V.V.Sangha's

S.K. COLLEGE OF ARTS, COMMERCE AND SCIENCE,

Dist :Vijayapur TALIKOTI State : Karnataka

DEPARTMENT OF PHYSICS

REPORT ON[CBCS SYLLABUS]

PROGRAMME OUTCOMES[PO]
PROGRAMME SPECIFIC OUTCOMES[PSO]
COURSE OTCOMES[CO]

HEAD
Department of Physics
S.K. Arts, Commerce & Science
College, Talikoti-586214, Dt.Vijayapur

PRINCIPAL
S.K.College of Arts, Comm. & Science,
TALIKOTI-586214, Dist-Vijayapur

IQAC Co-ordinator,
S. K. College of Arts, Comm.
Science, Talikoti. Dist:Vija

B.Sc 1 Sem [MECHANICS AND THEORY OF RELATIVITY]

PROGRAMME OUTCOMES

- Explaining the basic scientific principles and methods .
- Inculcating scientific thinking and awareness among the student.
- Ability to communicate with others in regional language and in English.
- Ability to handle the unexpected situation by critically analyzing the problem. i.e. Understanding the issues related to nature and environmental contexts and sustainable development.

PROGRAMME SPECIFIC OUTCOMES

- Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics
- Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result
- Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments

COURSE OUTCOMES

- Understanding the elementary and fundamental knowledge of physics
- Knowledge of general physics like sound, wave, friction, forces and laws of motion and use of mathematics.
- Information of electrical current, circuits, construction and their use.
- Learning about concepts of nuclear physics and nuclear energies and importance of their use for mankind.
- Knowing about energy sources and renewable and non-renewable energy sources.
- Knowing about the light and its importance in life, its characteristics, properties and use in various instruments

B.Sc 2nd Sem ELECTRICITY AND MAGNETISM

PROGRAMME OUTCOMES

- Explaining the basic scientific principles and methods .
- Inculcating scientific thinking and awareness among the student.
- Ability to communicate with others in regional language and in English.
- Ability to handle the unexpected situation by critically analyzing the problem. i.e. Understanding the issues related to nature and environmental contexts and sustainable development.

PROGRAMME SPECIFIC OUTCOMES

- Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics
- Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result
- Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments

COURSES OUTCOME

- Students will be able to apply the fundamental la
- ws of geometrical optics.
- Ability to learn graphical constructions and image formation.
- Aquiring knowledge of abberations of optical systems and there cause and remidies.
- Students will get the knowledge of different types of eye pieces and there use.
- To get the knowledge of different types of galvanometer and there use.
- Use of electronic instruments.
- Use of electronic components and there effect.

B.Sc- | Sem :Physics[Mechanics and properties of Matter]

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

PROGRAMME SPECIFIC OUTCOMES

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

PSO4:Building scientific temper: Correlation of various components & concepts phenomenon of Physics

PSO5:Innovative methods : Acquisition of Knowledge through project works

PSO6:Discovery of Physics concept to other Disciplines like chemistry, cs,& Engineering

PSO7:Inculate ethical values : Students will realize And develop understanding impact physics on society

COURSE OUTCOMES

CO1:Able to understand type of motion & to solve oscillation problems

CO2:Learn the use of graph to fit the curves

CO3:Various experimental methods on gravitational force

CO4:Understanding f laws of planetary motion

CO5:Irnplementation of linear momentum through single stage rocket

CO6:study the kinematics rigid body

CO7:Experimental determination and analysis of dynamics of rigid body

CO8:Detrmination of elastic constants

CO9:Able to relate surface tension and capillarity

CO10:Application of stokes law for the measurement of viscosity of fluids

CO11:Solving numerical problems

B SC-II Sem physics (Sound and thermal physics)

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

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COURSE OUTCOME'S

CO1:Students will able to identify difference between various types of vibrations

CO2:Analysis of energy conversion using transducer; run and experiment on loud speaker and microphone.

CO3:To explain gas pressure and thermal expansion in terms of kinetic theory of gases

CO4:Students will able to analyse random by knowing Brownian motion

CO5:To quantify entropy changes using a statistical approach and heat changes

CO6:Laws of thermodynamics; all the motive power is derived from heat using some form of heatengine

CO7:To understand the production and measurement of low pressure

CO8:To study the production of low temperature by various experiments

CO9:Study of stefan's law and determination of stefans constant

CO10:Solving numerical problems

B.Sc. II Sem Physics (Geometrical optics and Electricity)

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

PROGRAMME SPECIFIC OUTCOMES

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

PSO4:Building scientific temper: Correlation of various components & concepts phenomenon of Physics

PSO5:Innovative methods : Acquisition of Knowledge through project works

PSO6:Discovery of Physics concept to other Disciplines like chemistry, cs,& Engineering

PSO7:Inculate ethical values : Students will realize And develop understanding impact physics on society

COURSES OUTCOME

CO1: Students will be able to apply the fundamental laws of geometrical optics.

CO2: Ability to learn graphical constructions and image formation.

B Sc- IV Sem Physics (Physical optics and Electricity-II)

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

PROGRAMME SPECIFIC OUTCOMES

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

PSO4:Building scientific temper: Correlation of various components & concepts phenomenon of Physics

PSO5:Innovative methods : Acquisition of Knowledge through project works

PSO6:Discovery of Physics concept to other Disciplines like chemistry, cs,& Engineering

PSO7:Inculate ethical values : Students will realize And develop understanding impact physics on society

[redacted]

CO1:Understand the physical principals behind wave optics.

CO2:Students will get the knowledge of interferometer's and their applications.

CO3:Describe and discuss optical interference using wavefront splitting and amplitude splitting.

CO4:Describe and discuss various types of polarization and methods used to generate and analysis

Polarized light using wave plates.

CO5:Knowledge of diffraction effects observed in a single slit and multiple slits and relate to Rayleigh criterion and optical revolution.

CO6:To derive and manipulate formula and to solve optics related problems.

CO7:Able to solve Electro magnetic problems with the knowledge of maxwells equations.

CO8: Have an understanding of laws of thermoelectric effect.

CO9: To record analysis and present experimental findings in physical optics.

B SC-V Physics (paper-1)

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

PROGRAMME SPECIFIC OUTCOMES

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

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[redacted]

CO1: Understanding types of constraints

CO2: Application of Lagrange's equation to various problems

CO3: Understanding central force and kepler's law of planatery motion

CO4:Able to understand characterization and applications of nano materials

CO5: Able to understand basic concepts like the equivalence principles & time dilation

CO6: Application of Lorentz transformation to standard problems

CO7: Acquire basic knowledge on the working of various semiconductor devices.

CO8: Design an experiment with various voltage regulation

CO9: Develop analysis capability in BJT & FET amplifier circuit.

CO10: Design of various oscillator's and its application

B SC- V physics (paper II)

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

[redacted]

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

PSO4:Building scientific temper: Correlation of various components & concepts phenomenon of Physics

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PSO7:Inculate ethical values : Students will realize And develop understanding impact physics on society

[redacted]

CO1: Students will understand the details of matters waves.

CO2: Able to understand different lasers and comparison between them.

CO3: Able to solve Schrodinger's equations for simple configurations.

CO4: Understand the interpretation of wave function and nature of location of a particle

CO5: Able to describe the atomic spectra of one and two valence electron atoms.

CO6: Explain change in behaviour of atoms in external applied electric and magnetic field.

CO7: Able to explain rotational ,vibrational,electronic and Raman spectra of molecules.

CO8: Study how scattering is affected by particles in air

CO9: Develop the ability to describe SPECIFIC function and their recurrence relation

CO10: Study the applications of SPECIFIC function in various physical problems.

B SC-VI Physics (paper 1)

PROGRAMME OUTCOME

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

[redacted]

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

PSO4:Building scientific temper: Correlation of various components & concepts phenomenon of Physics

PSO5:Innovative methods : Acquisition of Knowledge through project works

PSO6:Discovery of Physics concept to other Disciplines like chemistry, cs,& Engineering

PSO7:Inculate ethical values : Students will realize And develop understanding impact physics on society

[redacted]

CO1:Able to apply techniques of x-ray diffractions to study the crystals.

CO2: Able to understand lattice heat capacity and to compare classical theory,Einsten's theory and Debye's theory of specific heat of solids.

CO3:Able to understand the basic properties of semiconductors and their technological applications.

CO4:Application of superconductivity to superconducting wires and maglev trains.

CO5:Able to apply the formula for determining half-life of radioactive decaying elements.

CO6:Able to get through the knowledge of counting systems used in the nucler instrumentation .

CO7:Able to understand the need of energy conversion and various methods of energy storage.

CO8:Able to explain the applications of solar energy.

CO9:Understanding of the fundamental concepts and techniques used in the digital electronics.

CO10:Applications of liquid crystals to LCD and other fields

B SC-VI Physics (Paper 2)

PO1:Understanding of fundamental concepts, theorems, problem solving, & concept of measures of all subjects

PO2:Opportunities in higher education, competitive exams & Scientific job opportunities

PO3:Aquiring knowledge on experiments ,critical thinking problem solving ,Analytical data and relevant

PROGRAMME SPECIFIC OUTCOMES

PSO1:Aquiring the fundamental knowledge :Definition ,Concept, Conversion of units & measurements & proper understanding of physics

PSO2:Enhancement of skill :Designing circuits block diagram, Nature of graph ,Comparing theory with Experimental result

PSO3:Dovelpment of lab skills : Knowledge of components ,Equipment connection & use of instruments ,

PSO4:Building scientific temper: Correlation of various components & concepts phenomenon of Physics

PSO5:Innovative methods : Acquisition of Knowledge through project works

PSO6:Discovery of Physics concept to other Disciplines like chemistry, cs,& Engineering

PSO7:Inculate ethical values : Students will realize And develop understanding impact physics on society

COURSE OUTCOMES

CO1:Learn the Fourier analysis of periodic functions and their applications in various physical problems.

CO2:Learn to use Laplace transform method to solve differential equations.

CO3:Able to understand importance of optical fibres in communication .

CO4:Understand the conversion of light energy into electric energy and vice-versa.

CO5:Able to understand electromagnetic spectra and different frequency bands.

CO6:Learn modulation and types in it.

CO7:Develop the skill of writing the algorithm for solving problems

CO8:By algorithm able to find out the roots of quadratic equation

CO9:Study the applications of integral circuits

CO10: Demonstrate the ability to design practical circuits using ICs.

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