

JSS College of Arts, Commerce and Science, Ooty Road, Mysuru
PG DEPARTMENT OF PHYSICS
CO Attainment 2021-2022

MSc in Physics Course	COID	CO	Attainment
Classical Mechanics	43539	After completing this course, the student will be able to: Solve the Newton equations for simple configurations.	52.38
Classical Mechanics	43540	Use conservation to solve dynamics problems.	56.84
Classical Mechanics	43542	Derive and solve the equations of motions for systems subject to the Principle of Least Action.	61.46
Mathematical Methods of Physics-1	43547	Familiar with Tensors, algebra of tensors and Tensor Calculus and its applications in applied sciences and engineering;	52.75
Mathematical Methods of Physics-1	43548	Able to solve abstract mathematical problems, recognize real-world problems and to formulate mathematical models for such problems.	58.26
Mathematical Methods of Physics-1	43550	Familiar with generating function of the polynomials	50.56
Mathematical Methods of Physics-1	43551	Able to Use Legendre polynomials, associated Legendre polynomials in Physics	83.77
Mathematical Methods of Physics-1	43552	Able to Use Bessel functions, Spherical harmonics in Physics	73.94
Mathematical Methods of Physics-2	43554	After completing this course, the student will be able to: Explain the concepts of Linear vector space.	73.38
Mathematical Methods of Physics-2	43558	Explain concepts of eigenvalues and eigenvectors of a matrix.	60.47
Mathematical Methods of Physics-2	43559	Use matrices and determinants to solve sets of simultaneous linear equations	61.57
Mathematical Methods of Physics-2	43560	Understand the concepts of inner product, orthogonality and orthonormality	52.34
Mathematical Methods of Physics-2	43562	Recognize real-world problems and formulation of mathematical models of such problems.	37.94
Classical Electrodynamics, Plasma Physics & Optics	43570	Formulate and solve electromagnetic problems with the help of electrodynamic potentials and super potentials	53.89
Classical Electrodynamics, Plasma Physics & Optics	43572	Make a detailed account for gauge transformations and their use	64.09
Classical Electrodynamics, Plasma Physics & Optics	43577	Formulate self-consistent models for the interaction between matter and Electromagnetic fields.	55.61
Classical Electrodynamics,	43578	Covariant formulation of electrodynamics, Lagrange formalism	55.76

Plasma Physics & Optics			
Classical Electrodynamics, Plasma Physics & Optics	43579	Apply the concept of Special theory of relativity for relativistic electrodynamics.	61.82
Continuum Mechanics and Relativity	43684	After completing this course, the student will be able to learn: Internal response of materials to external loading	87.66
Continuum Mechanics and Relativity	43686	Unique connections between solid and fluid mechanics.	92.74
Continuum Mechanics and Relativity	43689	Minkowski space-time	53.44
Continuum Mechanics and Relativity	43690	The true nature of Newtonian mechanics and Lorentz Transformations	59.03
Continuum Mechanics and Relativity	43691	The concept of constant relative motion of different bodies in different frames	56.94
Thermal Physics	43697	After the completion of the course, Student will be: Familiar with Basic concepts of Thermodynamics	81.13
Thermal Physics	43699	Mode of heat transfer, the amount of heat energy transferred and conservation of mass and energy equations.	81.95
Thermal Physics	43700	Second law of thermodynamics; thermal efficiency and coefficient of performance.	57.30
Thermal Physics	43701	concept of ensemble, phase space and the conservation of phase-space density (Liouville's theorem)	85.44
Quantum Mechanics - I	43707	After the completion of the course Student will be familiar with: The Basic concepts and mathematical foundations of quantum mechanics	69.72
Quantum Mechanics - I	43708	Solutions to the Schrödinger equation for simple potentials.	85.06
Quantum Mechanics - I	43709	The effect of symmetries in quantum mechanics	54.71
Quantum Mechanics - I	43710	The significance of wave function, normalization, uncertainty Principle	66.84
Quantum Mechanics - I	43711	The Physical significance of eigen functions and eigen vectors	66.76
Spectroscopy and Fourier Optics	43718	Compare and contrast atomic and molecular spectra.	83.69
Spectroscopy and Fourier Optics	43720	Understand the molecular absorption and scatter from particulate matter in atomic absorption spectroscopy	67.97
Quantum Mechanics- II	43753	Understand the significance of wave function, normalization, uncertainty principle, Physical	71.53

		significance of eigen functions and eigenvectors	
Quantum Mechanics-II	43757	The time-independent perturbation theory: Non degenerate Perturbation Theory	47.25
Quantum Mechanics-II	43758	Degenerate Perturbation Theory; Fine Structure of Hydrogen, The Zeeman Effect.	83.04
Quantum Mechanics-II	43761	The time-dependent perturbation theory	77.78
Quantum Mechanics-II	43765	Relativistic quantum mechanics using Klein-Gordon equation and Dirac equation	65.08
Condensed Matter Physics	43767	Understand the principles of crystal structure of elements. Instrumentation for crystal studies	66
Condensed Matter Physics	43768	Evaluation of crystals data and their suitability for single crystal structure analysis.	82.46
Condensed Matter Physics	43771	Understand the Structural, Magnetic, Electrical and Semiconducting Properties	42.17
Nuclear and Particle Physics	43776	Quantitatively estimates for nuclear phenomena	64
Nuclear and Particle Physics	43779	Familiarise with theoretical and experiments used in particle physics.	64.25
Solid State Physics - I	43799	Learn Dielectrics; Properties and classification	96.44
Solid State Physics - I	43800	Learn Ferroelectrics; Properties and classification	45.14
Solid State Physics - I	43808	Understand electrical and magnetic properties, transport phenomena	80
Nuclear Physics - I	43814	After completing this course the student will: Conceptualise the Nuclear Detectors, Nuclear Pulse techniques and Nuclear models	85.34
Nuclear Physics - I	43816	Learn High-energy nuclear physics, the behaviour of nuclear matter under extreme conditions.	92.22
Solid State Physics - II	43936	Get the understanding about X-ray diffraction (XRD) by Crystals.	79.17
Solid State Physics - II	43938	Understand the Physical phenomena and significance of XRD	71.39
Solid State Physics - II	43940	Be able to make quantitative estimates for structural phenomena of solids.	71.14
Solid State Physics - II	43942	Understand the concepts of Dislocations, Imperfections and Defects in Solids	72.5
Solid State Physics - II	43943	Appreciate the Luminescent effects and colour centres in ionic crystals	42
Solid State Physics - III	43945	Be provided with the understanding about free electron theory of metals	86.3
Solid State Physics - III	43947	Learn Semiconductor phenomena; Hall effect, Magneto-resistance phenomenon	57
Solid State Physics - III	43948	Be able to make quantitative estimates of semiconducting phenomena of solids.	63.06
Solid State Physics - III	43949	Describe the effect of excess carriers in semiconducting solids	16.75

Nuclear Physics - II	43951	After completing this course the student will: Understand the phenomenon of nuclear fission and its application in energy production.	92.31
Nuclear Physics - II	43952	Gain an overview on the neutron physics and nuclear reactor theory.	89.57
Electronics	43975	Solve electronic devices and systems using mathematical concepts.	72.85
Accelerator Physics	44468	Specify in details with application, if applicable, ion Source	62.09
Accelerator Physics	44489	Deliberate the details of Alternating gradient machines	96.91
Accelerator Physics	44496	Understand the working of Betatron	32.18
Thermal Physics	45186	Specify in depth Phase equilibria	72.63
Quantum Mechanics - I	45316	Deliberate the details of Angular Momentum	37.22
Nuclear Physics - II	45349	Specify in depth homogeneous reactor	85.71
Nuclear Physics - II	45369	Identify the characteristics of critical size and critical mass	86.92
Accelerator Physics	45500	Understand the details of Paschen's law for gas breakdown	69.45
Electronics	45616	Understand in details with examples BJT AC Analysis	97.41
Electronics	45655	Deliberate the characteristics of Operational amplifiers	67.8
Electronics	45689	Specify in details with application, if applicable, Flip-Flop	55.74
Electronics	45701	Learn in details with application, if applicable, Combinational logic circuits	54.41
Solid State Physics - I	47802	Learn the characteristics of tight-binding approximation	63.06
Solid State Physics - I	47806	Identify in details with application, if applicable, superconductivity	69.71
Condensed Matter Physics	48587	Learn in details with application, if applicable, Magnetic properties of solids	33.28
Condensed Matter Physics	48591	Understand the details of Semiconductors	64.43
Nuclear Physics - I	48608	Understand in depth Nuclear pulse techniques	73.75

JSS College of Arts, Commerce and Science, Ooty Road, Mysuru
PG DEPARTMENT OF PHYSICS
PO Attainment 2021-2022

M. Sc., in Physics POID	PO	Attainment
43524	Think creatively in explaining solutions to the problems.	58.82
43521	Understand the basic concepts, fundamental principles and the scientific Theories.	70.44
43527	Develop scientific outlook towards all aspects of life.	52.1
43519	A research oriented learning to develop analytical problem-solving approaches.	64.67
43522	Acquire skills in handling scientific instruments, planning and performing in laboratory experiments.	89.02
43525	Realize developments in science subject and interdisciplinary approach.	60.49
43517	Identify, formulate and analyze complex problems using first principles.	66.94
43528	Effective influence, which inspires in new scientific theories and inventions.	50.71