

DEPARTMENT OF PHYSICS

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Programme: **M.Sc. in Physics**

List of Courses offered by the Department for Autumn Semester, 2021 for

FIRST SEMESTER

Code	Course Name	L-T-P	Credit	Core/ Elective/CBCT
PH-405	Semiconductor Devices	2-1-0	3	Core
PH-408	Electromagnetic Theory I	2-1-0	3	Core
PH-416	Condensed Matter Physics and Material Science	2-1-0	3	Core
PH-417	Advanced Classical Mechanics	2-1-0	3	Core
PH-418	Quantum Mechanics-I	2-1-0	3	Core
PH-400	Physics and Computational Lab.	0-1-3	4	Core
PH-498	Physics Laboratory-I	0-0-4	4	Core

THIRD SEMESTER

Code	Course Name	L-T-P	Credit	Core/Elective/CBCT
??	Open Elective:	2-1-0	3	CBCT
??	Elective I	2-1-0	3	Elective
??	Elective II	2-1-0	3	Elective
PH-553	Atomic and Molecular Spectroscopy	2-1-0	3	Core
PH-415	Nuclear and Particle Physics	2-1-0	3	Core
PH-500	Project-I	0-0-6	6	Core

Elective Courses:

Combination	Papers in M.Sc. Sem III
1. (CMP+Nanoscience)	PH-539: Advanced Condensed Matter Physics and Materials Science PH-562: Quantum Effects in low dimensional systems
2. (CMP+Photonics)	PH-539: Advanced Condensed Matter Physics and Materials Science PH-557: Photonics
3. (HEP+Astrophysics)	PH-519: Quantum Field Theory PH-564: Introductory Astrophysics
4. (Astrophysics +Plasma Physics)	PH-564: Introductory Astrophysics PH-545: Fundamental of Plasma Physics
5. (Plasma Physics +HEP)	PH-545: Fundamental of Plasma Physics PH-519: Quantum Field Theory
6. (Electronics+ Communication)	PH-524: Digital Signal Processing PH-523: Microwave Systems and Antenna Propagation
7. (Electronics + Photonics)	PH-524: Digital Signal Processing PH-557: Photonics

DEPARTMENT OF PHYSICS

Programme: **Integrated M.Sc in Physics**

List of Courses offered by the Department for Autumn Semester, 2021 for

FIRST SEMESTER

Code	Name	L-T-P	Credit	Core/Elective/ CBCT
PI-103	General Physics-I	2-1-0	3	CORE
CI-101	Chemistry-I	3-0-0	3	GE
MI-101	Mathematics-I	2-1-0	3	GE
BI-101	Biology-I	2-1-0	3	GE
PI-197	Physics Lab -I	0-0-3	3	CORE for Physics Major, GE for Non-Major(Chemistry & Biology)
BI-107	Biology Laboratory	0-0-3	3	GE
EG-110	Communicative English	3-0-0	3	AEC

For Non-Major Students:

Code	Name	L-T-P	Credit	Core/ Electives/CBCT
PI-101	Physics-I	2-1-0	3	GE

THIRD SEMESTER

Code	Name	L-T-P	Credit	Core/ Electives/CBCT
PI-203	Classical Mechanics	2-1-0	3	Core
PI-217	Mathematical Physics-I	2-1-0	3	Core
PI-297	Physics Lab-III	0-0-4	4	Core
CI-201	Chemistry III	3-0-0	3	GE
MI-219	Mathematics III	2-1-0	3	GE
NS-106	National Service Scheme	0-0-2	2	SEC
CS-535	Introduction to Scientific Computing	2-0-1	3	AEC

For Non-Major Students:

Code	Name	L-T-P	Credit	Core/ Electives/CBCT
PI-201	Physics III	2-1-0	3	Core

FIFTH SEMESTER

Code	Name	L-T-P	Credit	Core/ Elective/CBCT
PI-202	Introductory Quantum Mechanics	2-1-0	3	Core
PI-204	Atomic & Nuclear Physics	2-0-1	3	Core
PI-303	Physical and Geometrical Optics	2-1-0	3	Core
PI-315	Mathematical Physics II	2-0-1	3	Core
PI-309	Analog Electronics and communications	2-1-0	3	Core
PI-308	Laser Physics	2-1-0	3	DSE
PI-399	Physics Laboratory-V	0-0-4	4	Core

SEVENTH SEMESTER

Code	Name	L-T-P	Credit	Core/Elective/CBCT
PI-403	Electromagnetic Theory I	2-1-0	3	Core
PI-405	Semiconductor Devices	2-1-0	3	Core
PI-413	Advanced Classical Mechanics	2-1-0	3	Core
PI-414	Quantum Mechanics I	2-1-0	3	Core
PI-416	Condensed Matter Physics and Material Science I	2-1-0	3	Core
PI-499	Physics and Computational Laboratory-VI	0-1-5	4	Core
PI-400	Physics Laboratory-VII	0-0-4	4	Core

NINTH SEMESTER

Code	Course Name	L-T-P	Credit	Core/Elective/CBCT
??	Open Elective:	2-1-0	3	CBCT
??	Elective I	2-1-0	3	Elective
??	Elective II	2-1-0	3	Elective
PI-553	Atomic and Molecular Spectroscopy	2-1-0	3	Core
PI-402	Nuclear and Particle Physics	2-1-0	3	Core
PI-599	Project-I	0-0-6	6	Core

Elective Courses:

Combination	Int. M. Sc. Sem IX
1. (CMP+Nanoscience)	PI-510: Advanced Condensed Matter Physics and Materials Science PI-562: Quantum Effects in Low Dimensional Systems
2. (CMP+Photonics)	PI-510: Advanced Condensed Matter Physics and Materials Science PI-557: Photonics
3. (HEP+Astrophysics)	PI-501: Quantum Field Theory PI-564: Introductory Astrophysics
4. (Astrophysics +Plasma Physics)	PI-564: Introductory Astrophysics PI-521: Fundamental of Plasma Physics
5. (Plasma Physics +HEP)	PI-521: Fundamental of Plasma Physics PI-501: Quantum Field Theory
6. (Electronics+ Communication)	PI-507: Digital Signal Processing PI-517: Microwave Systems and Antenna Propagation
7. (Electronics + Photonics)	PI-507: Digital Signal Processing PI-557: Photonics

Head,
Department of Physics

DEPARTMENT OF PHYSICS

Programme: **Integrated B.Sc.B.Ed in Physics**

List of Courses offered by the Department for Autumn Semester, 2021 for

FIRST SEMESTER

Code	Name	L-T-P	Credit	Core/Elective/CBCT
PD-103	General Physics-I	2-1-0	3	Core
CD-101	Chemistry-I	3-0-0	3	GE
MD-101	Mathematics-I	2-1-0	3	GE
PD-197	Physics Lab-I	0-0-3	3	CORE for Physics Major, GE for Non-Major (Chemistry & Biology)
ED-106	Education: An Evolutionary Perspective	2-0-1	3	Core
ED-104	Communicative English	3-0-0	3	Core
ED-105	Basics in Computer Applications	2-0-1	3	CBCT

For Non-Major Students:

Code	Name	L-T-P	Credit	Core/ Electives/CBCT
PD-101	Physics-I	2-1-0	3	GE

THIRD SEMESTER

Code	Name	L-T-P	Credit	Core/ Electives/CBCT
	CBCT/OPEN ELECTIVE- I	2-1-0	3	CBCT
PD-203	Classical Mechanics	2-1-0	3	Core
PD-301	Mathematical Physics-I	2-1-0	3	Core
CD-201	Chemistry-III	3-0-0	3	GE
ED-201	Environmental Education	2-0-1	3	Core
ED-202	Learner and Learning	2-0-1	3	Core
MD-219	Mathematics-III	2-1-0	3	GE
PD-297	Physics Lab. III	0-0-4	4	Core

For Non-Major Students:

Code	Name	L-T-P	Credit	Core/ Electives/CBCT
PD-201	Physics III	2-1-0	3	Core

FIFTH SEMESTER

Code	Name	L-T-P	Credit	Core/ Elective/CBCT
PD-202	Introductory Quantum Mechanics	2-1-0	3	Core
PD-303	Physical and Geometrical Optics	2-1-0	3	Core
PD-315	Mathematical Physics II	2-1-0	3	Core
PD-309	Analog Electronics and Communications	2-0-1	3	DSE
PD-204	Atomic and Nuclear Physics	2-1-0	3	Core
ED-301	Teaching Approaches and Strategies	2-0-1	3	Core
ED-302	Classroom Organization and Management	2-0-1	3	Core
PD-399	Physics Lab-V	0-0-3	3	Core

SEVENTH SEMESTER

Code	Name	L-T-P	Credit	Core/Elective/CBCT
	CBCT/OPEN ELECTIVE- II	2-1-0	3	CBCT
PD-308	Laser Physics	2-1-0	3	Core
ED-408	Pedagogy A: Physical Science II	2-0-1	3	Core
ED-407 or ED-409	Pedagogy B: Mathematics II Or Pedagogy B: Bio Science II	2-0-1	3	Core
ED-404	Initial School Experience/ School Internship-I	0-0-4	4	Core
PD-400	Laboratory-VII	0-0-4	4	Core

Head,
Department of Physics