

# **CURRICULUM**

**UNDER CHOICE BASED CREDIT SYSTEM**

(w.e.f session 2016-2017)

**MASTER OF SCIENCE (MSC)**

**PROGRAMME**

**IN**

**Physics**

**SIDHO-KANHO-BIRSHA UNIVERSITY**  
**PURULIA, WEST BENGAL**

# SIDHO-KANHO-BIRSHA UNIVERSITY

## Curriculum

### MASTER OF SCIENCE (MSc) PROGRAMME IN

### PHYSICS

(w.e.f academic session: 2016-2017)

	Course Code	Course Title	Credit	Marks
<b>SEM-1</b>	MPHYCCT101	Mathematical Physics	4	40+10
	MPHYCCT102	Classical & Relativistic Mechanics	4	40+10
	MPHYCCT103	Quantum Mechanics I	4	40+10
	MPHYCCT104	Electronics & Instrumentation	4	40+10
	MPHYCCS105	Physics Practical I	4	50
	MPHYCCS106	Physics Practical II	4	50
<b>SEM-2</b>	MPHYCCT201	Classical Electrodynamics	4	40+10
	MPHYCCT202	Quantum Mechanics II	4	40+10
	MPHYCCT203	Atomic, Molecular & Optical Physics	4	40+10
	MPHYCCT204	Solid State Physics	4	40+10
	MPHYCCS205	Physics Practical III	4	50
	MPHYCCS206	Physics Practical IV	4	50
<b>SEM-3</b>	MPHYCCT301	Nuclear & Particle Physics	4	40+10
	MPHYCCT302	Statistical Mechanics	4	40+10
	MPHYMET303	<b>Paper I</b> of opted Major Elective Group	4	40+10
	MPHYOET304	OPEN ELECTIVE	4	50
	MPHYCCS305	Advanced Experiments	4	50
	MPHYOPS306	OUTREACH PROGRAMME	4	50
<b>SEM-4</b>	MPHYCCT401	Numerical Methods & Computational Physics	4	40+10
	MPHYCCT402	Relativity, Cosmology and Astrophysics	4	40+10
	MPHYMET403	<b>Paper II</b> of opted Major Elective Group	4	40+10
	MPHYACT404	ADD-ON COURSE	4	50
	MPHYCCS405	Computer Practical	4	50
	MPHYMEP406	Project & Dissertation	4	50

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## Curriculum

### MASTER OF SCIENCE (MSc) PROGRAMME IN PHYSICS

#### LIST OF MAJOR ELECTIVE COURSES

Students of the **PHYSICS** course are required to study **ONE** Group from the available groups (if any)

#### Group-A

Paper	Course Ref Code	Course Title	Credit	Marks
I	MPHYMET303A	Advanced Electronics I	4	40+10
II	MPHYMET403A	Advanced Electronics II	4	40+10

#### Group-B

Paper	Course Ref Code	Course Title	Credit	Marks
I	MPHYMET303B	Photonics I	4	40+10
II	MPHYMET403B	Photonics II	4	40+10

#### Group-C

Paper	Course Ref Code	Course Title	Credit	Marks
I	MPHYMET303C	Condensed Matter Physics	4	40+10
II	MPHYMET403C	Nano Science and Technology	4	40+10

#### Group-D

Paper	Course Ref Code	Course Title	Credit	Marks
I	MPHYMET303D	Nuclear Structure	4	40+10
II	MPHYMET403D	Nuclear Reaction	4	40+10

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## Curriculum

### MASTER OF SCIENCE (MSc) PROGRAMME

#### LIST OF OPEN ELECTIVE COURSES

Students of the **PHYSICS** course are required to study **ONE** Open Elective Course from the following list of courses to be selected from the courses not offered by the department of **PHYSICS**.

Course ref Code	Course Title	Offered by Department	Credit	Marks
MOE1	Gerontology	Anthropology & Tribal Studies	4	50
MOE2	Bangla Sahityo o Sanskriti	Bengali	4	50
MOE3	Sustainable Agriculture and Food Security	Botany	4	50
MOE4	Entrepreneurship Developments	Commerce	4	50
MOE5	Essence of Chemistry	Chemistry	4	50
MOE6	Intellectual Property Rights	Economics	4	50
MOE7	Yoga Education	Education	4	50
MOE8	Business English and Grammar	English	4	50
MOE9	Land and People	Geography	4	50
MOE10	Urban Study	History	4	50
MOE11	Statistical Methods	Mathematics	4	50
MOE12	Modern Indian Thoughts	Philosophy	4	50
MOE13	Nature of Universe and Concepts of Physics: Inventions and Applications	Physics	4	50
MOE14	Human Rights Study	Political Science	4	50
MOE15	Ancient Indian Culture and Science	Sanskrit	4	50
MOE16	Communicative Santali	Santali	4	50
MOE17	Social Relations	Sociology	4	50
MOE18	Biodiversity and Wildlife Conservation	Zoology	4	50

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## Curriculum

### MASTER OF SCIENCE (MSc) PROGRAMME

#### LIST OF ADD-ON COURSES

Students of the **PHYSICS** course are required to study **ONE** Add-On course from the following list of courses

Course ref Code	Course Title	Offered by Department	Credit	Marks
MAC1	Environmental protection and management	Botany	4	50
MAC2	Statistical Analysis	Economics	4	50
MAC3	Communicative English	English	4	50
MAC4	Computer Application	Mathematics	4	50
MAC5	Value Based Education	Philosophy	4	50
MAC6	Indian Constitution	Political Science	4	50
MAC7	Communicative Sanskrit	Sanskrit	4	50
MAC8	Health, hygiene, sanitization	Zoology	4	50
MAC9	Community Resource Management	Anthropology and Tribal Science	4	50
MAC10	Sociology and Social Work	Sociology	4	50
MAC11	Indian History: Heritage and Culture	History	4	50