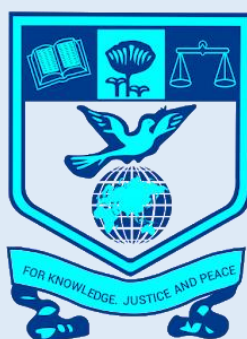


NEHRU MEMORIAL COLLEGE

(AUTONOMOUS)

NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC

PUTHANAMPATTI, TRICHY – 621007



Physics

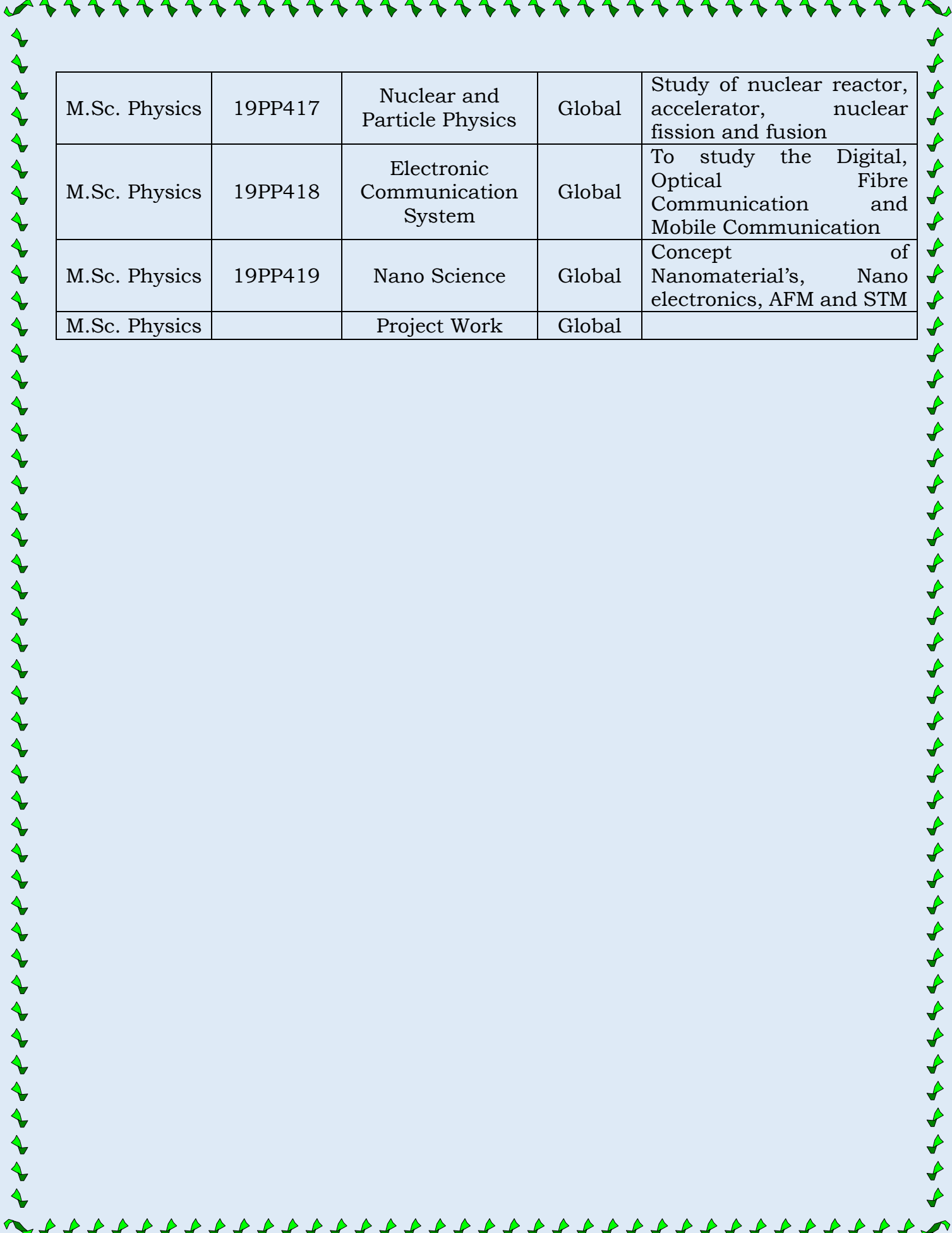
1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs

Name of the Programme	Course code	Title of Course	Need	Description
B.Sc. Physics	19P101	Mechanics	Global	The rigid body dynamics, Moment of inertia of solids and projectiles, hydrodynamics, hydrostatics and principles of gravitation in Global standard
B.Sc. Physics	19P205	Properties of matter and Sound	Global	Elastic behaviour and bending nature of solid, surface tension and viscous properties of liquids also on Acoustics of buildings at the global level
B.Sc. Physics	19P307	Thermal Physics	Global	Kinetic Theory, Thermodynamics, low temperature physics, flow nature of heat and statistical in Global level.
B.Sc. Physics	19P411	Optics	Global	The principles of Geometrical Optics, fundamentals of interference , diffraction and polarization at Global level
B.Sc. Physics	19P4N1	Bio Physics	National	study of bio-physics, biomechanics, biochemistry, separation techniques by chromatographic methods, ECG at national level
B.Sc. Physics	19P515	Electricity and Magnetism	Global	Electrostatics, Magneto statics, basics of current electricity, electromagnetic induction and principles of alternating current for the global standard
B.Sc. Physics	19P516	Atomic and Nuclear Physics	National	Structure of atom ,fine structure of spectral lines, positive rays, basic nuclear physics and fission, fusion and on

				elementary particles at the national level
B.Sc. Physics	19P517	Fundamentals of Electronics	National	circuit analysis through theorems, working of basic and special electronic devices, amplifier, oscillators function and op amp basics in national level
B.Sc. Physics	19P518	(a) C Programming (b) Python Programming	Global	Basics of C Language and Programming techniques for Scientific applications and fundamentals of python at the global level
B.Sc. Physics	19P5N2	Energy Physics	Global	Study of non-renewable energy sources for the sustainability of earth in energy needs at global level
B.Sc. Physics	19P619	Quantum Mechanics and Relativity	National	Study of Quantum Behaviour and on Principles of relativity in National standard
B.Sc. Physics	19P620	Solid State Physics	National	Defects in semiconductor and fundamentals of crystal structure, dielectric and magnetic properties of solids and fundamentals of Nano materials in national level.
B.Sc. Physics	19P621	Digital Electronics	National	basics of various number systems, codes, logic circuits, sequential systems , construction and study of counters and registers in national standard
B.Sc. Physics	19P622	(a)Microprocessor and Microcontroller (b) 8051 Microcontroller Architecture and programming	National	Study of Architecture of Microprocessor, the study of peripheral devices and applications, basic principles of micro controller at the national level

B.Sc. Physics	19XP21	SKBC-I-Testing of Electronic Components Lab Only	Local	develop skills to test electronic components, handling CRO, AFO, Multimeter and able to design PCB for local needs
B.Sc. Physics	19XP32	SKBC-II-Mini Project	National	Develops team skill and confidence to complete the work in time at national standard
B.Sc. Physics	19P102L	Major Practical-I	National	develop practical skills like focussing and observation skills in National standard
B.Sc. Physics	19P308L	Major Practical-II	National	develop practical skills like focussing circuit design and observation skills in National standard
B.Sc. Physics	19P513L	Major Practical-III	National	develop practical skills like circuit design and observation skills in National standard
B.Sc. Physics	19P514L	Major Practical-IV	National	develop practical skills to use CRO, AFO, multimeter and Computer for National level
M.Sc. Physics	19PP101	Mathematical Physics-I	Global	Study of Vector Analysis, Fourier Series, Special Function and Green Function
M.Sc. Physics	19PP102	Classical Dynamics and Special Relativity	Global	To Study the Lagrangian and Hamilton's Formulation, Rigid Body Dynamics and Oscillations
M.Sc. Physics	19PP103	Electronics & Instrumentation	Local	Concept of Diodes, Linear Integrated Circuit Digital Systems, Instrumentation of Physical System, Statistical Analysis and Transducers
M.Sc. Physics	19PP104	PIC Microcontroller and Its Applications	Global	To learn the Architecture, Hardware and concept of PIC Microcontroller

M.Sc. Physics	19PP205L	Practical-I General Physics and Electronics	Global	Skill developed can be utilized for scientific and teaching organizations
M.Sc. Physics	19PP205L	Practical-II Microcontroller Programming Lab	Global	Skill developed can be utilized for scientific and teaching organizations
M.Sc. Physics	19PP207	Mathematical Physics-II	Global	The concept of Complex variables, Group theory and Numerical method
M.Sc. Physics	19PP208	Statistical Mechanics	Global	Study of Electrostatics , Magneto statics and Electromagnetism
M.Sc. Physics	19PP209	Quantum Mechanics and Special Relativity	Global	To learn concept of Schrodinger wave equation, Perturbation theory and Linear operators
M.Sc. Physics	19PP210	Computational Physics	Global	To apply the Numerical methods to solve the equation using the Computational methods
M.Sc. Physics	19PP311	Electromagnetic Theory	Global	The nature of thermodynamics, Boltzmann Transport Equation and Applications
M.Sc. Physics	19PP312	Solid State Physics	Global	Concept of Crystal structure. Free electron theory and Super conductivity
M.Sc. Physics	19PP313	Practical-III Advanced General Physics and instrumentation	Global	Skill developed can be utilized for scientific and teaching organizations
M.Sc. Physics	19PP314	Practical-IV Digital Electronics and Computer Programming	Global	Skill developed can be utilized for scientific and teaching organizations
M.Sc. Physics	19PP315	Atomic and Molecular Physics	Global	To study the IR, Raman Spectroscopy, LASER and MASER
M.Sc. Physics	19PP316	Crystal Growth and Thin Films	Global	To learn the Gel growth, Melt growth and Thin film techniques



M.Sc. Physics	19PP417	Nuclear and Particle Physics	Global	Study of nuclear reactor, accelerator, nuclear fission and fusion
M.Sc. Physics	19PP418	Electronic Communication System	Global	To study the Digital, Optical Fibre Communication and Mobile Communication
M.Sc. Physics	19PP419	Nano Science	Global	Concept of Nanomaterial's, Nano electronics, AFM and STM
M.Sc. Physics		Project Work	Global	