

Department of Physics

2019-2020

Courses Outcomes: S.Y. B.Sc.

Sr. No.	Course	Course Outcomes
1.	S.Y. B.Sc. Semester-III Paper –VDSC-C 1 Thermal Physics & Statistical Mechanics –I	CO1: Explain the Kinetic Model of an ideal Gas. CO2: Explain Maxwell's Law of Distribution of Velocities. CO3: Express the Coefficient of Viscosity of Gas. CO4: Explain Diffusion of Gas. CO5: Describe the Principles of Thermometry. CO6: Explain principles of thermometry. CO7: Explain construction of mercury Thermometer. CO8: Define temperature, temperature of inversion and neutral temperature. CO9: Compare the Fahrenheit, Rankine and Reaumer scales of temperature. CO10: To compare the state for ideal and real gas. CO11: Explain zeroth law and First law of thermodynamics. CO12: To Compare the reversible and irreversible process. CO13: Define second law of thermodynamics. CO14: Explain working of Carnot's heat engine. CO15: Explain concept of entropy. CO16: Study the third law of thermodynamics.

	<p>S.Y. B.Sc. Semester-III Paper –VI DSC-C 1 WAVES AND OPTICS –I</p>	<p>CO1: Develop the concepts of modern physics: basic knowledge of Sound and acoustics and waves motion, viscosity and concept of vacuum.</p> <p>CO2: Understand the relationship between observation and theory and their use in building the basic concepts of modern physics.</p> <p>CO3: Understand the important connections between theory and experiment.</p> <p>CO4: Study the elastic behavior and working of torsional pendulum.</p> <p>CO7: Analyze waves and oscillations</p> <p>CO8: Study the basic properties and production of ultrasonic's by different methods</p>
<p>2.</p>	<p>S.Y. B.Sc. Semester –IV Paper -VII DSC-D1 Thermal Physics & Statistical Mechanics-II</p>	<p>CO1: Analyze Maxwell's thermodynamical relations.</p> <p>CO2: Explain Joule –Thomson Effect</p> <p>CO3: Derive Clausius –Clapeyron's equation from Maxwell's thermodynamical relations.</p> <p>CO4: Derive first and second TdS equations.</p> <p>CO5: Compare Ferry's and Wien's black body.</p> <p>CO6: Explain Planck's radiation law in terms of frequency and wavelength.</p> <p>CO7: Define Stefan's law from Planck's law.</p> <p>CO8: Define microstates & macrostates.</p> <p>CO9: Explain a priori probability and thermodynamic probability.</p> <p>CO10: Derive the Maxwell's – Boltzmann law of momenta.</p> <p>CO11: Express the Bose –Einstein distribution law</p> <p>CO12: Explain Fermi-Dirac distribution law.</p> <p>CO13: Compare between Maxwell-Boltzmann, Bose –Einstein and Fermi –Dirac statistics</p>

	<p>S.Y. B.Sc. Semester –IV Paper -VIII DSC- D2WAVES AND OPTICS- II</p>	<p>CO1: Study the theories for production of polarization of light.</p> <p>CO2 : Study the theory and experimental past of diffraction by Fresnel’s and fraunhoffer methods</p> <p>CO3: Study the theory and experimental of interference by Newton’s ringproblems / experiences.</p> <p>CO4: Study of optical instruments and theoretical expression for resolving power of prism and grating.</p> <p>CO5: Understand the relationship between observation and theory and their use in building the basic concepts of modern Physics.</p> <p>CO6: Understand the concept of classical and quantum statistics.</p>
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RayatShikshanSanstha's
Prof.Dr.N.D.PatilMahavidyalaya,Malkapur-Perid

Department of Physics

2019-2020

Programme Specific Outcomes: S.Y. B.Sc.

Sr. No.	Course	Course Outcomes
1.	S.Y. B.Sc. Waves and Optics Paper V and VI Semester: III	<p>PSO1-Acquire knowledge in physics, including the major premises of classical mechanics, quantum mechanics, electromagnetic theory, electronics, optics, special theory of relativity and modern physics.</p> <p>PSO2-Develop written and oral communication skills in communicating physics-related topics</p> <p>PSO3-Learn how to design and conduct an experiment (or series of experiments) demonstrating their understanding of the scientific method and processes. .</p> <p>PSO4- Develop the proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data.</p> <p>PSO5-Realize and develop an understanding of the impact of physics and science on society.</p>
2.	S.Y. B.Sc. Waves and Optics II Paper VII and VIII Semester: IV	<p>PO 1-Demonstrate a rigorous understanding of the core theories & principles of Physics, which includes mechanics, electromagnetism, thermodynamics, & quantum mechanics.</p> <p>PO2Learn the Concepts as Quantum Mechanics, Relativity, introduced at degree level in order to understand nature at atomic levels.</p> <p>PO3Provide knowledge about material properties and its application for developing technology to ease the problems related to the society.</p> <p>PO4 Understand the set of physical laws, describing the motion of bodies, under the influence of system of forces</p>

RayatShikshanSanstha's

Prof.Dr.N.D.PatilMahavidyalaya,Malkapur-Perid

Department of Physics

2018-2019

Courses Outcomes: F.Y. B.Sc.

Sr. No.	Course	Course Outcomes
1.	F.Y. B.Sc. Semester-I Paper –I DSC-1A Mechanics-I	CO1: Analyze the motion of objects in different frame of references. CO2: Explain the laws of motion, frame of references and application CO3: Understand the idea of conservation of angular momentum. CO4: Analyze the problem related frame of references. CO5: Understand the important connections between theory and experiment. CO6: Explain differential equation i.e. ordinary differential equation with constant coefficient, first order ODE's.
	F.Y. B.Sc. Semester-I Paper –II DSC-1A Mechanics-II	CO1: Explain Newton's Law of Gravitation CO2: Explain Kepler's law of planetary motion. CO3: Explain the applications of the satellites. Co4: Explain simple harmonic motion. CO5: Compare the Damped oscillations & Forced oscillations CO6: Define bending of beam and bending moments. CO7: Explain cantilever and beams supported at both ends. CO8: Explain torsional oscillations and torsional couple per unit twist. CO9: Express for Y, η and σ for material of a wire using Searle's method.

		<p>CO10: Define surface tension.</p> <p>CO11: Explain angle of contact and wettability.</p> <p>CO12: Explain the Jaeger's method of surface tension of a liquid.</p>
2.	<p>F.Y. B.Sc.</p> <p>Semester –II</p> <p>Paper -III DSC-2 ELECTRICITY AND MAGNETISM- I</p>	<p>CO1: Explain the basic concept of electric and magnetic fields</p> <p>CO2: Analyze the concept of conductor, dielectric, inductance and capacitance.</p> <p>CO3: Gain knowledge on the nature of magnetic materials</p> <p>CO4: Explain the concept of static and time varying fields</p> <p>CO5: Explain the electromagnetic induction and its application.</p> <p>CO6: Explain basic of vector calculus.</p> <p>CO7: Analyze divergence, gradient and curl and their physical interpretation.</p>
	<p>F.Y. B.Sc.</p> <p>Semester –II</p> <p>Paper -IV DSC-2B ELECTRICITY AND MAGNETISM- II</p>	<p>CO1: Explain to use vector calculus to static electromagnetic fields in different day to life problems.</p> <p>CO2: Analyze Maxwell's equation in different forms and apply them in to problems.</p> <p>CO3: Explain the phenomenon of wave propagation in different media and its interface.</p> <p>CO4: Derive the expression for the energy of both electrostatic and magnetic fields, and derive Poynting theorem from Maxwell's equation and physical interpret.</p>

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Department of Physics

2019-2020

Programme Specific Outcomes: F.Y. B.Sc.

Sr. No.	Course	Course Outcomes
1.	F.Y. B.Sc. Semester-I Paper –I DSC-1A Mechanics-I Paper –II DSC-1A Mechanics-II	PSO1 -Acquire knowledge in physics, including the major premises of classical mechanics, modern physics. PSO2 -Develop written and oral communication skills in communicating physics-related topics PSO3 -Learn how to design and conduct an experiment (or series of experiments) demonstrating their understanding of the scientific method and processes. . PSO4 - Develop the proficiency in the acquisition of data using a variety of laboratory instruments and in the analysis and interpretation of such data. PSO5 -Realize and develop an understanding of the impact of physics and science on society.

2.	F.Y. B.Sc. Semester-II Paper -III DSC-2B ELECTRICITY AND MAGNETISM- I Paper - IV DSC-2B ELECTRICITY AND MAGNETISM- II	PO1 Demonstrate a rigorous understanding of the core theories & principles of Physics, which includes mechanics, electromagnetism, thermodynamics, & quantum mechanics. PO2 Learn the Concepts as Quantum Mechanics, Relativity, introduced at degree level in order to understand nature at atomic levels. PO3 Provide knowledge about material properties and its application for developing technology to ease the problems related to the society. PO4 Understand the set of physical laws, describing the motion of bodies, under the influence of system of forces
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