Palus Shikshan Prasarak Mandal's
Arts, Commerce & Science College, Palus
Tal. Palus, Dist. Sangli, (Maharashtra) 416310 ☎: (02346) 226226.
(Affiliated to Shivaji University, Kolhapur)
DBT STAR College Scheme Assisted, NAAC Reaccrdiated with CGPA-2.67(B+)
Web : www.acscpalus.edu.in Email : acscollegepalus@gmail.com
Estd. 21 August 1992
B.A., B.Com, B.Sc., B.B.A., B.C.A., B.C.S., M.A., M.Com., M.Sc., PGDCA.
Principal, Dr. R. S. Salunkhe M.A., M.Com., M.Phil., Ph.D., SET., M.B.A., D.Litt. Outward No.: Mahavi/ /F- /

Department of Physics

Course Outcomes (COS)

B.sc I semester I Paper I (Classical Mechanics)

Course outcomes	At the end of syllabus the student can understand
CO 1	Differentiation between Scalars and vectors
CO2	Recognize scalar and vector quantities Addition of scalar and vector quantities
CO3	Calculate scalar product and vector product
CO4	Resolve vector into components
CO 5	concept of rotational motion
CO6	concept of Moment of inertia
CO7	Moment of inertia of various rotating bodies
CO8	energy of rotating body, torque ,angular momentum of rotating body

Course Outcomes (COS)

B.sc I semester I

Physics Paper II

: DSC A2 MECHANICS II

Course outcomes CO	By the end of this Course students are able to
Co- 1	Apply the gravitational laws to a physical problem.
Co-2	Describe simple harmonic motions in nature and solve their equations
Co-3	Explain the properties of matter (e.g. elasticity and surface tension) and apply this knowledge to physical problem.

Course Outcomes (COS)
B.sc I semester Paper III

Course outcomes	At the end of syllabus the student can understand
CO 1	study divergence of vector field, Gradient of scalar field and curl of vector field
CO2	the physical significance of gradient of scalar field and curl of vector field
CO3	surface integral, volume integral
CO4	Study Gauss divergence theorem, Stokes theorem
CO5	the concept of electrostatic field, electric flux, electric potential, electric dipole
CO6	capacity of isolated spherical capacitor
CO7	capacitance of parallel plate condenser
CO8	Gauss theorem in electrostatics

Course Outcomes (Cos)
B.sc I semester II
Paper IV DSC B_2 Electricity and Magnetism

Course Out Come (CO)	At the end of this course students are able to
CO-1	Explain concepts of A.C. Circuit and Owens Bridge
CO-2	Explain the magnetic effect of electrical current and magnetic materials
CO-3	Describe electrical network theorems
CO-4	Describe ballistic galvanometer and correction for damping
CO-5	Explain Biot and Savart law and divergence and curl of magnetic field
CO-6	How different energy were converted in to electrical energy using magnetic field

Course Outcomes (Cos)
B.sc II semester III, Paper V(Thermodynamics)

1.Kinetic Theory of gases

Course outcomes	At the end of syllabus the student can understand
CO 1	The concept of mean free path and calculation of mean free path
CO2	Study Maxwell's law of distribution of velocities
CO3	Transport phenomena
CO4	Viscosity, thermal conductivity, diffusion
CO 5	Study thermo dynamical processes, isothermal, adiabatic, reversible and irreversible processes
CO6	Study relation for isothermal and adiabatic change
CO7	Calculation of work done during isothermal and adiabatic change
CO8	Carnot's engine and efficiency of Carnot's engine Concept of entropy ,change in entropy during reversible and irreversible processes

Course Outcomes (Cos)
B.sc II semester III
Physics Paper VI
: DSC-C2 WAVES AND OPTICS-I

Course outcomes CO	By the end of this Course students are able to
Co- 1	Explain Superposition of two collinear harmonic oscillation, Use of lissajious figures
Co- 2	Explain energy of two coupled oscillations, Normal modes and normal coordinates.
Co- 3	Normal modes of a string, Plane and spherical waves, Ultra sonic and piezoelectric effect.
Co -4	Explain acoustics of building, Derivation of Sabine's formula.
Co-5	Derivation of Poiseuilles formula, variation of viscosity of liquid with temperature
Co -6	Characteristics of vacuum, rotary, diffusion and molecular pump, Pirani Gauge

Course Outcomes (Cos)

B.sc II semester III

Physics Paper VII DSC D_1 Thermal Physics and statistical Mechanics -II

Course Out Come (CO)	At the end of this course students are able to
CO-1	Explain concept of Thermodynamics Potential and relation between them
CO-2	Apply theory of black body radiation Planks law Weins displacement law
CO-3	Explain concept of Macro Micro, probability distribution law M-B law
CO-4	Explain concept of Photon gas B-E and F-D statistics, comparison of BE,FD,MB

Course Outcomes (Cos)

B.sc II semester IV

Physics Paper VIII

: DSC-D2 WAVES AND OPTICS-II

Course outcomes CO	By the end of this Course students are able to
Co- 1	Explain the concept of cardinal points and formation of image in optical system
Co- 2	Apply the knowledge of resolving power of an optical system to determine R.P. of prism and grating
Co- 3	Justify the concept of interference and diffraction and its applications
Co -4	Determine the use of polarization of light and its characteristics and application

Course Outcomes (Cos)

B.sc III semester V Paper IX Mathematical physics

Topic: Partial differential equations

Course outcomes	**At the end of syllabus the student can understand**
CO 1	Method of separation of variables for solving second ordered differential equations
	Singular points of second ordered differential equations
CO 2	
CO 3	Gamma function and properties
CO4	Beta function and pries
CO5	Error function and properties
CO 6	Definition of complex number. Identify real and imaginary part of complex number
CO7	Represent complex number in polar form
CO8	Perform algebraic operations addition, substraction, division.multiplication on complex numbers and graphical representation of addition, subtraction, division. multiplication of complex numbers.
CO9	Square root of complex number

Course Outcomes (Cos)

B.sc III semester V

Physics Paper X

PAPER X: DSC E2 QUANTUM MECHANICS

Course outcomes CO	**By the end of this Course students are able to**
Co- 1	Discuss the idea of wave function &uncertainty relations
Co- 2	Explain the Schrodinger's equations
Co- 3	Use of different operators in quantum mechanics
Co -4	Solve the problems on barrier potential well, one and three dimensional potential well

Course outcomes Course Outcomes (Cos)

B.sc III semester V

Physics Paper X (Classical Mechanics)

Course outcomes	At the end of syllabus the student can understand
CO 1	To revise Newtonian mechanics. Introduce Lagrangian formulation.
CO2	To understand motion of system by Lagrangian formulation
CO3	Introduce Hamiltonian formulation. To understand motion of system by Hamiltonian formulation
CO4	To study the theory of relativity. Apply the Relativity to length contraction, dilation of time, law of relativistic addition of velocities.

Course Outcomes (Cos)

B.sc III semester V

Physics Paper XII DSC E_4 Digital and Analog Circuits and Instrumentation

Course Out Come (CO)	At the end of this course students are able to
CO-1	Describe the basic circuit of digital circuit, Boolean algebra and digital arithmetic circuit
CO-2	Design and working of transistor amplifier and oscillators
CO-3	Explain construction and working of CRO and its applications
CO-4	Design and working of operational amplifier and timer IC 555

Physics Paper XIII : DSC FI NUCLEAR AND PARTICLE PHYSICS

Course Out Come (CO)	At the end of this course students are able to
CO-1	Explain the size of nucleus and all its properties
CO-2	Apply various method of accelerating various types of particles
CO-3	Discuss the construction and working of Nuclear Detectors
CO-4	Classify the elementary particles

Physics Paper XIV. DSC FI SOLID STATE PHYSICS

Course Out Come (CO)	At the end of this course students are able to
CO-1	Develop clear concept of the crystal classes and symmetries
CO-2	Explain the relationship between the real and reciprocal space Acquire ability of Calculating the Bruges conditions for X-ray diffraction in crystals
CO-3	Discuss electronic and vibrational properties of solid state systems
CO-4	Apply Band theory of solids and uses it in different physical
CO-5	Develop clear concept of the crystal classes and symmetries.

Physics Paper XV DSC F_3 Atomic and Molecular spectra Astronomy and Astrophysics

Course Out Come (CO)	**At the end of this course students are able to**
CO-1	Develop general understanding of Physics of atoms and molecules, definitions laws and rules
CO-2	Explain spectra of diatomic molecules such as rotational, vibration rotational vibration
CO-3	Understand effect such as Normal and Anomalous Zeeman effect and Raman effect
CO-4	Explain concepts of Astronomy and astrophysics

Department of PhysicsPaper XVI (Energy studies and Material Science)

Course outcomes	**At the end of syllabus the student can understand**
CO 1	Classification of energy resources, Types of energy resources
CO2	Wind energy Quantun, Wind turbine generator unit
CO3	Solar energy ,photovoltaic cell, Biomass energy
CO4	Nanotechnology, properties ,synthesis and applications of nonmaterial’s