

List of Courses having focus on Local, National, Regional and Global Developmental Needs offered by the Physics Department

B.Sc.						
Programme: B.Sc. Physics					Year: 2018	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
18UPS101	Properties of Matter	✓	✓			Technical assistant in Research institute and Entrepreneurship in scientific instruments for college laboratories.
18UPS102	Mechanics & Sound		✓		✓	Develop the skill of performing experiments accurately in the machinery field
18UPS203	Heat & Thermodynamics		✓			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.
18UPS204	Physics Lab I	✓	✓	✓	✓	Develop the skill of performing experiments accurately
17UPS305	Electricity and Magnetism		✓			Acquire the knowledge in electric circuits & implement in device manufacture
17UPS3N1	Principles of Physics – I		✓			Acquire basic knowledge of Physics
17UPS3N2	Renewable Energy Sources				✓	Awareness on available sources of energy and to fetch opportunities in energy sectors
17UPS406	Optics and Spectroscopy				✓	Teaching, Research, Higher Education & Employment
17UPS407	Physics Lab II				✓	Necessary skills developed for employment in technical institutes
17UPS4N3	Principles of Physics –II		✓			To understand the knowledge and application uses in Physics

17UPS4N4	Energy Sources Paper – II				✓	Awareness on available sources of energy and to fetch opportunities in energy sectors
16UPS508	Classical Dynamics				✓	Teaching, Higher Education & Research
16UPS509	Relativity & Quantum Mechanics				✓	To impart knowledge in the concepts and consequences of relativity and quantum mechanics
16UPS510	Basic Electronics & Circuit System			✓		Analyze, design and trouble shoot electronic circuits for employment and entrepreneur
16UPS511	Digital Principles and applications			✓		To impart problem solving ability and circuit designing attitude
16UPS5S1	Mechanical Measurements		✓			Knowledge on mechanical devices and measurements for employment in leading institutes
16UPS5S2	Fundamentals of Biophysics				✓	Employment in medical and related fields
16UPS612	Mathematical Physics				✓	Necessary skills developed to compete in various competitive exams like CSIR, NET, SET, GATE etc.
16UPS613	Atomic & Nuclear Physics		✓		✓	Employability in Nuclear reactors
16UPS614	Condensed Matter Physics & Statistical Mechanics					
16UPS615	Microprocessor mechanism & programming C				✓	Impart basic skills for employability in IT sector
16UPS616	Electronics Lab				✓	Analyze, design and trouble shoot electronic circuits for employment and entrepreneur
16UPS617	Digital & Microprocessor Lab				✓	Analyze, design and trouble shoot electronic circuits for employment in IT sector
16UPS618	Computer Lab in C				✓	IT sector

16UPS6S3	Environmental Instrumentation					Awareness on instruments used to monitor and detect pressure, radiation and avail opportunities in meteorological department and institutes like IGCAR, BARC, TIFR
16UPS6S4	Fundamentals of Astrophysics				✓	Placements in IUCAA and astronomy centers



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