonacci numbers using constructor in the scope of class definition / out of the class definition using the scope resolution operator).	PSO - 4	C
LO - 6	analyze the concepts trained in the computer lab activities and provide an understanding of data acquisition and analysis.	PSO - 5	An

Semester VI

Course Name: Relativity and Quantum Mechanics

Major Core VIII

Course Code: PC2061

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO - 1	gain knowledge in the concepts of special and theory of relativity	PSO - 1	U
CO - 2	evolve ideas about dual nature of matter	PSO - 2	E
CO - 3	recognize basic terms in Quantum Mechanics and different operator mechanism	PSO - 3	C
CO - 4	apply of Schrödinger's equation to micro system	PSO - 4	Ap

Semester: VI

Course Name : Digital and Communication Electronics

Core IX

Course code: PC2062

Cos	Upon completion of this course, students will be able to:	PSO addressed	CL
CO -1	Understand the basic operation, and features related to Logic gates and interprets their applications.	PSO-1	U
CO -2	Acquire knowledge on number system, arithmetic building blocks, and memories.	PSO-3	E
CO -3	Understand the fundamental concepts of logic gates, counters, registers, fiber optics, etc.	PSO-1	U
CO -4	Develop skill to build and troubleshoot combinational digital circuits.	PSO-7	Ap
CO-5	Understand AM, FM and PM modulation and demodulation techniques.	PSO-1	U
CO-6	Assess the basic concepts of fiber optics and types of fiber diodes, transistor, op-amps and converters.	PSO-2	E
CO-7	Learn the working principle of satellite communication system.	PSO-6	C

Semester: VI

Course Name: Nuclear Physics

Core X

Course code: PC2063

Cos	Upon completion of this course, students will be able to:	PSO addressed	CL
CO 1	understanding on the basics of nuclear physics that treats atomic nuclei as self-bound many-body quantum systems	PSO-1	U
CO2	knowledge about particle- antiparticle, decay processes and their outcomes.	PSO-2	U
CO 3	basic interaction between fundamental particles.	PSO-4	An

Semester: VI

Course Name: Mathematical Physics

Elective- III (a)

Course code: PC2064

COs	Upon completion of this course, students will be able to:	PSO addressed	CL
CO-1	Illustrate linear dependence and combination of vectors as quantities in Physics.	PSO-4	U
CO-2	Solve ordinary and partial differential equations related to Physical Science.	PSO-2	C
CO-3	Evaluate problems in matrices.	PSO-4	E
CO-4	Adapt Laplace transform technique to obtain the Laplace series of periodic functions of Physics.	PSO-5	C
CO-5	Understand and manipulate random variables using the theory of probability including tools of probability transformation and characteristic functions.	PSO-6	U

Semester VI

Course Name: Nanophysics

Elective- III (b)

Course Code: PC2065

Cos	Upon completion of this course, students will be able to:	PSO addressed	CL
CO – 1	infer the history of nanotechnology and explain the synthesis of nanomaterials.	PSO - 1	U
CO – 2	interpret quantum well, quantum wires and quantum dots.	PSO - 5	E
CO – 3	explain the carbon nanotubes and its applications.	PSO - 6	E
CO – 4	discuss the applications of nanotechnology in various fields.	PSO - 4	C

Semester VI**Course Name: Astrophysics****Elective- III (c)****Course Code: PC2066**

COs	Upon completion of this course, the students will be able to :	PSO addressed	CL
CO- 1	Perceive the historical evolution of solar system and planets	PSO-2	E
CO- 2	Describe the principles of physics in the formation of astronomical objects like planets-Satellites - Asteroids and Comets	PSO-3	U
CO- 3	Examine the requirements and limitations of instrumentation for modern astrophysical observations (Optical telescopes and Radio telescopes)	PSO-5	An
CO- 4	Analyse the formation of stars, pulsars, Neutron stars and Black holes	PSO-5	An
CO -5	Interpret the observations of Galaxies, star clusters, Galactic clusters.	PSO-2	E
CO -6	Distinguish between some cosmological models of the universe and its observational tests.	PSO-6	Ap

Semester VI**Course Name: Basic Electrical Circuits and Instruments Skill Enhancement Course****Course code: SEP203**

COs	Upon completion of this course, students will be able to	PSO Addressed	Cognitive Level
CO-1	Recall the basic definitions and units of electrical quantities	PSO-1	R
CO-2	Analyze the circuit elements and their connections	PSO-2	An
CO-3	Develop their own circuits using electrical wiring	PSO-5	Ap
CO-4	Compare the Physics concepts behind various electrical instruments and appliances (Voltmeter, Ammeter, Incandescent lamp, Fluorescent bulb, Choke and Starter)	PSO-3	Ev
CO-5	Demonstrate uses of tester &Multimeter, LDR, Microphone, loudspeaker, etc.,	PSO-6	U
CO-6	Test for the working of electrical circuits and appliances (music bell, lamp controlled by switch, etc.,)	PSO-5	An

