CAUSSANEL COLLEGE OF ARTS AND SCIENCE

(Affiliated to Alagappa University, Karaikudi)

Accredited with 'A' Grade by NAAC

Recognized by UGC under 2(f) & 12(B)

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OUTCOME OF THE DEPARTMENT

Type of Graduation	Under Graduation
Programme Name	**PHYSICS**
Regulation (CBCS)	2017

Outcome of the Programme

- ❖ To understand the basic laws and explore the fundamental concepts of physics
- ❖ To understand the concepts and significance of the various physical phenomena.
- ❖ To carry out experiments to understand the laws and concepts of Physics.
- ❖ To apply the theories learnt and the skills acquired to solve real time problems.
- ❖ To acquire a wide range of problem solving skills, both analytical and technicaland to apply them.
- ❖ To enhance the student's academic abilities, personal qualities and transferable skills this will give them an opportunity to develop as responsible citizens.
- ❖ To produce graduates who excel in the competencies and values required for leadership to serve a rapidly evolving global community
- ❖ .
- ❖ To motivate the students to pursue PG courses in reputed institutions.
- ❖ This course introduces students to the methods of experimental physics. Emphasis will be given on laboratory techniques specially the importance of accuracy of measurements

❖ Would learn use of mathematical tools in solving complex physical problems and have the solid background and experience required to model, analyze, and solve advanced problems in physics.
❖ Would able to apply advanced theoretical and/or experimental methods, including the use of numerical methods and simulations.

❖ This course would empower the student to acquire scientific and engineering skills and the required practical knowledge by performing experiments in general physics and electronics.
❖ Would also get some research oriented experience by doing theoretical and experimental projects in the last semester under the supervision of faculty.
❖ The course as a whole opens up several career doors for the students interested in various areas of science and technology in private, public and government sectors.
❖ Students may get job opportunities in higher education, research organizations, physics consultancy, radiology, radiation oncology and many others. Some of the institutions where physics students can start their carrier are: BARC, DRDO, NPTC, IISc, ISRO, ONGC, BHEL, PRL, NPL, SINP, VECC, IITs, NITs, IIPR etc.

Sem	Subject Code	Subject Title	Outcome	Specific Outcome
I	7BPH1C1	**PROPERTIES OF MATTER AND SOUND**	Study the elastic behaviour and working of torsional pendulum • Study of bending behaviour beams and analyze the expression for young's modulus • Understand the surface tension and viscosity of fluid	Analyze waves and oscillations • Study the basic properties and production of ultrasonic by different methods

I	7BPH1C1	**MECHANICS AND RELATIVITY**	Understand the definition for centre of gravity in hemisphere, hollow hemisphere, etc., • Understand the dynamics and gravitation • Study the behaviour of rigid body dynamics	Analyze the performance of hydrostatic and hydrodynamics • Understand the negative result of michelson morley experiment, galilean and Lorentz transformation
II	7BPH2C1	**THERMAL AND STATISTICAL PHYSICS**	Understand the nature of calorimetry by specific heat of solids and law of thermodynamics and entropy • Analyses of zeroth law of thermodynamics and entropy • Understanding the low temperature physics	Analyses thermal conductivity and black body radiation • Understanding the statistical methods
II	7BPH2C2	**ELECTRICITY, MAGNETISM AND ELECTROMAGNETISM**	Study the electric field using coloumb's inverse square law in electrostatics of current • Analyze the chemical and heating effect of current	Analyze the relations between B, H and M • Understand the faradays laws of electromagnetic induction by Rayleigh's method

III	7BPH3C1	**OPTICS AND SPECTROSCOPY**	Understand the natural behaviour of aberration in lens • Study the theory and experiment of interference using air wedge, newtons rings and michelson interferometer	Study the theories for production of polarization of light • Understand the theory and application of microwave, infrared and raman spectrocopy .
IV	7BPH4C1	**ATOMIC AND NUCLEAR PHYSICS**	Understand the properties of positive rays, experimental proof by frank and hertz method • Analyze the relationship between various types of couplings • Understand the properties of x-ray s verification	Analyze the ideas of basics of nucleus and their energy • Perform the procedures for nuclear fission and fusion
V	7BPH5C1	**ANALOG ELECTRONICS**	Understand the basics of diode and working of rectifier circuits and characteristics • Analyze the characteristics of transistor and transistor biasing circuits	Perform the procedures for the working of single stage and multistage amplifier • Analyze the relationship between amplifier and oscillators

V	7BPH5C2	**COMPUTER PROGRAMMING IN C**	To Understand the basic concepts of fundamentals of operators and expressions • Analyze the relationship between various statements • Analyze the various types of function	• Perform the different types of arrays • Understand the structure and pointers • Understand the writing programs
V	7BPHE1C	**LASER PHYSICS AND FIBRE OPTICS**	• Understand the basic principle of laser and characteristics • Understand the theory of types of lasers • Perform the procedures into applications oriented one	To Understand the basic concepts of optical fibres • Understand the applications part of optical fibre into communications systems
v	7BPHE2C	**SOLID STATE PHYSICS**	Understand the basic concepts of force between atoms and bonding between molecules • Analyze the relationship between conductors and insulators and super conductivity • Understand the properties of matter	• Understand the properties of semiconductors • Analyze the relationship between semiconductor devices and understand the applications of semiconductor devices

			and classifications - polarization	
VI	7BPH6C1	**ELEMENTS OF THEORETICAL PHYSICS**	•To Understand the basic significance of mechanics of a system of particles • Understand the old quantum theory • Perform the theories of quantum mechanics into schrodinger wave equation	• To Understand the application of schrodinger equation into potential well, barrier • Analyze the basic functions of eigen values and eigen functions
VI	7BPH6C2	**DIGITAL ELECTRONICS**	• Understand the fundamentals of codes and number system • Understand the binary arithmetic, logics and boolean functions	• Understand the functions and working of flip-flop circuits register s and counters • Perform the procedures into applications • Understand the applications into memory circuits
VI	7BPHE3C	**FUNDAMENTALS OF NANO SCIENCE**	• Understand the introduction of nanotechnology • Understand the carbon nano tubes • Understand the fabrication methods	• Perform the procedures into applications of characterization • Understand the applications of nano devices