

**List of Courses having focus on Local, National, Regional and Global Developmental Needs
offered by the B.Sc. Physics**

B.Sc.						
Programme: B.Sc. Physics					Year: 2022 -2025 Batch	
Course Code	Course Title	Need				Rationale
		Lo cal	Natio nal	Regi onal	Glo bal	
22UPS101	Properties of Matter and Accoustics	✓	✓			Technical assistant in Research institute and Entreprenship in scientific instruments for college laboratories.
22UPS202	Heat & Thermodyna mics		✓			To impart the knowledge about concepts of heat & principle of thermodynamics and apply the principles in the production of engines like heat engines and refrigerators etc.
22UPS203	Physics Lab I	✓	✓	✓	✓	Develop the skill of performing experiments accurately
21UPS305	Electricity & Magnetism		✓			Acquire the knowledge in electric circuits & implement in device manufacture
21UPS3N1	Principles of Physics – I		✓			Acquire basic knowledge of Physics
21UPS3N2	Renewable Energy Sources				✓	Awareness on available sources of energy and to fetch opportunities in energy sectors
21UPS406	Optics & Spectroscopy				✓	Teaching, Research, Higher Education & Employment
21UPS407	Physics Lab II				✓	Necessary skills developed for employment in technical institutes
21UPS4N3	Principles of Physics –II		✓			To understand the knowledge and application uses in Physics
21UPS4N4	Energy Sources Paper – II				✓	Awareness on available sources of energy and to fetch opportunities in energy sectors

20UPS508	Classical Dynamics				✓	Teaching, Higher Education & Research
20UPS509	Relativity & Quantum Mechanics				✓	To impart knowledge in the concepts and consequences of relativity and quantum mechanics
20UPS510	Basic Electronics & Circuit System			✓		Analyze, design and trouble shoot electronic circuits for employment and entrepreneur
20UPS511	Digital Principles and its applications			✓		To impart problem solving ability and circuit designing attitude
20UPS5S1	Mechanical Measurements		✓			Knowledge on mechanical devices and measurements for employment in leading institutes
20UPS5S2	Fundamentals of Biophysics				✓	Employment in medical and related fields
20UPS612	Mathematical Physics				✓	Necessary skills developed to compete in various competitive exams like CSIR, NET, SET, GATE etc.
20UPS613	Atomic & Nuclear Physics		✓		✓	Employability in Nuclear reactors
20UPS614	Condensed Matter Physics & Statistical Mechanics					
20UPS615	C Programming & Information Security				✓	Impart basic skills for employability in IT sector
20UPS616	Electronics Lab				✓	Analyze, design and trouble shoot electronic circuits for employment and entrepreneur
20UPS617	Digital & Microprocessor Lab				✓	Analyze, design and trouble shoot electronic circuits for employment in IT sector
20UPS618	Computer Lab in C				✓	IT sector

20UPS6S3	Environmental Instrumentation					Awareness on instruments used to monitor and detect pressure, radiation and avail opportunities in meteorological department and institutes like IGCAR, BARC, TIFR
20UPS6S4	Fundamentals of Astrophysics				✓	Placements in IUCAA and astronomy centers

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PRINCIPAL
N. G. M. COLLEGE, POLLACHI

Principal