

## Course Structure and Marking Scheme of M. Sc. Physics

### M. Sc. Physics First Year Semester I

Course Code	Name of the Course	Credits	Contact hours		Assessment pattern (marking scheme)		
			Lect /Wk (L+T+R)	Total Hrs	MSA (T1+T2+HA)	SEA	Total Marks
PHYC 101	Mathematical Methods in Physics	04	05	60	50	50	100
PHYC 102	Numerical Techniques in Physics	04	05	60	50	50	100
PHYC 103	Classical Mechanics	04	05	60	50	50	100
PHYC 104	Electronic Devices and Applications	04	05	60	50	50	100
PHYC 111	Computer Programming Lab	02	02	30	--	50	50
PHYC 112	Numerical Techniques Lab	02	02	30	--	50	50
PHYC 113	General Electronics Lab	02	02	30	--	50	50
PHYC 114	Digital Electronics Lab	02	02	30	--	50	50
<b>Total Credits / Marks</b>		<b>24 credits</b>	---	---	---	---	<b>600</b>

### M. Sc. Physics First Year Semester II

Course Code	Name of the Course	Credits	Contact hours		Assessment pattern (marking scheme)		
			Lect /wk (L+T+R)	Total Hrs	MSA (T1+T2+HA)	SEA	Total Marks
PHYC 201	Condensed Matter Physics	04	05	60	50	50	100
PHYC 202	Atomic and Molecular Physics	04	05	60	50	50	100
PHYC 203	Statistical Mechanics	04	05	60	50	50	100
PHYC 204	Quantum Mechanics	04	05	60	50	50	100
PHYO 205	A. Communication Skill OR B. Teaching Competency	02	02	30	25	25	50
PHYC 211	Solid State Physics Lab	02	02	30	--	50	50
PHYC 212	Semiconductor Physics Lab	02	02	30	--	50	50
PHYC 213	General Physics Lab	02	02	30	--	50	50
PHYC 214	Spectroscopy Lab	02	02	30	--	50	50
<b>Total Credits / Marks</b>		<b>26 credits</b>	---	---	---	---	<b>650</b>

PHYC – M. Sc. Physics Core,

PHYO – Open Elective

MSA – Mid Semester Assessment,

ESA – End Semester Assessment

**M.Sc.Second Year Smester III**

Course Code	Name of the Course	Credits	Contact (instruction) hours		Assessment pattern (marking scheme)		
			Lect/wk (L+T+R)	Total Hrs	MSA (T1+T2+HA)	SEA	Total Marks
PHYC 301	Electrodynamics	04	05	60	50	50	100
PHYE 302A OR PHYE 302B	Skill Enhancement Course – I Astrophysics –I OR Materials Science –I	04	05	60	50	50	100
PHYE 303A OR PHYE 303B	Skill Enhancement Course – II Electronics –I OR Fiber Optics and Lasers –I	04	05	60	50	50	100
PHYO 304	Open Elective – I (from other schools)	04	05	60	50	50	100
PHYE 311A OR PHYE 311B	Skill Enhancement Lab Ia (Astro Lab I /Materials Lab I)	02	02	30	--	50	50
PHYE 312A OR PHYE 312B	Skill Enhancement Lab Ib (Astro Lab II /Materials Lab II)	02	02	30	--	50	50
PHYE 313A OR PHYE 313B	Skill Enhancement Lab IIa (Electro Lab I /FOL Lab I)	02	02	30	--	50	50
PHYE 314A OR PHYE 314B	Skill Enhancement Lab IIb (Electro Lab I /FOL Lab I)	02	02	30	--	50	50
Total Credits / Marks		24 credits	---	---	---	---	600

**M.Sc.Second Year Smester IV**

Course Code	Name of the Course	Credits	Contact (instruction) hours		Assessment pattern (marking scheme)		
			Lect. / week (L+T+R)	Total Hrs	MSA (T1+T2+HA)	ESA	Total Marks
PHYC 401	Nuclear Physics	04	05	60	50	50	100
PHYE 402A OR PHYE 402B	Skill Enhancement Course – III Astrophysics –II OR Materials Science –II	04	05	60	50	50	100
PHYE 403A OR PHYE 403B	Skill Enhancement Course – IV Electronics –II OR Fiber Optics & Lasers –II	04	05	60	50	50	100
PHYO 404	Open Elective – II (from other schools)	04	05	60	50	50	100
PHYC 411	Nuclear Physics Lab	02	02	30	--	50	50
PHYE 412A OR PHYE 412B	Skill Enhancement Lab III (Astro Lab III /Materials Lab III)	02	02	30	--	50	50
PHYE 413A OR PHYE 413B	Skill Enhancement Lab IV (Electro Lab III /FOL Lab III)	02	02	30	--	50	50
PHYC 415	Research Oriented Project	04	04	60	50	50	100
Total Credits / Marks		26 credits	---	---	---	---	650

**PHYE- M. Sc. Physics Skill Enhancement courses**

**PHYO- M. Sc. Physics Open Elective Theory (to be elected from other schools / online platforms like NPTEL/SWAYAM, etc.)**

<b>Semester III (PHYO 304)</b> <b>(Open Electives offered by School of Physical Sciences)</b>			<b>Semester IV (PHYO 404)</b> <b>(Open Electives offered by School of Physical Sciences)</b>		
Code	Title of the Course	credits	Code	Title of the Course	credits
<b>PHYO 304A</b>	Energy Studies	4	<b>PHYO 404A</b>	Plasma Physics	4
<b>PHYO 304B</b>	Wonders in the sky	4	<b>PHYO 404A</b>	Nano Physics	4
<b>PHYO 304C</b>	Physics for Biologists and Chemists	4	<b>PHYO 404A</b>	Nuclear Physics and Radiation	4
<b>PHYO 304D</b>	Communication Electronics	4	<b>PHYO 404A</b>	LIGO Science	4
<b>PHYO 304E</b>	Microprocessors & Microcontrollers	4	<b>PHYO 404A</b>	Optoelectronics	4