

**DEPARTMENT: PHYSICS**  
For upload in Web-Site (Dept.)

PROGRAMME: M.Sc. (Physics)  
 List of courses offered by the Department for Spring Semester, 2023

**Semester no. II**

<u>Course Code</u>	<u>Course Name</u>	<u>L</u>	<u>T</u>	<u>P</u>	<u>Credit</u>	<u>Core/Elective</u>
PH-411	Statistical Physics	2	1	0	3	C
PH-412	Analog and Digital Electronics	2	1	1	4	C
PH-419	Advanced Mathematical Physics	2	0	1	3	C
PH-551	Electromagnetic Theory II	2	1	0	3	C
PH-552	Quantum Mechanics-II	2	1	0	3	C
PH-455	Seminar	0	0	2	2	C
PH-499	Physics Lab-II	0	0	4	4	C

**Semester no. IV**

<u>Course Code</u>	<u>Course Name</u>	<u>L</u>	<u>T</u>	<u>P</u>	<u>Credit</u>	<u>Core/Elective CBCT/Found</u>
??	Open Elective II:	2	1	0	3	CBCT
??	Elective III	2	1	0	3	E
??	Elective IV	2	1	0	3	E
PH-599	Project Work –II	0	0	10	10	C

**Elective Courses:**

<b>Combination</b>	<b>Papers in M.Sc. Sem IV</b>
1. (CMP+ Nanoscience)	PH-554: Soft Condensed Matter Physics PH-563: Physics of Nano Devices
2. (CMP+ Photonics)	PH-554: Soft Condensed Matter Physics PH-559: Nanophotonics
3. (HEP+ Astrophysics)	PH-540: Particle Physics PH-565: Elements of GTR and Cosmology
4. (Astrophysics +Plasma Physics)	PH-565: Elements of GTR and Cosmology PH-547: Nonlinear Plasma Physics
5. (Plasma Physics +HEP)	PH-547: Nonlinear Plasma Physics PH-540: Particle Physics
6. (Electronics+ Communication)	PH-522: Communication Systems PH-525: Microprocessors and Digital Signal Processing Based Systems
7. (Electronics + Photonics)	PH-522: Communication Systems PH-559: Nanophotonics

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**DEPARTMENT: PHYSICS**

PROGRAMME: Integrated M.Sc. in Physics.

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PI-102	Physics-II (Non-major)	2	1	0	3	C
PI-104	General Physics-II (Major)	2	1	0	3	C
CI-102	Chemistry-II	2	1	0	3	C
BI-102	Biology-II	2	1	0	3	C
MI-102	Mathematics-II	2	1	0	3	C
PI 197	Physics Lab-I (Non-major)	0	0	3	3	C
PI-198	Physics Lab-II (Major)	0	0	3	3	C
CI-107	Chemistry Lab-I	0	0	3	3	C
ES-103	Environmental Studies	4	0	0	4	Comp. E

**Semester no. IV**

<b><u>Course Code</u></b>	<b><u>Course Name</u></b>	<b><u>L</u></b>	<b><u>T</u></b>	<b><u>P</u></b>	<b><u>Credit</u></b>	<b><u>Core/Elective CBCT/Found</u></b>
PI-205	Electromagnetism	2	1	0	3	C
PI-214	Electronics	2	1	0	3	C
PI-325	Thermodynamics and Statistical Physics	2	1	0	3	C
PI-218	Modern Physics	2	1	0	3	C
PI-221	Nanomaterial Fundamentals and Applications	2	1	0	3	DSE
PI-298	Physics Laboratory-IV	0	0	4	4	C
DM-302	Fundamentals of Disaster Management	2	1	0	3	SEC

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**Semester no. VI**

<b><u>Course Code</u></b>	<b><u>Course Name</u></b>	<b><u>L</u></b>	<b><u>T</u></b>	<b><u>P</u></b>	<b><u>Credit</u></b>	<b><u>Core/Elective CBCT/Found</u></b>
PI-307	Basic Material Science	2	1	0	3	C
PI-221	Nanomaterial Fundamentals and Applications	2	1	0	3	DSE
PI-311	Waves and Acoustics	2	1	0	3	C
PI-314	Measurement Physics	2	1	0	3	C
PI-317	Basic Computation Techniques	2	1	0	3	C
PI-300	Project cum Physics Lab-VI	0	0	4	4	C
??	Open Elective				3	CBCT

**Semester no. VIII**

<b><u>Course Code</u></b>	<b><u>Course Name</u></b>	<b><u>L</u></b>	<b><u>T</u></b>	<b><u>P</u></b>	<b><u>Credit</u></b>	<b><u>Core/Elective CBCT/Found</u></b>
PI-310	Statistical Physics	2	1	0	3	C
PI-551	Electromagnetic Theory II	2	1	0	3	C
PI-302	Analog and Digital Electronics	2	1	1	4	C
PI-552	Quantum Mechanics-II	2	1	0	3	C
PI-417	Advanced Mathematical Physics	2	0	1	3	C
PI-450	Seminar	0	0	2	2	C
PI-498	Physics Laboratory VIII	0	0	4	4	C

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**Semester no. X**

**Core Courses:**

<b><u>Course Code</u></b>	<b><u>Course Name</u></b>	<b><u>L</u></b>	<b><u>T</u></b>	<b><u>P</u></b>	<b><u>Credit</u></b>	<b><u>Core/Elective CBCT/Found</u></b>
??	Open Elective-II	2	1	0	3	CBCT
??	Elective III	2	1	0	3	E
??	Elective IV	2	1	0	3	E
PI-500	Project-II	0	0	10	10	C

**Elective Courses:**

<b>Combination</b>	<b>Papers in M.Sc. Sem IV</b>
1. (CMP+ Nanoscience)	PI-554: Soft Condensed Matter Physics PI-563: Physics of Nano devices
2. (CMP+ Photonics)	PI-554: Soft Condensed Matter Physics PI-559: Nanophotonics
3. (HEP+ Astrophysics)	PI-540: Particle Physics PI-565: Elements of GTR and Cosmology
4. (Astrophysics +Plasma Physics)	PI-565: Elements of GTR and Cosmology PI-525: Nonlinear Plasma Physics
5. (Plasma Physics +HEP)	PI-525: Nonlinear Plasma Physics PI-540: Particle Physics
6. (Electronics+ Communication)	PI-508: Digital Communication Systems PI-516: Microprocessors and Digital Signal Processing Based Systems
7. (Electronics + Photonics)	PI-508: Digital Communication Systems PI-559: Nanophotonics

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PROGRAMME: Integrated B.Sc.B.Ed. in Physics.

List of courses offered by the Department for Spring Semester, 2023

**Semester no. II**

<u>Course Code</u>	<u>Course Name</u>	<u>L</u>	<u>T</u>	<u>P</u>	<u>Credit</u>	<u>Core/Elective CBCT/Found</u>
PD-102	Physics II (Non-Major)	2	1	0	3	C
PD-104	General Physics-II (Major)	2	1	0	3	C
CD-102	Chemistry II	2	1	0	3	C
MD-102	Mathematics II	2	1	0	3	C
PD-197	Physics Lab-I (Non-major)	0	0	3	3	C
PD-198	Physics Lab-II	0	0	3	3	C
CD-107	Chemistry Laboratory-I	0	0	3	3	C
ES-103	Environmental Studies	4	0	0	4	C
ED-107	Education and Development	2	0	1	3	C
NS-106	National Service Scheme	0	0	2	2	Comp. E

**Semester no. IV**

<u>Course Code</u>	<u>Course Name</u>	<u>L</u>	<u>T</u>	<u>P</u>	<u>Credit</u>	<u>Core/Elective CBCT/Found</u>
PD-205	Electromagnetism	2	1	0	3	C
PD-214	Electronics	2	1	0	3	C
PD-218	Modern Physics	2	1	0	3	C
PD-216	Thermodynamics and Statistical Physics	2	1	0	3	C
ED-203	Contemporary Issues in Education	2	0	1	3	C
ED-204	Assessment and Evaluation	2	0	1	3	C
PD-298	Physics Laboratory IV	0	0	4	4	C

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## DEPARTMENT: PHYSICS

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### Semester no. VI

<u>Course Code</u>	<u>Course Name</u>	<u>L</u>	<u>T</u>	<u>P</u>	<u>Credit</u>	<u>Core/Elective CBCT/Found</u>
PD-221	Nanomaterial Fundamentals and Applications	2	1	0	3	DSE
PD-307	Basic Material Science	2	1	0	3	C
PD-311	Waves and Acoustics	2	1	0	3	C
PD-317	Basic Computation Techniques	2	1	0	3	C
ED-308	Pedagogy A: Physical Science I	2	0	1	3	C
ED-307 or ED-309	Pedagogy B: Mathematics I or Pedagogy B: Bio Science I	2	0	1	3	C
ED-303	School Education in North East India	2	0	0	2	C
PD-300	Physics Lab-VI	0	0	4	4	C

### Semester no. VIII

<u>Course Code</u>	<u>Course Name</u>	<u>L</u>	<u>T</u>	<u>P</u>	<u>Credit</u>	<u>Core/Elective CBCT/Found</u>
PD-314	Measurement Physics	2	1	0	3	C
ED-405	School Internship	0	0	16	16	C

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