

Vimukta Jati Seva Samitee's
Gramin (ACS) Mahavidyalaya VasantNagar Kotgyl
Tq.Mukhed Dist.Nanded

Department of Physics

B.Sc F.Y. Sem-I Mathematical Method in Physics (P-II)

Outcomes

This course is also aimed to develop knowledge in Mathematical Physics and its application to develop , expertise in Mathematical Method required in study of Physics to develop critical thinking & problem solving skills. After completion of this course students will be able to apply the concept of various and complex variables to various physical quantities. This course will also enable the students to solve the problem related to the partial differentiation, fourier analysis unit will enable the students to analyze the periodic function.

B.Sc F.Y. Sem II Heat & Thermodynamics(P-III)

This course will introduce the student to the world of heat & thermodynamics & the behaviour of physical systems at different thermo dynamical condition.After completing this course students will understand the difference in the behavior of the ideal and real gases transport phenomenon in gases. Students will understand the working of various heat engines and the way to increase their working efficiency.

B.Sc. S.Y. Sem III Statistical Physics Electromagnetic & theory of relativity (P-VII)

This course is also enable the students to understand the statistical physical system, statistical basis M-B, BE, FD Statistics, its application. Electromagnetic theory derivation of Maxwell important four equation & theory of relativity. Classical or Newtonian Mechanics deals with the motion of bodies travelling at velocities that are very much less than velocity of light. According to it, three fundamental concepts of physics ie. Space, time and mass are all absolute & invariant.

B.Sc. S.Y. Sem IV Basic Electronics (P-IX)

This course will introduce the students to the basic electronics, CE, CB, & CC connection of transistor input and output characteristics various oscillator and its operation/ working, operational amplifier and its application. After completing this course they will gain experience of soldering of electronics circuit.

B.Sc. T.Y. Sem V**Solid state physics (P-XIII a)**

This course is designed to provide fundamental knowledge of the crystallography, principles behind the formation of matter, their structure & physical properties. This course also enable the students to understand the relationship between the internal structure and various properties of matter such as periodicity structure and bonding device in solids, making these solids and an attractive material for the device applications. At the end of this course, student will be able to classify the material in different classes base on their physical thermal, electrical and magnetic properties. This is an elective course of 02 credits offered at Sem-V.

**B.Sc. T.Y. Sem VI
XIV)****Atomic, Molecular and nuclear Physics (P-**

Aim of this course is to introduce the students to the world of physics of atoms, molecules & nuclei, their structures, emission of Gamma rays, X-rays optical and microwave spectroscopy from these system, the interaction of atom & molecules with electric and magnetic fields. This course also provides adequate knowledge on the nuclear energy sources & reactions with its application establishing nuclear reactors.

B.Sc. F.Y. Sem I**Mechanics and properties of matter**

The objective of this course is to introduce the students to the world of mechanics and properties of the matter that exist in different phases Ie. Solid, liquid & gas. Laws of motion and its applications to various systems students studies in their paper in of fundamental nature and enable the students to handle different types of problems and is the pre-requite for several other advanced courses is physics and chemistry. The pre-require for this course is knowledge of calculus. Wave theory & modern physics. This course is the core course and every student pursuing B.Sc. with physics as are the optional is required to study this course.

Electricity and Management --(P-IV)

The objective of this course is to introduce the students to the concepts of static and dynamical electrical management fields, the sources for generating such fields. Polarization and induction effects, understand the basic of difference between the D.C. and A.. Circuits and their functioning. This course is of most applied mature and will enable the students to understand the role of electricity in everyday life, relate electrical conduction, valet using Ohm's law and will also enable the students to understand the working principles of various electricity components and gadgets.

Waves and Oscillations --(P-VI)

The objective of this course is its introduce the Students to the concepts of mechanical waves, their properties, propagation and relation properties formation tubes, energy distribution in the standing waves, free and forced vibrations acoustics and acoustical designee and also introduces the students to the concepts of ultrasonic's waves and their applications. This course is the pre-requisite for several advanced courses in Physics and Chemistry and is necessary for

understanding the behavior of the matter when mechanical waves passes through them. Pre-requisite for this course is the knowledge of elementary Mathematical and calculus, wave theory etc. This forms the core course of the programmes and every student pursuing B.Sc. with Physics in one of the optional is required to study this course.

Optics & Lasers -- (P- VIII)

This course is aimed to introduce the students to important core subject optics and lasers its applications. This course begins with the introduction to the concept of geometrical optics. Properties of optical instruments, interference and diffraction of light, polarization of light and finally introduce to the advanced source like LASERS and conditions for the lasing action. This course is the advanced course having applications in nearly all the branches of science Pre-requisite for this course is the knowledge of light waves and their properties in different media and requires the knowledge of EM waves. This forms the core course of the programmes and every students pursuing B.Sc. with Physics as one of the optional is required so study this course.

Quantum Mechanics --(P-XII)

The objective of this course is to introduce the students to the world of microscopic particular as molecules, Atoms, atomic nuclei's and elementary particles, study their dynamics employing wave analogy, and also to make the connecting between the rules governing the microscopic particles with that of the microscopic bodies around us. This course is the Pre-requisite for several advanced course in Physics and Chemistry and is necessary for understanding the behavior of molecules, atom and elementary particles. The Pre-requisite for this course is knowledge of calculus, wave theory and modern Physics. This course is the Core-Course and every student pursuing B.Sc. With Physics as one of the optional is required to study this course.

Digital and Communication Electronics --(P-XV)(A)

This course enable the students to understand the importance and inter convertibility of various number systems, Principles of digital gates, and working principal of communication systems. After completing this course students will be in a position to know the working of communication systems, After completing this course students will be in a position to know the working of communication system ie. Modulators, Demodulators and receivers etc.