



SHRI MATA VAISHNO DEVI UNIVERSITY

Kakryal, Katra-182320 (J&K) INDIA

(A Statutory Technical University of J&K Legislature; recognized u/s 2(f) & 12(B) of UGC)

School of Mathematics

SMVDU/SOM/25/94

01.18/02/2025

Minutes of Meeting of 13th Board of Studies (BoS) of School of Mathematics

Meeting of Board of Studies (BoS) of School of Mathematics (SoM) was held on 05th Feb., 2025 in the Conference Hall (D-207), School of Mathematics at 10:30 AM Onwards. During the meeting following were present:

S. No.	Name / BoS Participants	Affiliation
1.	Dr. Kuldip Raj	Head, SoM and Chairman, BoS.
2.	Prof. Sartaz Ul Hasan	Professor, Department of Mathematics, IIT, Jammu
	Prof. Ajay Sharma	Professor, Department of Mathematics, Central University, Jammu
3.	Prof. V. K. Bhat	Professor, School of Mathematics (SoM)
4.	Prof. A. K. Das	Professor, SoM
5.	Dr. Rakesh Kumar	Associate Professor, SoM
6.	Dr. Surender Singh	Associate Professor, SoM
7.	Dr. Abhishek Singh	Associate Professor, SoM
8.	Dr. Himani Arora	Associate Professor, SoM
9.	Dr. Sandeep Bhougal	Assistant Professor & Member Secretary of BoS, SoM
10.	Dr. Sandeep Sharma	Assistant Professor, SoM
11.	Dr. Sunny Kr. Sharma	Assistant Professor, SoM
12.	Dr. Vivek Kumar	Assistant Professor, SoM
13.	Dr. Sunil Kr. Sharma	Assistant Professor, SoM

Minutes of Meeting of 13th BoS of SoM (Dated: 5th Feb., 2025)

Page 1 of 2



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School of Mathematics

As per the agenda of BoS meeting, following were discussed and recommended:

Item:13.1	To confirm the minutes of the 12 th meeting of Board of Studies (BoS), held on 27 th February, 2024. <i>(As no further comments/suggestions received from the members, the house may approve the minutes of last meeting of BoS.)</i>
Item:13.2	To discuss / review the new Core, AEC, VAC courses for existing FYUP and Integrated B.Sc.(Hons)-M.Sc. Mathematics. <i>(The same is Annexed as Annexure-I)</i>
Item:13.3	To discuss / review the programme structure and syllabus of existing B.Tech in Mathematics and Computing. <i>(The same is Annexed as Annexure-II)</i>
Item:13.4	To discuss / review the programme structure and syllabus of existing FYUP (2024). <i>(The same is Annexed as Annexure-III & IV)</i>
Item:13.5	Any other item with the permission of chair

The meeting ended with vote of thanks to Chair.


Dr. Sandeep Bhoulal
(Member Secretary, BoS)


Dr. Kuldip Raj
(Chairman, BoS)

New Core, AEC, VAC courses for existing FYUP and Integrated B.Sc.(Hons)-M.Sc. Mathematics.

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
SEC	MTL SE 101	Logic and Sets	2-0-0	2
AEC	MTL AE 101	Introduction to Matrix Theory	2-0-0	2
Core	MTL BS 101	Mathematics for Biologists-I	3-1-0	4
Core	MTL 3233	Metric Spaces	3-1-0	4
SEC	MTL SE 201	Statistical Methods	2-0-0	2
AEC	MTL AE 201	Elementary Graph Theory	2-0-0	2
Core	MTL BS 104	Mathematics for Biologists II	3-1-0	4

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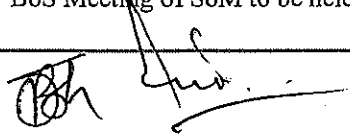
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School of Mathematics**Course Structure under NEP 2020 'B-Tech in Mathematics & Computing'****Semester I**

Course Type	Course Code	Course Title	L	T	P/S	Credits
BSC 1	MTL BS101	Engineering Mathematics-I	3	1	0	4
BSC 2	PHL BS101	Engineering Physics	3	0	0	3
BSC 2	PHP BS101	Engineering Physics Lab	0	0	2	1
ESC 1	CSL ES101	Introduction to C Programming	3	0	0	3
ESC 1	CSP ES101	C Programming Lab	0	0	2	1
ESC 2	ECL ES103	Digital Electronic	3	0	0	3
ESC 2	ECP ES103	Digital Electronic Lab	0	0	2	1
SEC 1	MEM SE103	Engineering Graphics with CAD	1	0	3	2
AEC 1 / VAC 1		Ability Enhancement /Value Added Course				2
Total Credits						20
Semester II						
Course Type	Course Code	Course Title	L	T	P/S	Credits
BSC 3	MTL BS 102	Engineering Mathematics-II	3	1	0	4
BSC 4	BTL BS102	Biology for Engineers	3	1	0	4
DCC 1	CSL DC102	Programming using Python	3	0	0	3
DCC 1	CSP DC102	Python Programming Lab	0	0	2	1
DCC 2	MTL DC102	Modern Algebra	3	1	0	4
SEC 2	MEM SE102	Engineering Workshop	1	0	2	2
AEC 2		Ability Enhancement Course				2
VAC 2		Value Added course				2
MAC 1	PCN MA102	Universal Human Values-II	2	0	0	0
Total Credits						22

Second Year						
III Semester						
Course Type	Course Code	Course Title	L	T	P/S	Credits
BSC 5	MTL BS201	Discrete Mathematics	3	0	0	3
ESC 3	ECL ES205	Microprocessor and Interfacing	3	0	0	3
ESC 3	ECP ES205	Microprocessor and Interfacing Lab	0	0	2	1
DCC 3	CSL DC207	Data Structure	3	0	0	3
DCC 3	CSP DC207	Data Structure Lab	0	0	2	1
DCC 4	MTL DC203	Integral Transforms and Complex Analysis	3	1	0	4
DCC 5	MTL DC205	Probability & Statistics	3	1	0	4
SEC 3		Skill Enhancement Course 3				2
PR		Summer Internship - I				1
VAC 3	PCL VA3XX	Introduction to Logic	2	0	0	2
Total Credits						24

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025



IV Semester						
Course Type	Course Code	Course Title	L	T	P/S	Credits
DCC 6	CSL DC210	Algorithm Design & Analysis	3	1	0	4
DCC 7	MTL DC202	Real Analysis	3	1	0	4
DCC 8	CSL DC212	Theory of Computation	3	1	0	4
DCC 9	CSL DC208	Computer Organization & Architecture	3	1	0	4
DCC 10	MTL DC204	Linear Algebra and Applications	3	1	0	4
VAC 4	BTL VA202	Environmental Science & Education	2	0	0	2
Total Credits						22

Third Year						
V Semester						
Course Type	Course Code	Course Title	L	T	P/S	Credits
DCC 11	CSL DC307	Operating System	3	0	0	3
DCC 11	CSP DC307	Operating System Lab	0	0	2	1
DCC 12	MTL DC301	Number Theory	3	1	0	4
DCC 13	MTL DC303	Stochastic Processes	3	1	0	4
DEC 1		School Elective -I	3	0/1	2/0	4
DEC 2 / GEC 1		School Elective –II/ Generic Elective I	3	0/1	2/0	4
PR		Summer Internship - II				1
DCC		Project work 1	0	0	4	2
Total Credits						23
VI Semester						
Course Type	Course Code	Course Title	L	T	P/S	Credits
DCC 14	CSL DC306	Machine Learning	3	0	0	3
DCC 14	CSP DC306	Machine Learning Lab	0	0	2	1
DCC 15	CSL DC308	Data Base Management System	3	0	0	3
DCC 15	CSP DC308	Data Base Management System Lab	0	0	2	1
DEC 3		School Elective – III	3	1/0	0/2	4
DEC 4 / GEC 2		School Elective –IV/ Generic Elective II	3	1/0	0/2	4
AEC		Management Course/ Entrepreneurship/Economy	3	0	0	3
DCC		Project Work –II				2
MAC 2	PCN MA302	Indian Knowledge System	2	0	0	0
Total Credits						21

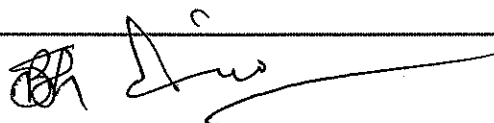
Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

Fourth Year						
VII Semester						
Course Type	Course Code	Course Title	L	T	P/S	Credits
DCC 16	MTL DC401	Optimization Techniques	3	1	0	4
DEC 5		School Elective – V	3	1/0	0/2	4
DEC 6 / GEC 3		School Elective –VI/ Generic Elective III	3	1/0	0/2	4
PR	CSI PR403	Summer Internship – III				2
DCC/PR	CSD PR403	Project Work –III				4
		Total Credits				18
VIII Semester						
Course Type	Course Code	Course Title	L	T	P/S	Credits
DCC/PR	CSD PR404 / CSI PR404	Major Project / Internship (Industrial or In-house Project)				10
		Total Credits				10

List of School Electives Courses

S. No.	Subject Code	Subject	Elective No.
1.	MTL DE 301	Operations Research	SEC- 1
2.	CSL DE 301	Object Oriented programming	
3.	MTL DE 303	Complex Analysis	
4.	CSL DE 302	Computer Networks	SEC – 2
5.	CSL DE 304	Software Engineering	
6.	CSL DE 306	Artificial Intelligence.	
7.	CSL DE 308	Computer Graphics	SEC- 3
8.	CSL DE 310	Web Technology	
9.	CSLDE 312	Cluster & Grid Computing	
10.	CSL DE 314	Big Data Analytics	SEC – 4
11.	CSL DE 401	Data Warehousing & Data Mining	
12.	CSL DE 403	Compiler Design	
13.	CSL DE 405	Wireless & Mobile Computing	SEC- 5
14.	CSL DE 407	Multimedia System	
15.	MTL DE 402	Matrix Computation	
16.	MTL DE 404	Partial Differential Equations	SEC- 6
17.	MTL DE 406	Dynamical Systems	
18.	MTL DE 408	Topology	
19.	MTL DE 410	Functional Analysis	SEC- 7
20.	CSL DE 402	Immersive Computing	
21.	MTL DE 412	Information Theory & Coding	
22.	MTL DE 414	Finite element methods	SEC- 7
23.	MTL DE 416	Game Theory	
24.	MTL DE 418	Differential Geometry	
25.	MTL DE 420	Fuzzy set & Fuzzy logic	SEC- 7
26.	MTL DE 422	Modern Applied Algebra	
27.	MTL DE 424	Tensor Calculus	
28.	MTL DE 426	Statistical Inference	

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025



100



Integrated B.Sc./M.Sc. Course Structure (Mathematics)

FYUG COURSE STRUCTURE AS PER NEP 2020 (2024 onwards)

COURSE STRUCTURE AS PER NEP 2020

Integrated programs Batch 2022 and 2023

&

FYUG Programs (Four years) from 2024 onwards

Semester-I

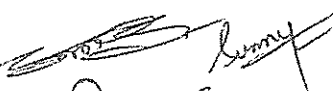

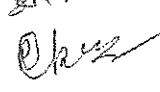
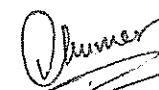

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD101	Differential Calculus	4-0-0	4
Minor	XXX MI XXX	Choose one from the pool of Courses from allied schools	4-0-0	4
Multidisciplinary	XXX MU XXX		4-0-0	4
Ability Enhancement Course	XXX AE XXX		2-0-0	2
Skill Enhancement course	XXX SE XXX		2-0-0/ 1-0-2	2
Value added course-1	XXX VA XXX		2-0-0	2
Value added course-2	XXX VA XXX		2-0-0	2
		Total Credits	20-0-0/ 19-0-1	20

Minor

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Minor	MTL MI101	Elements of Discrete Mathematics	4-0-0	4

Multidisciplinary Courses from Mathematics for other Departments/Disciplines:

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Multidisciplinary	MTL MU101	Fundamentals of Calculus and applications	4-0-0	4

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Semester-II

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD102	Integral Calculus	4-0-0	4
Minor	XXX MI XXX	Choose one from the pool of Courses from allied schools	4-0-0	4
Multidisciplinary	XXX MU XXX		4-0-0	4
Ability Enhancement Course	XXX AE XXX		2-0-0/ 2-1-0	2
Skill Enhancement course	XXX SE XXX		2-0-0/ 1-0-2	2
Value added course-3	XXX VA XXX		2-0-0	2
Value added course-4	XXX VA XXX		2-0-0	2
		Total Credits	20-0-0/ 18-1-1	20

Minor

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Minor	MTL MI102	Analytical Geometry of 3-D and Trigonometry	4-0-0	4

Multidisciplinary Courses from Mathematics for other Departments/Disciplines:

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Multidisciplinary	MTL MU102	Probability & Statistics with Applications	4-0-0	4

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Semester-III

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD201	Fundamentals of Algebra	4-0-0	4
Major	MTL MD203	Real Analysis-I	4-0-0	4
Minor/ DSE-1	MTL MI201	Computer Programming(MTL-2241)	3-0-0	3
	MTM MI201	Computer Programming Lab(MTP-2241)	0-0-2	1
Multidisciplinary	XXX MU XXX		4-0-0	4
Ability Enhancement Course	XXX AE XXX		2-0-0	2
Skill Enhancement course	XXX SE XXX		2-0-0/ 1-0-2	2
		Total Credits	20-0-0/ 19-0-1	20

Minor/ DSE-1			
Course Code	Course Name	L-T-P **	Credits
MTL MI201	Computer Programming	3-0-0	3
MTM MI201	Computer Programming Lab(MTP-2241)	0-0-2	1
MTL MI203	Theory of Reliability	4-0-0	4

Multidisciplinary Courses from Mathematics for other Departments/Disciplines:

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Multidisciplinary	MTL MU201	Discrete Structures with Applications	4-0-0	4

Semester-IV

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD202	Real Analysis-II	4-0-0	4
Major	MTL MD204	Probability and Statistics	3-0-0	3

	MTM MD204	Probability and Statistics Lab	0-0-2	1
Major	MTL MD206	Vector Calculus	4-0-0	4
Major	MTL MD208	Fundamentals of Complex Variables	4-0-0	4
Minor/ DSE-2				4
		Total Credits	19-0-2	20

Minor/ DSE-2			
Course Code	Course Name	L-T-P **	Credits
MTL MI202	Set Theory	4-0-0	4
MTL MI204	Information Theory	4-0-0	4
MTL MI206	Biomathematics	4-0-0	4

Semester-V

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD301	Multivariable Calculus	4-0-0	4
Major	MTL MD303	Linear Algebra	4-0-0	4
Major	MTL MD305	Fuzzy Logic and Applications	4-0-0	4
Minor/ DSE-3				4
IAPC				2
Skill Enhancement course	XXX SE XXX		2-0-0/ 1-0-2	2
		Total Credits		20

Minor/ DSE-3			
Course Code	Course Name	L-T-P **	Credits
MTL MI301	Integral Transforms	4-0-0	4
MTL MI303	Decision Theory	4-0-0	4
MTL MI305	Econometrics	4-0-0	4

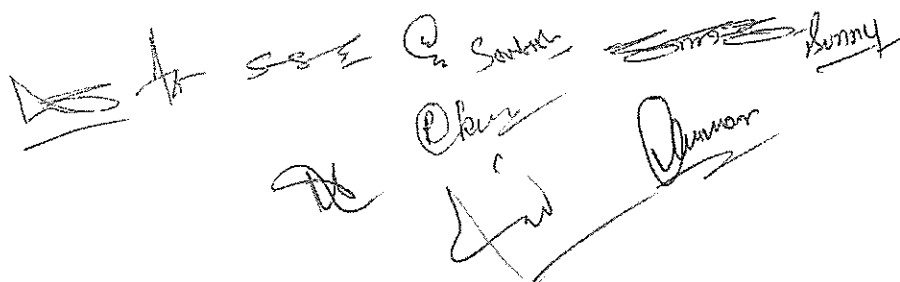
Semester-VI

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD302	Ordinary Differential Equation	4-0-0	4
Major	MTL MD304	Number Theory & Cryptography	4-0-0	4
Major	MTL MD306	Coding Theory	4-0-0	4
Major	MTL MD308	Graph Theory	4-0-0	4
Minor/ DSE-4				4
		Total Credits	20-0-0	20

Minor/ DSE-4			
Course Code	Course Name	L-T-P **	Credits
MTL MI302	Linear Programming and Game Theory	4-0-0	4
MTL MI304	Queuing Theory	4-0-0	4
MTL MI306	Financial Mathematics	4-0-0	4

Semester-VII

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD401	Abstract Algebra	4-0-0	4
Major	MTL MD403	Advanced Real Analysis	4-0-0	4
Major	MTL MD405	Partial Differential Equations	4-0-0	4
Major	MTL MD407	Basic Research Methodology for Beginners	4-0-0	4
Minor/ DSE-5				4
		Total Credits	20-0-0	20


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Minor/ DSE-5			
Course Code	Course Name	L-T-P **	Credits
MTL MI401	Advanced Calculus and Special Functions	4-0-0	4
MTL MI403	Numerical Methods	4-0-0	4

Semester-VIII

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD402	Complex Analysis	4-0-0	4
Major	MTL MD404	Advanced Linear Algebra	4-0-0	4
Major	MTL MD406	Differential and Integral Equations	4-0-0	4
Major	MTL MD408	Algebraic number theory	4-0-0	4
Minor/ DSE-6				4
		Total Credits	20-0-0	20

OR

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD402	Complex Analysis	4-0-0	4
Minor/ DSE-6				4
Research Project/Dissertation	MTD MD402		12-0-0	12
		Total Credits	20-0-0	20

Minor/ DSE-6			
Course Code	Course Name	L-T-P **	Credits
MTL MI402	Numerical Solution of Ordinary and Partial Differential Equations	4-0-0	4
MTL MI404	Commutative Algebra	4-0-0	4

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 R. Khosla
 J. Khosla

Semester-IX

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD501	Topology	4-0-0	4
Major	MTL MD503	Calculus of Variations and Mechanics	4-0-0	4
Minor/ DSE-7				4
Minor/ DSE-8				4
Research Project/Dissertation	MTD MD501		12-0-0	12
		Total Credits	28-0-0	28

Minor/ DSE-7			
Course Code	Course Name	L-T-P **	Credits
MTL MI501	Optimization Techniques	4-0-0	4
MTL MI503	Sample Survey	4-0-0	4

Minor/ DSE-8			
Course Code	Course Name	L-T-P **	Credits
MTL MI505	Advanced topics in Algebra	4-0-0	4
MTL MI507	Stochastic Process	4-0-0	4

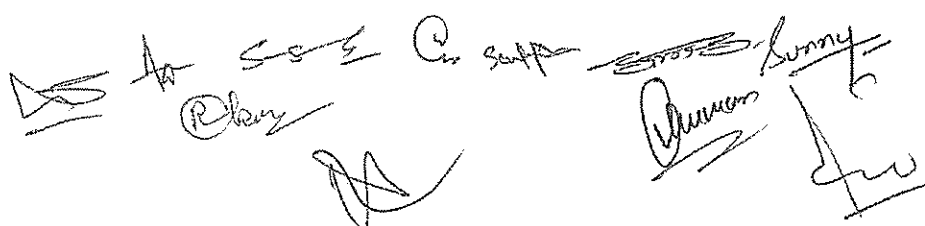
Semester-X

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL MD502	Differential Geometry	4-0-0	4
Major	MTL MD504	Functional Analysis	4-0-0	4
Minor/ DSE-9				4
Minor/ DSE-10				4
Research Project/Dissertation	MTD MD502		12-0-0	12
		Total Credits	28-0-0	28

Minor/ DSE-9			
Course Code	Course Name	L-T-P **	Credits
MTL MI502	Modern Applied Algebra	4-0-0	4
MTL MI504	Fluid Mechanics	4-0-0	4
Minor/ DSE-10			
Course Code	Course Name	L-T-P **	Credits
MTL MI506	Measure Theory	4-0-0	4
MTL MI508	Advanced Topics in Topology	4-0-0	4

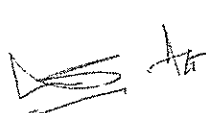
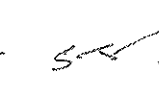

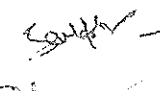


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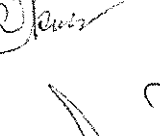

Minor/ DSE-I			
Course Code	Course Name	L-T-P **	Credits
MTL MI201	Computer Programming(MTL-2241)	3-0-0	3
MTM MI201	Computer Programming Lab(MTP-2241)	0-0-2	1
MTL MI203	Theory of Reliability	4-0-0	4
Minor/ DSE-2			
MTL MI202	Set Theory	4-0-0	4
MTL MI204	Information Theory	4-0-0	4
MTL MI206	Biomathematics	4-0-0	4
Minor/ DSE-3			
MTL MI301	Integral Transforms	4-0-0	4
MTL MI303	Decision Theory	4-0-0	4
MTL MI305	Econometrics	4-0-0	4
Minor/ DSE-4			
MTL MI302	Linear Programming and Game Theory	4-0-0	4
MTL MI304	Queuing Theory	4-0-0	4




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MTL MI306	Financial Mathematics	4-0-0	4
Minor/ DSE-5			
MTL MI401	Advanced Calculus and Special Functions	4-0-0	4
MTL MI403	Numerical Methods	4-0-0	4
Minor/ DSE-6			
MTL MI402	Numerical Solution of Ordinary and Partial Differential Equations	4-0-0	4
MTL MI404	Commutative Algebra	4-0-0	4
Minor/ DSE-7			
MTL MI501	Optimization Techniques	4-0-0	4
MTL MI503	Sample Survey	4-0-0	4
Minor/ DSE-8			
MTL MI505	Advanced topics in Algebra	4-0-0	4
MTL MI507	Stochastic Process	4-0-0	4
Minor/ DSE-9			
MTL MI502	Modern Applied Algebra	4-0-0	4
MTL MI504	Fluid Mechanics	4-0-0	4
Minor/ DSE-10			
MTL MI506	Measure Theory	4-0-0	4
MTL MI508	Advanced Topics in Topology	4-0-0	4



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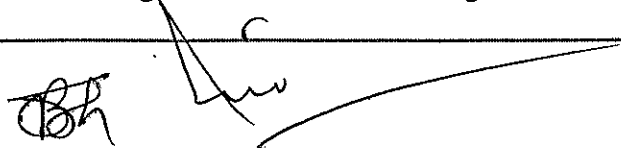


**Course structure for Integrated B.Sc. (Hons) Mathematics-M.Sc.
Mathematics Programme 2022 Batch Under CBCS in accordance with NEP, 2020
CHOICE BASED CREDIT SYSTEM**

B.Sc. (Hons) Mathematics I YEAR

SEMESTER I

Broad Category of Course	Course Title	L-T-P	Credits
Core	Differential Calculus (MTL1231)	4-0-0	4
Core	Elements of Discrete Mathematics(MTL1241)	4-0-0	4
Multi-disciplinary	Fundamentals of Calculus and Applications(MTL1236) (For students of other schools) For the students of Five year program of Mathematics, the multidisciplinary course shall be offered by other schools.	3-0-0	3
AEC (Ability Enhancement)	Modern Indian Language/English Language/ Hindi Language / Communication Skills/Professional communication (Students can choose one of the Subjects)		3
SEC (Skill Enhancement Course)	Computer Applications/ Presentation Skills/ Personality Building/Modern Office Management/Financial Literacy and Banking/ Critical Thinking (Students can choose one of the Subjects)		2
Value Added Courses (2+2)	Understanding India/ Sports and Fitness/Yoga Education/Health and Wellness/ EVS/Digital Technology (Students can choose one of the Subjects)		2
	Understanding India/ Sports and Fitness/Yoga Education/Health and Wellness/ EVS/Digital Technology (Students can choose one of the Subjects)		2
Total Credits			20



SEMESTER II

Broad Category of Course	Course Title	L-T-P	Credits
Core	Integral Calculus(MTL1232)	4-0-0	4
Core	Analytical Geometry of 3D and Trigonometry(MTL1233)	4-0-0	4
Multi-disciplinary	Probability & Statistics with applications (MTL1243) (For students of other schools) For the students of Five year program of Mathematics, the multidisciplinary course shall be offered by other schools.	3-0-0	3
AEC (Ability Enhancement)	Modern Indian Language/English Language/ Hindi Language/ Communication Skills (Students can choose one of the Subjects)		3
SEC (Skill Enhancement Course)	Computer Applications/ Presentation Skills/ Personality Building/Modern Office Management/Financial Literacy and Banking/ Critical Thinking (Students can choose one of the Subjects)		2
Value Added Courses (2+2)	Understanding India/ Sports and Fitness/Yoga Education/Health and Wellness/ EVS/Digital Technology (Students can choose one of the Subjects)		2
	Understanding India / Sports and Fitness/Yoga Education/Health and Wellness/ EVS/Digital Technology (Students can choose one of the Subjects)		2
Total Credits			20

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

B.Sc. (Hons) Mathematics II YEAR

SEMESTER III

Broad Category of Course	Course Title	L-T-P	Credits
Core	Fundamentals of Algebra (MTL2231)	4-1-0	5
Core	Real Analysis (MTL2232)	4-1-0	5
Core	Computer Programming(MTL-2241)	3-0-0	3
	Computer Programming Lab(MTP-2241)	0-0-4	2
Multi-disciplinary	Elements of Thermodynamics(PHE2024) (Offered by School of Physics)	3-0-0	3
	Food and Nutrition (BTE2533)	3-0-0	3
AEC (Ability Enhancement)	Modern Indian Language/English Language/ Hindi Language / Communication Skills/Professional communication (Students can choose one of the Subjects)	3-0-0	3
SEC (Skill Enhancement Course)	Computer Applications/ Presentation Skills/ Personality Building/Modern Office Management/Financial Literacy and Banking/ Critical Thinking (Students can choose one of the Subjects)	2-0-0	2
Total Credits			23

Multi-disciplinary (For Students of Schools other than Mathematics)	Discrete Structures with Applications (MTL2246)	3-0-0	3
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Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

SEMESTER IV

Broad Category of Course	Course Title	L-T-P	Credits
Core	Combinatorial Mathematics (MTL2242)	4-1-0	5
Core	Probability and Statistics (MTL2251)	4-0-0	4
	Probability and Statistics Lab(MTP2251)	0-0-4	2
Core	Vector Calculus(MTL2243)	4-1-0	5
Minor Vocational	To be offered by other School(s)	4-0-0	4
Total Credits			20

Multi-disciplinary (For Students of Schools other than Mathematics)	Linear Algebra and its applications (MTL2247)	3-0-0	3
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SEMESTER V

Broad Category of Course	Course Title	L-T-P	Credits
Core	Multivariable Calculus (MTL-3231)	4-0-0	4
Core	Coding Theory (MTL-3241)	4-0-0	4
Core	Integral Transforms (MTL-3243)	4-0-0	4
Minor/Elective	Graph Theory (MTE 3241)	4-0-0	4
SEC (Skill Enhancement Course)	SEC-4	2-0-0	2
Internship/Apprenticeship	Summer Internship (MTI 3242)	2-0-0	2
Total Credits			20

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

SEMESTER VI

Broad Category of Course	Course Title	L-T-P	Credits
Core	Ordinary Differential Equation MTL-3244	4-0-0	4
Core	Number Theory & Cryptography MTL-3245	4-0-0	4
Core	Linear Algebra MTL-3232	4-0-0	4
Core	Metric Spaces MTL-3233	4-0-0	4
Minor/DSE-4		4-0-0	4
Total Credits			20

Minor/ DSE-4/Elective			
MTL-3261/MTE-3261	Linear Programming and Game Theory	4-0-0	4
MTE-3281	Financial Mathematics	4-0-0	4

Semester-VII

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL-6243	Basic Research Methodology for Beginners	4-0-0	4
Major	MTL-6231	Abstract Algebra	4-0-0	4
Major	MTL-6232	Advanced Real Analysis	4-0-0	4
Major	MTL-6241	Partial Differential Equations	4-0-0	4
Minor/ DSE-5/Elective				
		Total Credits	20-0-0	20

Minor/ DSE-5/Elective			
MTL-6242/MTE-6242	Advanced Calculus and Special Functions	4-0-0	4
MTL-6245/MTE-6245	Numerical Methods	4-0-0	4

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

Semester-VIII

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL-6233	Complex Analysis	4-0-0	4
Major	MTL-6234	Advanced Linear Algebra	4-0-0	4
Major	MTL-6244	Differential and Integral Equations	4-0-0	4
Major	MTE-6241	Algebraic number theory	4-0-0	4
Minor/ DSE-6/Elective				
		Total Credits	20-0-0	20

OR

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL 6233	Complex Analysis	4-0-0	4
Minor/ DSE-6				
Research Project/Dissertation	MTD 6291		12-0-0	12
		Total Credits	20-0-0	20

Minor/ DSE-6/Elective			
MTE-7243	Numerical Solution of Ordinary and Partial Differential Equations	4-0-0	4
MTE-6235	Commutative Algebra	4-0-0	4

Semester-IX

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL-7231	Topology	4-0-0	4
Major	MTL-7241	Calculus of Variations and Mechanics	4-0-0	4
Minor/ DSE-7				
Minor/ DSE-8				
Research Project/Dissertation	MTD-7291		12-0-0	12
		Total Credits	28-0-0	28

Minor/ DSE-7/Elective			
MTL7261/MTE-7261	Optimization Techniques	4-0-0	4
MTL 7242/MTE-7242	Survey Sampling	4-0-0	4

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

	Minor/ DSE-8/Elective		
MTE 7231	Advanced topics in Algebra	4-0-0	4
MTE 6251	Stochastic Process	4-0-0	4

Semester-X

Broad Category of Course	Course Code	Course Title	L-T-P	Credits
Major	MTL-7232	Differential Geometry	4-0-0	4
Major	MTL-7233	Functional Analysis	4-0-0	4
Minor/ DSE-9				
Minor/ DSE-10				
Research Project/Dissertation	MTD-7292		12-0-0	12
		Total Credits	28-0-0	28

	Minor/ DSE-9/Elective		
MTL 7242	Modern Applied Algebra	4-0-0	4
MTE 7242	Fluid Mechanics	4-0-0	4
	Minor/ DSE-10		
MTE 7016	Measure Theory	4-0-0	4
MTE 7232	Advanced Topics in Topology	4-0-0	4

Agenda for the 13th BoS Meeting of SoM to be held on 5th of FEBRUARY, 2025

