

**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	XX103:Basic of seismology	3	0	0	4	3
SEC	XX104:Elements of sky observation	1	0	2	5	3
AEC	To be offered by other department	2	0	0	2	2
MINOR1	To be offered by other department					4
MINOR2	To be offered by other department					4
VAC	To be offered by other department					2

**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	XX105:Physics of Nano Materials	3	0	0	3	3
SEC	XX106:Basics in Electrical circuit design	1	0	2	5	3
MINOR1	To be offered by other department					4
MINOR2	To be offered by other department					4
AEC	To be offered by other department					2
VAC	To be offered by other department					2

**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	XX209:Fundamentals of Optics (will be offered to students from other departments)	3	0	0	3	3
MDC	XX210:History of Physics	3	0	0	3	3
MINOR	To be offered by other department					3
VAC	To be offered by other department					2
AEC	To be offered by other department					2

**SEMESTER IV(20 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	XX211:Basic Electro dynamics (will be offered to students from other departments)	3	0	0	3	3
SEC	XX212:Basics of Data Analytics	2		1	4	3
MINOR	To be offered by other department					3
AEC	To be offered by other department					2

**SEMESTER V(20 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	XX312:The Theory of Waves (will be offered to students from other departments)	2	1	0	3	3
MINOR	To be offered by other department					3
Summer Internship	XX313:Students have to do internship in other departments/institutes for a period of 8 weeks					2

**SEMESTER VI (21 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	XX314:Modern Physics (will be offered to students from other departments)	2	1	0	3	3
MINOR	To be offered by other department					3

**FOR HONOURS**

**SEMESTER VII (22 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	XX413:Introduction to Condensed matter physics(will be offered to students from other departments)	3	0	0	3	3
MINOR	To be offered by other department					3

**SEMESTER VIII (21 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	XX414:Basic Electronics devices (will be offered to students from other departments)	3	0	0	3	3
MINOR	To be offered by other department					3

**FOR RESEARCH****SEMESTER VII (21 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	XX413:Introduction to condensed mater physics(will be offered to students from other departments)	3	0	0	3	3
MINOR	To be offered by other department					3

**SEMESTER VIII (21 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: Department Specific Elective (DSE)	2	1	0	3	3
	Research Project	0	0	0	18	9
Minor	XX414:Basic electronics devices(will be offered to students from other departments)	3	0	0	3	3
MINOR	To be offered by other department					3