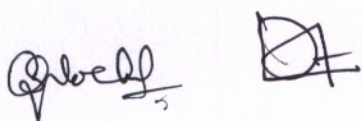# Contents of Courses for B.A./B.Sc. With Mathematics as Major Subject & B.A./B.Sc. (Hons) Mathematics
Model IIA

Semester	Course No.	Theory/ Practical	Credits	Paper Title	Marks	
					S.A.	I.A.
I	MATDSCT1.1	Theory	4	Algebra - I and Calculus - I	70	30
	MATDSCP1.1	Practical	2	Theory based Practical's on Algebra - I and Calculus - I	35	15
	MATOET1.1	Theory	3	(A) Mathematics – I (B) Business Mathematics – I	70	30
II	MATDSCT2.1	Theory	4	Algebra - II and Calculus - II	70	30
	MATDSCP2.1	Practical	2	Theory based Practical's on Algebra - II and Calculus - II	35	15
	MATOET2.1	Theory	3	(A) Mathematics – II (B) Business Mathematics-II	70	30
Exit Option with Certificate (50 credits)						
III	MATDSCT3.1	Theory	4	Ordinary Differential Equations and Real Analysis-I	70	30
	MATDSCP3.1	Practical	2	Theory based Practical's on Ordinary Differential Equations and Real Analysis-I	35	15
	MATOET3.1	Theory	3	(A) Ordinary Differential Equations (B) Quantitative Mathematics	70	30
IV	MATDSCT4.1	Theory	4	Partial Differential Equations and Integral Transforms	70	30
	MATDSCP4.1	Practical	2	Theory based Practical's on Partial Differential Equations and Integral Transforms	35	15
	MATOET4.1	Theory	3	(A) Partial Differential Equations (B) Mathematical Finance	70	30
Exit Option with Diploma (100 credits)						
V	MATDSCT5.1	Theory	3	Real Analysis and Complex Analysis	70	30
	MATDSCP5.1	Practical	2	Theory based Practical's on Real Analysis and Complex Analysis	35	15
	MATDSCT5.2	Theory	3	Ring Theory	70	30
	MATDSCP5.2	Practical	2	Theory based Practical's on Ring Theory	35	15
	MATVT5.1	Vocational	3	Vocational – 1	70	30
VI	MATDSCT6.1	Theory	3	Linear Algebra	70	30
	MATDSCP6.1	Practical	2	Theory based Practical's on Linear Algebra	35	15
	MATDSCT6.2	Theory	3	Numerical Analysis	70	30

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	MATDSCP6.2	Practical	2	Theory based Practical's on Numerical Analysis	35	15
	MATVT6.1	Vocational	3	Vocational - 2	70	30
	MATI 6.1	--	2	Internship	35	15
Exit Option with Bachelor of Arts, B.A./ Bachelor of Science, B.Sc. Degree (with aminimum of 144 credits) or continue studies with the major
VII	MATDSCT7.1	Theory	3	Discrete Mathematics	70	30
	MATDSCP7.1	Practical	2	Theory based Practical's on Discrete Mathematics	35	15
	MATDSCT7.2	Theory	3	Advanced Ordinary Differential Equations	70	30
	MATDSCP7.2	Practical	2	Theory based Practical's on Advanced Ordinary Differential Equations	35	15
	MATDSCT7.3	Theory	3	Advanced Analysis	70	30
	MATDSET 7.1	Theory	3	(A) Graph Theory (B) Entire and Meromorphic Functions (C) History of Bharatiya Ganit	70	30
	MATDSET 7.2	Theory	3	(A) General Topology (B) Bhâratîya Trikonmiti Śâstra (C) Number Theory	70	30
	MATRMT 7.1	Theory	3	Research Methodology in Mathematics	70	30
VIII	MATDSCT8.1	Theory	3	Advanced Partial Differential Equations	70	30
	MATDSCP8.1	Practical	2	Theory based Practical's on Advanced Partial Differential Equations	70	30
	MATDSCT8.2	Theory	3	Advanced Complex Analysis	70	30
	MATDSCT8.3	Theory	3	Fuzzy Sets and Fuzzy Systems	70	30
	MATDSET 8.1	Theory	3	(A) Operations Research (B) Lattice theory and Boolean Algebra (C) Mathematical Modelling (D) Ankapâśa (Combinatorics)	70	30
	MATDSET 8.2	Research Project	6 (3 + 3)	Research Project* OR Any Two of the following electives (A) Finite Element Methods (B) Cryptography (C) Information Theory and Coding (D) Graph Theory and Networking	140 OR 70 70	60 OR 30 30
Award of Bachelor of Arts Honours, B.A. (Hons)/ Bachelor of Science Honours, B.Sc.(Hons) Degree in Mathematics (with a minimum of 186 credits)

B.A./B.Sc. with Mathematics as a Minor in the 3rd Year

Semester	Course No.	Theory/ Practical	Credits	Paper Title	Marks	
					S.A.	I.A.
V	MATDSCMT5.1	Theory	3	Complex Analysis	70	30
	MATDSCMP5.1	Practical	2	Theory based Practical's on Complex Analysis	35	15
VI	MATDSCMT6.1	Theory	3	Numerical Analysis	70	30
	MATDSCMP6.1	Practical	2	Theory based Practical's on Numerical Analysis	35	15

Abbreviation for MATDSCMT5.1 / MATDSCMP5.1

MAT – Mathematics; **DSC** – Discipline Core; **M** – Minor; **T** – Theory /**P** – Practical;
5 – Fifth Semester; **.1** – Course 1