Shikshan Prasarak Mandal's

Gopal Krishna Gokhale College, Kolhapur

Course Outcomes

Department of Physics

Class	Semester	Paper Name & Number	Outcomes
B.Sc.I CBCS	Sem.-I	DSC -1A Mechanics - l paper I	1. The students will understands exact how to know vector or scalar. 2. The students will learn difference between partial and ordinary differential equations. 3. The students learn Newton's laws of motion and how to calculate moment of inertia in rotational motion. 4. The students will understand laws of conservation of linear and angular momentum n it's uses.
		DSC-2A Mechanics -ll paper II	1. The students will capable to discuss gravitational laws of motion and how it's applicable in satellites. 2. The student will know the oscillation and from this how to calculate gravitational force. 3. The students will able to discuss elasticity and it's type. 4. The students will able to getting idea behind the surface tension and how it works exactly.
	Sem.-II	DSC B: Electricity and Magnetism-l Paper-III	1. The students will understands how to getting scalar and vector and also dot and cross products and it's physical significance. 2. The students able to discuss concept of electrostatic field. Gauss's theorem and information about capicatance, condenser , light polarization.
		DSC-2B Electricity and	1. The students will able to understand circuits in it LCR and how to introduce head phone and resistance control the voice . 2. The students will understand magnetism and it's types.

		Magnetism -ll Paper IV	3. The students will understand basics of Faraday's law , Lenz's law. 4. The student will get the knowledge of electromagnetic theory and basic Maxwell's laws.
B.Sc. II CBCS	**Sem.-III**	**DSC- C1 – Thermal physics and statistical Mechanics -l paper No. V**	1. The students will understand kinetic theory of gases and thermometry. 2. The students get knowledge about laws of thermodynamics , workdone , how Carnot's engine work, Reversible and irreversible process.
		DSC-C2 Waves and optics-l paper No. VI	1. The student will explain oscillations and how superimpose waves, Lissajous figures. 2. The students will understand basic concepts of oscillations. 3. The students will get the knowledge of waves and it's motion and it's velocity.. 4. The students will understand basic ideas of sound and how to control it. 5. The students will get the knowledge to do experiment of viscosity . 6. The students will get the knowledge about basic of vaccum pumps and how to control pressure.
	Sem.-IV	**DSC-D1 Thermal physics and statistical mechanics-ll paper No. VII**	1. The students will understand themodynamics and it's problem. 2. The students will get the knowledge about application of black body radiation. And laws in this. 3. The introduction of basic of classical statistics and it's states. 4. Student will learn the basics of quantum statistics.
		DSC- D2 Waves and optics -ll paper No. VIII	1. The students will get the knowledge about the cardinal points. 2. The students will get the knowledge about resolving power of optical instruments basically optics. 3. The students will understand the polarization of light. 4. Student will be capable of understanding the interference of light., Newton's rings. 5. Student will learn the basic knowledge Diffraction and theory of grating.

B.Sc. III CBCS	**Sem.-V**	**DSE-E1 Mathematical Physics Paper No. –IX**	1. The students will get how to calculate partial differential equations and difference between partial and ordinary differential equation. 2. The students will understand frobenious method and special functions. 3. The students will acquire new concept of integrals. 4. The students will understand the complex analysis..
		DSE-E2- Quantum Mechanics Paper No.- X	1. The students will getting Idea nof wave particles and uncertainty relation. 2. The students will get knowledge of schrodinger's wave equations and how to calculate Wigan values. 3. The students will know idea of operators in quantum mechanics. 4. The students will understand application of schrodinger's wave equations.
			5.
		DSE- E3 Classical Mechanics and classical Electrodynamics Paper No. XI	1. The students will understand Lagrangian formulation and in it how to calculate degrees of freedom D'Alembert principle. 2. The students will get knowledge of techniques of calculas of variation. 3. The students will understand special theory of relativity.and some transformation. 4. The students will get knowledge of Poisson's and Laplace's equations and it's physical significance.
		DSE-E4- Digital and analogcircuits and instrumentation paper No. XII	1. The students will able to understand basic digital logic gates. 2. The students will get knowledge of transistor amplifier and sinusoidal oscillator and work. 3. The students will able to basics of CRO. 4. The students will get knowledge op-amp and it's characteristics.

	Sem.-VI	**DSE-F1 Nuclear and particle physics. Paper No. – XIII**	1. The students will able to understand general properties of nuclei and nuclear model. 2. The students will able to understand the cyclotron it's construction and working.same as Synchrocyclotron working and construction. 3. The students will able to understand which are the nuclear detectors. 4. Students will able to understand basic idea of particle physics.
		DSE-F2- Solid state physics Paper No. XIV	1. The students will get knowledge of basic crystal structures. 2. The students will get knowledge X-rays diffraction, Brillounin zone and hysteresis. 3. Student will learn magnetic properties of matter and types of Magnetism. 4. The students will get knowledge of concepts of density states , Hall effect and it's related things
		DSE-F 3 Atomic and molecular physics and Astophysics Paper No. XV	1. The students will get knowledge of atomic spectra, fine structure doublets. 2. The students will get knowledge about Molecular spectra mainly in hydrogen atom. 3. Students will able to understand the Raman spectra. 4. Students will able to understand big bang theory and some laws about galaxy.. 5. The students will get knowledge stellar evolution, related to sun.
		DSE-F4 Energy studies and materials science Paper No. XVI	1. Students will able to understand the energy and realted are wind energy. 2. Students will able to understand solar energy and it's utilisation. 3. Students will able to understand the biomass energy. 4. Students will able to understand the Idea of superconductivity. 5. Students will able to understand of nanotechnoloy and how to synthesise the material.