

CURRICULUM

UNDER CHOICE BASED CREDIT SYSTEM

(w.e.f session 2016-2017)

MASTER OF SCIENCE (MSC)

PROGRAMME

IN

Mathematics

SIDHO-KANHO-BIRSHA UNIVERSITY
PURULIA, WEST BENGAL

SIDHO-KANHO-BIRSHA UNIVERSITY

Curriculum

MASTER OF SCIENCE (MSc) PROGRAMME IN

MATHEMATICS

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

	Course Code	Course Title	Credit	Marks
SEM-1	MMATCCT101	Abstract Algebra	4	40+10
	MMATCCT102	Real Analysis	4	40+10
	MMATCCT103	Complex Analysis	4	40+10
	MMATCCT104	Ordinary & Partial Differential Equations	4	40+10
	MMATCCT105	Classical Mechanics & Calculus of Variations	4	40+10
	MMATCCT106	Topology	4	40+10
SEM-2	MMATCCT201	Linear Algebra	4	40+10
	MMATCCT202	Functional Analysis	4	40+10
	MMATCCT203	Numerical Analysis and Computer Programming	4	40+10
	MMATCCT204	Mathematical Methods (Integral Transforms, Integral Equations & Generalized Functions)	4	40+10
	MMATCCT205	Operations Research	4	40+10
	MMATCCT206	Differential Geometry	4	40+10
SEM-3	MMATCCT301	Measure and Integrations / Continuum Mechanics and Electromagnetic theory	4	40+10
	MMATMET302	Paper I of opted Major Elective Group	4	40+10
	MMATMET303	Paper II of opted Major Elective Group	4	40+10
	MMATOET304	OPEN ELECTIVE	4	50
	MMATCCS305	Computer aided Numerical Practical	4	50
	MMATOPS306	OUTREACH PROGRAMME	4	50
SEM-4	MMATCCT401	Graph Theory and Mathematical Logic	4	40+10
	MMATCCT402	Operator theory and Elements of Dynamical System	4	40+10
	MMATMET403	Paper III of opted Major Elective Group	4	40+10
	MMATACT404	Paper IV of opted Major Elective Group	4	40+10
	MMATCCT405	ADD-ON COURSE	4	40+10
	MMATMEP406	Project	4	50

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LIST OF MAJOR ELECTIVE COURSES

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

Group-A

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302A	Advanced Differential Geometry of Manifolds-I	4	40+10
II	MMATMET303A	Advanced Operations Research I	4	40+10
III	MMATMET403A	Advanced Differential Geometry of Manifolds-II	4	40+10
IV	MMATMET404A	Advanced Operations Research-II	4	40+10

Group-B

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302B	Advanced Complex Analysis-I	4	40+10
II	MMATMET303B	Advanced Computational Fluid Dynamics-I	4	40+10
III	MMATMET403B	Advanced Complex Analysis-II	4	40+10
IV	MMATMET404B	Advanced Computational Fluid Dynamics-II	4	40+10

Group-C

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302C	Advanced Functional Analysis I	4	40+10
II	MMATMET303C	Advanced Fluid Mechanics I	4	40+10
III	MMATMET403C	Advanced Functional Analysis II	4	40+10
IV	MMATMET404C	Advanced Fluid Mechanics II	4	40+10

Group-D

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302D	Advanced Real Analysis I	4	40+10
II	MMATMET303D	Advanced Viscous Flows, Boundary Layer Theory and Magneto-hydrodynamics I	4	40+10

III	MMATMET403D	Advanced Real Analysis II	4	40+10
IV	MMATMET404D	Advanced Viscous Flows, Boundary Layer Theory and Magneto-hydrodynamics II	4	40+10

Group-E

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302E	Advanced Algebraic Topology I	4	40+10
II	MMATMET303E	Advanced Quantum Mechanics I	4	40+10
III	MMATMET403E	Advanced Algebraic Topology II	4	40+10
IV	MMATMET404E	Advanced Quantum Mechanics II	4	40+10

Group-F

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302F	Advanced Theory of Elasticity I	4	40+10
II	MMATMET303F	Advanced Topology I	4	40+10
III	MMATMET403F	Advanced Theory of Elasticity II	4	40+10
IV	MMATMET404F	Advanced Topology II	4	40+10

Group-G

Paper	Course Ref Code	Course Title	Credit	Marks
I	MMATMET302G	Advanced Algebra I	4	40+10
II	MMATMET303G	Advanced Computational Mathematics I	4	40+10
III	MMATMET403G	Advanced Algebra II	4	40+10
IV	MMATMET404G	Advanced Computational Mathematics II	4	40+10

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LIST OF OPEN ELECTIVE COURSES

Students of the **MATHEMATICS** 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 **MATHEMATICS**.

Course ref Code	Course Title	Offered by Department	Credit	Marks
MOE1	Gerontology	Anthropology & Tribal Studies	4	50
MOE2	Bangla Sahitya 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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LIST OF ADD-ON COURSES

Students of the **MATHEMATICS** 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