

Department of Physics
B.Sc in Physics- (CBCS Scheme)
I to VI Semester Course Outcomes

I Semester

DSC-1: Mechanics, Properties of Matter and Waves

Objectives:

This paper is aimed to provide knowledge in the basics of frames of references, vector derivatives, laws of conservation, properties of matter, fluid mechanics and simple harmonic motion and wave motion, complex waves analysis. Each topic includes problem solving which develops thinking process and application skills of the students.

Learning Outcome:

Familiarization of the fundamental principles of formulations in mechanics the frames of references, vector derivatives, laws of conservation, properties of matter, fluid mechanics and simple harmonic motion and wave motion, complex waves analysis and development of applications skills.

II Semester

DSC-2: Thermal Physics, Sound and Electrostatics

Objectives:

This paper provides knowledge on Kinetic theory of gases, thermal physics, sound and electrostatics which enables the students to understand the fundamentals of thermodynamics, laws of thermodynamics, thermodynamic potentials, sound, electrostatics and magnetism .

Learning Outcome:

Clarity in the basic principles of thermodynamics, thermodynamic potentials, sound waves and electrostatics etc and development of problem solving skills.

III Semester

DSC-3: Electricity and Electromagnetic theory

Objectives:

This course on thermoelectricity, network theorems, magnetism and AC circuits enables the students to understand the fundamentals of electrostatics, magnetostatics, electromagnetic induction, electromagnetic theory, network analysis and applications of AC circuits.

Learning Outcome:

Clarity and good understanding in the basic principles of thermoelectricity, magnetism and electromagnetic theory, network theorems, analysis and AC circuits development of problem solving skills.

IV Semester

DSC-4: Optics, Atomic and Molecular Spectroscopy

Objectives:

This paper is on optics and atomic and molecular Spectroscopy enables the students to understand the fundamentals of theoretical explanation of the phenomenon of interference, diffraction and polarization, Laser, atomic and molecular Spectroscopy.

Learning Outcome:

Clarity in the basic principles of phenomenon interference, diffraction, polarization etc and development of problem solving and application skills.

V Semester

DSE-1A: Relativity, Nuclear Physics and Quantum Mechanics

Objectives:

This paper is on relativity, quantum mechanics and nuclear Physics enables the students to understand the fundamentals of theoretical explanation of the Special theory of relativity, Cosmic rays and Particle physics, Nuclear Physics and Quantum mechanics.

Learning Outcome:

Clarity in the basic principles theoretical explanation of the Special theory of relativity, Cosmic rays and Particle physics, Nuclear Physics and Quantum mechanics.

DSE-1B: MATHEMATICAL PHYSICS

Objectives:

The emphasis of the course is an applications in solving problems of interest to physicists.

Learning Outcome:

Students will be able to solve problems of different mathematical series..

SEC-1: Lasers and Fibre Optics

Objectives: To learn basic Optical components and devices and communication methods.

Learning Outcome: Familiarity with Optical components and devices and communication methods.

SEC-2: Astronomy and Astrophysics

Objectives: To make the students familiar with an introduction of astrophysics, measuring scales and units, stars and their characteristics and Cosmology.

Learning Outcome: Familiarity with an introduction of astrophysics, measuring scales and units, stars and their characteristics and Cosmology.

SEC-3: Nano Materials

Objectives: To make the students familiar with an introduction of Nanotechnology, nanoscale, synthesis of nano materials, modern instrumentation and optical properties.

Learning Outcome: Familiarity with an introduction of Nanotechnology, nanoscale, synthesis of nano materials, modern instrumentation and optical properties.

VI Semester

DSE-2A: Solid State Physics, Electronics and communication

Objectives:

This paper is on Solid state Physics, Electronics and Communication enables the students to understand the fundamentals of theoretical explanation of the concepts, devices and communication system.

Learning Outcome:

Clarity in the basic principles theoretical explanation of the concepts, construction and working of semiconducting devices, their identification. About communication system

DSE-2B: Medical Physics

Objectives:

This paper is on mechanics, acoustics optical systems diagnostic and therapeutic systems related to human body. Which enables the students to understand the fundamentals of theoretical explanation.

Learning Outcome:

Clarity in the mechanics, acoustics optical systems diagnostic and therapeutic systems related to human body.

SEC-4: Optoelectronics

Objectives: This paper is to make the students familiar with an introduction of opto electronic devices, its working and their application.

Learning Outcome: Familiarity with opto electronic devices, its working and their application.

SEC-5: Renewable Energy Sources

Objectives: This paper is to make the students to understand renewable energy sources.

Learning Outcome: Familiarity with renewable energy sources, uses and applications.

SEC-6: Solving Problems in Physics

Objectives: This paper is to make the students to develop the skill of solving problems under different branches of physics.

Learning Outcome: Students will be able to solve problems under different branches of physics.