

DEPARTMENT OF PHYSICS

Learning Curriculum
4 years UG Programme

SEMESTER-WISE SCHEDULE

SEMESTER I(22 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX101:Physics-I	2	1	1	5	4
MDC	Basic of seismology	3	0	0	4	3
SEC	Elements of sky observation	1	0	2	5	3

Students have to take two minor subjects each of credit 4, one AEC of credit 2 and one VAC of credit 2 from other departments

SEMESTER II (22 credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX102:Physics-II	2	1	1	5	4
MDC	Physics of Nano Materials	3	0	0	3	3
SEC	Basics in Electrical circuit design	1	0	2	5	3

Students have to take two minor subjects each of credit 4, one AEC of credit 2 and one VAC of credit 2 from other departments

SEMESTER III (22 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX201:Classical Mechanics-I	2	1	0	3	3
	XX202:Mathematical Physics-I	2	1	0	3	3
	XX203:Optics & Laser Physics	2	1	0	3	3
	XX204:Physics Lab	0	0	3	6	3
Minor	Fundamentals of Optics	3	0	0	3	3
MDC	History of Physics	3	0	0	3	3

Students have to take one minor subject of credit 3, one AEC of credit 2 and one VAC of credit 2 from other departments

SEMESTER IV(18 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX205:Electrical networks & Device Electronics	2	1	0	3	3
	XX206:Electromagnetic Theory-I	2	1	0	3	3
	XX207:Thermodynamics and Statistical Mechanics	2	1	0	3	3
	XX208:Physics Lab	0	0	3	6	3
Minor	Basic Electro dynamics	3	0	0	3	3
SEC	Basics of Data Analytics	2		1	4	3

Students have to take one minor subject of credit 3, one AEC of credit 2 and from other departments

SEMESTER V(15 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX301:Waves and Acoustics	2	1	0	3	3
	XX302:Atomic Physics	2	1	0	3	3
	XX303:Basic Material Science	2	1	0	3	3
	XX304:Analog Electronics and Communications	2	1	0	3	3
	XX305:Physics Lab	0	0	3	6	3
Minor	The Theory of Waves	2	1	0	3	3

Students have to take one minor subject of credit 3 and have to do summer internship of credit 2 from other departments

SEMESTER VI (18 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX306:Introduction to Nuclear and Particle Physics	2	1	0	3	3
	XX307:Introduction to Plasma & Astrophysics	2	1	0	3	3
	XX308:Quantum Mechanics-I	2	1	0	3	3
	XX309:Operational Amplifiers& Digital Electronics	2	1	0	3	3
	XX310:Mathematical Physics-II	2	1	0	3	3
	XX311:Physics& Computational Lab	0	0	3	6	3
Minor	Modern Physics	2	1	0	3	3

Students have to take one minor subject of credit 3 from other departments.

FOR HONOURS**SEMESTER VII (18 Credits)**

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX401:Statistical Mechanics	2	1	0	3	3
	XX402:Classical Mechanics-II	2	1	0	3	3
	XX403:Mathematical Physics-III	2	1	0	3	3
	XX404:Electromagnetic Theory-II	2	1	0	3	3
	XX405:Numerical Analysis	2	1	0	3	3
	XX406:Physics Lab-VII	0	0	4	8	4
Minor	Introduction to Condensed matter physics	3	0	0	3	3

Students have to take one minor subject of credit 3 from other departments.

SEMESTER VIII (18 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX407:Quantum Mechanics-II	2	1	0	3	3
	XX408:Semiconductor Devices	2	1	0	3	3
	XX409:Atomic and Molecular Spectroscopy	2	1	0	3	3
	XX410:Condensed Matter Physics	2	1	0	3	3
	XX411:Elective (DSE)	2	1	0	3	3
	XX412:Physics Lab	0	0	3	6	3
Minor	Basic Electronics devices	3	0	0	3	3

Students have to take one minor subject of credit 3 from other departments.

FOR RESEARCH

SEMESTER VII (18 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	XX401:Statistical Mechanics	2	1	0	3	3
	XX402:Classical Mechanics-II	2	1	0	3	3
	XX403:Mathematical Physics-III	2	1	0	3	3
	XX404:Electromagnetic Theory-II	2	1	0	3	3
	XX405:Numerical Analysis	2	1	0	3	3
	Research Project	0	0	0	6	3
Minor	Introduction to condensed mater physics	3	0	0	3	3

Students have to take one minor subject of credit 3 from other departments.

SEMESTER VIII (18 Credits)

Course type	Course title	Lecture (L)	Tutorial (T)	Practical (P)	Contact Hour(CH)	Credits
Core	As per choice from theory paper (3 choices from following options)	(6)	(3)	(0)	(9)	(9)
	(a)XX407:Quantum Mechanics-II	2	1	0	3	3
	(b)XX408:Semiconductor Devices	2	1	0	3	3
	(c)XX409:Atomic and Molecular Spectroscopy	2	1	0	3	3
	(d)XX410:Condensed Matter Physics	2	1	0	3	3
	(e)XX411:Elective (DSE)	2	1	0	3	3
	Research Project	0	0	0	18	9
Minor	Basic electronics devices	3	0	0	3	3

Students have to take one minor subject of credit 3 from other departments.