UNIVERSITY OF CALCUTTA

NotificationNo.CSR/92/2025

It is notified for information of all concerned that in terms of the provisions of Section 54 of the Calcutta University Act, 1979, (as amended), and, in the exercise of his powers under 9(6) of the said Act, the Vice-Chancellor has, by an order dated 26.11.2025 approved the Course Structure for Semester-7&8 of 4-year Honours and Honours with Research and new revised Course Structure for Semester-5 & 6 (4-year Honours & Honours with Research and 3-year MDC) and Question Patterns for Semester-5 of Mathematics under CCF, 2022.

The aboveshall take effect from the Odd Semester Examinations, 2025 onwards. Course Structure for Sem-1 to Sem-4 and detail Syllabus for Semester-1 to 6 remain unchanged, as Published under CSR/29/2025, dt. 26.05.2025

09/12/2025

SENATE HOUSE

Kolkata-700073

09.12.2025

Prof.(Dr.) Debasis Das

Registrar

University of Calcutta

Course Structure of Semester Seven and Semester Eight for Four-year (Eight Semester) Honours and Honours with Research Course with Mathematics Major

and

Revised Course structure for Semester Five and Semester Six

Under

Curriculum and Credit Framework (CCF)

Odd Semester : July to December

Even Semester : January to June

The syllabus for the 4 Year Honours and Honours with Research Course with Mathematics Major is effective from the academic year **2023-24**.

• Discipline Specific Core Courses for 4-year Honours & Honours with Research, with Mathematics Major

Sem.	Course ID	Name of the Course	Full Marks	Credit
Seven (VII)	MTHM -DSCC-16-TH	Group Theory-III & Linear Algebra-II	100	3 TH + 1 TU
	MTHM-DSCC-17-TH	Complex Analysis-II & Measure Theory-I	100	3 TH + 1 TU
	MTHM-DSCC-18-TH	Generalised function, Integral Transform & Integral Equation	100	3 TH + 1 TU
	MTHM-DSCC-19-TH	Topology-I	100	3 TH + 1 TU
	MTHM-DSCC-20-TH	Functional Analysis-I	100	3 TH + 1 TU
		Total	**500**	**20**
Eight (VIII)	**Honours without Research**			
	MTHM-DSCC-21-TH	Ordinary Differential Equation II & Partial Differential Equation II	100	3 TH + 1 TU
	MTHM-DSCC-22-TH	Graph Theory	100	3 TH + 1 TU
	MTHM-DSCC-23.1-TH or MTHM-DSCC-23.2-TH	Mechanics III or Measure Theory II	100	3 TH + 1 TU
	MTHM-DSCC-24.1-TH or MTHM-DSCC-24.2-TH	Operations Research & Stochastic Process or Differential Geometry	100	3 TH + 1 TU
	MTHM-DSCC-25.1-TH or MTHM-DSCC-25.2-TH	Fluid Mechanics & Computational Mathematics or Functional analysis II & Topology II	100	3 TH + 1 TU
	Honours with Research			
	MTHM-DSCC-26-TH	Research Methodology I	100	3 TH + 1 TU
	MTHM-DSCC-27-TH	Research Methodology II	100	3 TH + 1 TU
	MTHM-DSCC-28-TH	Research Internship	100	4
	MTHM-DSCC-29-TH	Dissertation	200	8
		Total	**500**	**20**

Semester Five (V)

Course	Paper	Paper Code	Name of Paper	Credit
MAJOR	DSCC 9	MTHM	Probability & Statistics	3 TH + 1 TU
MAJOR	DSCC 10	MTHM	Ring Theory II & Linear algebra I	3 TH + 1 TU
MAJOR	DSCC 11	MTHM	Riemann Integration & Series of functions	3 TH + 1 TU
MAJOR	DSCC 12	MTHM	Mechanics II	3 TH + 1 TU
MINOR	*MN 3	MMTH	Ordinary Differential Equation I & Group Theory I	3 TH + 1 TU
MINOR	*MN 4	MMTH	Mechanics	3 TH + 1 TU
MDC	CC6	MMTH-MDC	Statistics & Numerical Analysis	3 TH + 1 TU
MDC	**CC7	MMTH-MDC	Advanced Calculus & Advanced Algebra	3 TH + 1 TU
MDC	MDC-mn3	MMTH-MDC-mn	Ordinary Differential Equations & Group Theory	3 TH + 1 TU
MDC	MDC-mn4	MMTH-MDC-mn	Mechanics	3 TH + 1 TU

* MN3 and MN4 (both) shall be studied in either Semester Five or in Semester Six.
** Paper CC7 shall be studied in Semester Five (if opted as Core Course 1) or in Semester Six (if opted as Core Course 2).

Semester Six (VI))

Course	Paper	Paper Code	Name of Paper	Credit
MAJOR	DSCC 13	MTHM	Metric Space& Complex Analysis I	3 TH + 1 TU
MAJOR	DSCC 14	MTHM	Multivariate Calculus II & Applications of Calculus	3 TH + 1 TU
MAJOR	DSCC 15	MTHM	Numerical Analysis	3 TH + 1 PR
MINOR	*MN 3	MMTH	Ordinary Differential Equation I & Group Theory I	3 TH + 1 TU
MINOR	*MN 4	MMTH	Mechanics	3 TH + 1 TU
MDC	CC8	MMTH-MDC	Discrete Mathematics	3 TH + 1 TU
MDC	MDC-mn5	MMTH-MDC-mn	Advanced Calculus	3 TH + 1 TU
MDC	MDC-mn6	MMTH-MDC-mn	Statistics & Numerical Analysis	3 TH + 1 TU

* MN3 and MN4 (both) shall be studied in either Semester Five or in Semester Six.
** Paper CC7 shall be studied in Semester Five (if opted as Core Course 1) or in Semester Six (if opted as Core Course 2).

Note.

1. If Mathematics is chosen as Core Course 2 in MDC then only CC6 (Statistical & Numerical Analysis) will be taught in Semester Five and the papers CC7 (Advanced Calculus & Advanced Algebra) and CC8 (Discrete Mathematics) will be taught in Semester Six.
2. Ordinary Differential Equation-I & Group Theory -I and Ordinary Differential Equation & Group Theory have the same syllabus.
3. Mechanics-I and Mechanics have the same syllabus.
4. Marks for Tutorial will be awarded on the basis of Internal Assessment through evaluation of internal assignments for SEC papers and internal examinations for Core, Minor and IDC papers.

Question Pattern for Mathematics Major papers (Semester 5)

DSCC-09:- Probability and Statistics

Group A : Probability (45 marks)

(a) Short answer type: 5 questions are to be attempted out of 8 questions each carrying 3 marks. Each question may have further parts.

(b) Long answer type: 5 questions are to be attempted out of 8 questions each carrying 6 marks. Each question may have further parts.

Group B : Statistics (30 marks)

(a) Short answer type: 3 questions are to be attempted out of 5 questions each carrying 3 marks. Each question may have further parts.

(b) Long answer type: 3 questions are to be attempted out of 5 questions each carrying 7 marks. Each question may have further parts.

DSCC-10:- Ring Theory-II and Linear Algebra-I

Group A : Ring Theory-II (40 marks)

(a) Short answer type: 5 questions are to be attempted out of 8 questions each carrying 3 marks. Each question may have further parts.

(b) Long answer type: 5 questions are to be attempted out of 8 questions each carrying 5 marks. Each question may have further parts.

Group B : Linear Algebra-I (35 marks)

(a) Short answer type : 5 questions are to be attempted out of 8 questions each carrying 3 marks. Each question may have further parts.

(b) Long answer type: 4 questions are to be attempted out of 7 questions each carrying 5 marks. Each question may have further parts.

DSCC-11:- Riemann Integration and Series of functions

Group - A: Riemann Integration (50 marks)

(a) Short answer type: 5 questions are to be attempted out of 8 questions each carrying 3 marks. Each question may have further parts.

(b) Long answer type: 7 questions are to be attempted out of 11 questions each carrying 5 marks. Each question may have further parts.

Group - B (25 marks)

5 questions are to be attempted out of 8 questions each carrying 5 marks. Each question may have further parts.

DSCC-12:- Mechanics-II

Group A: Analytical Statics:- (28 Marks)

4 questions are to be attempted out of 7 questions each carrying 7 marks. Each question may have further parts.

Group B: Problems in Particle Dynamics and Dynamics of a system of particles :- (15 marks)

1 question of Particle Dynamics is to be attempted from 3 questions carrying 8 marks and 1 question of Dynamics of a system of particles is to be attempted from 3 questions carrying 7 marks. Each question may have further parts.

Group C Rigid Body Mechanics:- (32 Marks)

4 questions are to be attempted out of 7 questions each carrying 8 marks. Each question may have further parts with decomposition (2+6), (3+5), (4+4) etc

Question Pattern for Mathematics Minor Papers

MINOR

MN 3: Ordinary Differential Equations and Group Theory

Group-A - Ordinary Differential Equations (45 marks)

9 questions are to be attempted from a set of 16 questions each carrying 5 marks. Questions may have further parts

Group-B – Group Theory (30 marks)

6 questions are to be attempted from a set of 10 questions each carrying 5 marks. Questions may have further parts

MN 4: Mechanics

(a) Short answer type:6 questions are to be attempted out of 10 questions each carrying 2 marks.

(b) Long answer type: (i) 7 questions are to be attempted out of 11 questions each carrying 6 marks [2 questions are to be set from Statics, 4 questions are to be set from Law of gravitation portion, 3 questions are to be set from Work Power Energy portion, 2 questions are to be set from Impulse of a force portion]. Questions may have further parts

(ii) 3 questions are to be attempted out of 6 questions each carrying 7 marks [questions are to be set from Motion of a particle in a plane]. Questions may have further parts.

Question Pattern for Mathematics MDC Papers

MDC CORE COURSE

MDC- CC6 – Statistics and Numerical Analysis

Group-A –Statistics (50 marks)

i) 5 questions are to be attempted from a set of 9 questions each carrying 5 marks. Questions may have further parts. These 9 questions must be set from **Probability Theory Probability Distribution and Mathematical Expectation**

ii) 5 questions are to be attempted from a set of 9 questions each carrying 5 marks. Questions may have further parts. These 9 questions must be set from **Elements of Statistical Methods, Statistical Inference, Sampling Theory**

Group-B – Numerical Analysis (25 marks)

5 questions are to be attempted from a set of 9 questions each carrying 5 marks. Questions may have further parts

MDC- CC7 – Mathematical Methods

Group-A –Sequence and series of functions (25 marks)

5 questions are to be attempted from a set of 9 questions each carrying 5 marks. Questions may have further parts.

Group-B –Application of differential calculus (35 marks)

7 questions are to be attempted from a set of 11 questions each carrying 5 marks. Questions may have further parts.

Group-C – Fourier series and Laplace Transform (15 marks)

3 questions are to be attempted from a set of 7 questions each carrying 5 marks. Questions may have further parts

MDC MINORS

MDC-MN 3: Ordinary Differential Equations and Group Theory

Group-A - Ordinary Differential Equations (45 marks)

9 questions are to be attempted from a set of 16 questions each carrying 5 marks. Questions may have further parts

Group-B – Group Theory (30 marks)

6 questions are to be attempted from a set of 10 questions each carrying 5 marks. Questions may have further parts

MDC-MN 4: Mechanics

(a) Short answer type:6 questions are to be attempted out of 10 questions each carrying 2 marks.

(b) Long answer type: (i) 7 questions are to be attempted out of 11 questions each carrying 6 marks.[2 questions are to be set from Statics, 4 questions are to be set from Law of gravitation portion, 3 questions are to be set from Work Power Energy portion, 2 questions are to be set from Impulse of a force portion]. Questions may have further parts

(ii)3 questions are to be attempted out of 6 questions each carrying 7 marks [questions are To be set from Motion of a particle in a plane]. Questions may have further parts.