Department of Mathematics
HOLY CROSS COLLEGE (Autonomous)
Nationally Accredited with A+ by NAAC (CGPA 3.35-IV
Cycle), Nagercoil-629004, Kanyakumari District, Tamil Nadu, India.

Minutes of the Board of Studies meeting of the
Department of Mathematics held on 23.05.2023 at 10.00 am

Ref. No. MAT/ BOS/ 2022-2023/ XVII

Members :

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1. Dr. M. K. Angel Jebitha, M.Sc., M.Phil., B.Ed., Ph.D.,   - Member

2. Dr. S. Sujitha, M.Sc., M.Phil., B.Ed., Ph.D.,   - Member

3. Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D.,   - Member

4. Dr. J. Befija Minnie, M.Sc., B.Ed., M.Phil., Ph.D.,   - Member

5. Sr. S. Antony Mary, M.Sc., NET, SET.,   - Member

6. Dr. L. Jesmalar, M.Sc., B.Ed., M.Phil., Ph.D., SET.,   - Member

7. Dr. A. JancyVini, M.Sc., M.Phil., SET., Ph.D.,   - Member

8. Ms. J. C. Mahizha, M.Sc., M.Phil., SET   - Member

9. Dr. K. Jeya Daisy, M.Sc., B.Ed., M.Phil., Ph.D.,   - Member

10. Dr. A. Anat Jaslin Jini M.Sc., M.Phil., Ph.D.,   - Member

11. Dr. S. Kavitha, M.Sc., M.Phil., SET., Ph.D.,   - Member

12. Ms. J. Anne Mary Leema, M.Sc., B.Ed., SET.,   - Member

13. Dr. C. Jenila, M.Sc., B.Ed., M.Phil., Ph.D.,   - Member

14. Dr. J. Nesa Golden Flower, M.Sc., B.Ed., M.Phil., Ph.D.,   - Member

15. Mrs. Shiny M.Sc., M.Phil., M.Ed.,   - Member

16. Mrs. P. C. Priyanka Nair M.Sc., M.Phil., B.Ed.,   - Member

17. Miss.S. Karthika   - Student Representative (UG)

18. Miss Shiba   - Student Representative (PG)

Agenda

1. Prayer
2. Welcome by the Chairperson
3. Reading of the minutes of the previous meeting
4. Introductionof UGSchool
5. Revamping / Revision of curriculum for UG with PEOs, POs, PSOs and COs.
6. Revision of syllabus for UG Semester I and II
7. Ratificationof curriculum structure 2020-23
8. Syllabus for Value Added Courses
9. Introduction of PG School
10. Revamping / Revision of curriculum for PG with PEOs, POs, PSOs and COs.
11. Revision of syllabus for PG Semester I and II
12. Classification of New Courses / Multidisciplinary / Industry 4.0
13. Classification of courses as Employability / Entrepreneurship / Skill Development
14. Classification of courses as Local / National / Regional / Global
15. Classification of courses as Crosscutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics
16. Recommendation of books and journals for UG and PG
17. Suggestion for innovative teaching and evaluation techniques for UG and PG
18. Conduct of seminars / workshops in collaborations with Government Agents / Universities / NGOs.
19. New measures to be undertaken by the department
20. Feedback and action taken
21. Next meeting of BoS
22. Any other.

The Board of Studies meeting commenced with a prayer by Sr. Antin Mary. The members of the board, the Chairperson, University Nominee, Subject experts, Industrialist, Alumna and faculty of the Department, were present for the meeting.

Chairperson's Address

The Chair Person Dr. T. Sheeba Helen, welcomed the members and introduced them while briefing on the agenda for the conduct of the meeting.

The following items in the Agenda were discussed by the members of the Board.

Item 01/BoS. 23.05/03: Reading of the minutes of the previous meeting

Dr. T. Sheeba Helen read the minutes of the previous meeting which was approved by the members after incorporating the modifications/ suggestions given by the Academic council.

Item 02/BoS. 23.05/04: Introduction of UG School

School of Science

Biological Sciences – Botany, Zoology

Physical Sciences- Physics, Chemistry

Computing Sciences – Mathematics, Computer Science, Fashion Designing

School of Languages and Culture – Tamil, English, French, History

School of Management Studies – Commerce, Economics

Centre for Human Excellence – Life Ethics – Catechism, Bible Study, Moral, Human Rights Education, Gender Equity Studies and Environmental Studies.

Centre for Service Learning – Clubs and Committees, RUN, UBA

Centre for Upskilling – Certificate Courses, Value-added Course, MOOCs

The experts questioned whether the "Costume Designing and Fashion" programme can be included in School of Computing Sciences. Also they suggested that a school must have a chair person.

Item 03/BoS. 23.05/05: Revamping / Revision of curriculum for UG with PEOs, POs, PSOs and COs.

LOCF is an initiative to create positive improvement in the Higher Education which aims to equip students with knowledge, skills, values, attitudes, leadership readiness/ qualities and life-long learning.

Programme Educational Objectives (PEOs)

PEOs	Upon completion of B.Sc. degree programme, the graduates will be able to	Mission addressed
PEO 1	apply appropriate theory and scientific knowledge to participate in activities that support humanity and economic development nationally and globally, developing as leaders in their fields of expertise.	M1& M2
PEO 2	inculcate practical knowledge for developing professional empowerment and entrepreneurship and societal services.	M2, M3, M4 & M5
PEO 3	pursue lifelong learning and continuous improvement of the knowledge and skills with the highest professional and	M3, M4,

	ethical standards.	M5 & M6

Programme Outcomes (POs)

POs	Upon completion of B.Sc. Degree Programme, the graduates will be able to:	PEOs Addressed
PO1	obtain comprehensive knowledge and skills to pursue higher studies in the relevant field of science.	PEO 1
PO2	create innovative ideas to enhance entrepreneurial skills for economicindependence.	PEO2
PO3	reflect upon green initiatives and take responsible steps to build a sustainable environment.	PEO 2
PO4	enhance leadership qualities, team spirit and communication skills to face challenging competitive examinations for a better developmental career.	PEO 1&PEO 3
PO5	communicate effectively and collaborate successfully with peers to become competent professionals.	PEO 2&PEO 3
PO6	absorb ethical, moral and social values in personal and social life leading to highly cultured and civilized personality	PEO 2& PEO 3
PO7	participate in learning activities throughout life, through self-paced and self-directed learning to develop knowledge and skills.	PEO1 & PEO 3

Programme Specific Outcomes (PSOs)

PSO	Upon completion of B.Sc. Mathematics, the graduates will be able to:	Mapping with POs
PSO – 1	acquire good knowledge and understanding, to solve specific theoretical & applied problems in different area of mathematics & statistics.	PO1
PSO – 2	understand, formulate, develop mathematical arguments, logically and use quantitative models to address issues arising in social sciences, business and other context /fields.	PO6
PSO - 3	apply Mathematical theories and principles accurately, precisely and effectively including higher research and extensions	PO3 &PO7

PSO – 4	prepare the students who will demonstrate respectful engagement with other's ideas, behaviors, beliefs and apply diverse frames of references to decisions and actions	PO5 &PO6
PSO – 5	create effective entrepreneurs by enhancing their critical thinking, problem solving, decision making and leadership skill that will facilitate startups and high potential organizations	PO2 &PO4

Course Structure

Distribution of Hours and Credits

Curricular Courses

Course	SI	S II	S III	S IV	S V	SVI	Total	
							Hours	Credits
Part I –Language	6 (3)	6 (3)	6 (3)	6 (3)	-	-	24	12
Part II-English	6 (3)	6 (3)	6 (3)	6 (3)	-	-	24	12
Part-III								
Core Course Core Project	4 (4) 4 (4)	4 (4) 4 (4)	4 (4) 4 (4)	4 (4) 4 (4)	5 (4)+ 5 (4)+ 5 (4)+ 5 (4)	6(5)+ 6(4)+ 6(4)	70	61
Elective /Discipline Specific Elective Courses	6 (5)	6 (5)	6 (5)	6 (5)	4(3) 4 (3)	5(3) 5(3)	42	32
Part IV								
Non-major Elective	2 (2)	2 (2)	-	-	-	-	4	4
Skill Enhancement Course	-	2 (2)	1 (1) 2 (2)	1 (1) 2 (2)	-		8	8
Foundation Course	2(2)	-	-	-	-	-	2	2
Value Education	-	-	-	-	2 (2)	-	2	2
Summer Internship /Industrial Training	-	-	-	-	(2)	-	-	2
Environmental Studies	-	-	1	1 (2)	-	-	2	2
Extension activity	-	-	-	-	-	(1)	-	1
Professional Competency Skill						2 (2)	2	2
Total	30 (23)	30 (23)	30 (22)	30 (24)	30 (26)	30 (22)	180	140

Co-curricularCourses

Course	S I	S II	S III	S IV	S V	S VI	Total
LST (Life Skill Training)	-	(1)	-	(1)			2
Skill Development Training (Certificate Course)	(1)						1
Field Project		(1)					1
Specific Value-added Course	(1)		(1)				2
Generic Value-added Course				(1)		(1)	2
MOOC		(1)		(1)		(1)	3
Student Training Activity: Clubs & Committees / NSS				(1)			1
Community Engagement Activity: RUN				(1)			1
Human Rights Education					(1)		1
Gender Equity Studies						(1)	1
Total							15

Total number of Compulsory Credits = Academic credits + Non-academic credits: 140 + 15

Courses Offered

Semester I

Course	Course Code	Title of the Course	Credits	Hours/Week
Part I	TU231TL1 FU231FL1	Language: Tamil French	3	6
Part II	EU231EL1	English	3	6
Part III	MU231CC1	Core Course I: Algebra &Trigonometry	4	4
	MU231CC2	Core Course II:Differential Calculus	4	4
	MU231EC1	Elective Course I: Allied MathematicsI- Algebra and Differential Equations	5	6
Part IV	MU231NM1	Non Major Elective NME I: Mathematics For Competitive Examinations- I	2	2
	MU231FC1	Foundation Course: Bridge Mathematics	2	2
		Total	23	30

Semester II

Course	Course Code	Title of the Course	Credits	Hours/Week
Part I	TU232TL1 FU232FL1	Language: Tamil French	3	6
Part II	EU232EL1	English	3	6
Part III	MU232CC1	Core Course III: Coordinate and Spatial Geometry	4	4
	MU232CC2	Core Course IV: Integral Calculus	4	4
	MU232EC1	Elective Course II: Vector Calculus and Fourier Series	5	6
Part IV	MU232NM1	Non-major Elective NME II:Mathematics For Competitive Examinations- II	2	2
	MU232SE1	Skill Enhancement Course SEC I: Introduction to Computational Mathematics	2	2
		Total	**23**	**30**

Semester III

Course	Course Code	Title of the Course	Credits	Hours/Week
Part I	TU233TL1 FU233FL1	Language: Tamil French	3	6
Part II	EU233EL1	English	3	6
Part III	MU233CC1	Core Course V: Vector Calculus and Applications	4	4
	MU233CC2	Core Course VI: Differential Equations and Applications	4	4
	MU233EC1	Elective Course III: Mathematical Statistics	5	6
Part IV	MU233SE1	Skill Enhancement Course SEC II:(Entrepreneurial Skills): E- Commerce & Tally	1	1
	MU233SE2	Skill Enhancement Course SEC III: Statistics with R Programming	2	2
	UG234EV1	Environmental Studies	-	1
		Total	**22**	**30**

Semester IV

Course	Course Code	Title of the Course	Credits	Hours/Week
Part I	TU234TL1 FU234FL1	Language: Tamil French	3	6
Part II	EU234EL1	English	3	6
Part III	MU234CC1	Core Course VII: Industry Module – Industrial Statistics	4	4
	MU234CC2	Core Course VIII: Elements of Mathematical Analysis	4	4
	MU234EC1	Elective Course IV: Transformation Techniques	5	6
Part IV	MU234SE1	Skill Enhancement Course SEC IV:(Entrepreneurial Skills) Computing Mathematics	1	1
	MU234SE2	Skill Enhancement Course SEC V: Introduction to Data Science	2	2
	UG234EV1	Environmental Studies	2	1
		Total	24	30

Semester V

Course	Course Code	Title of the Course	Credits	Hours/Week
Part III	MU235CC1	Core Course IX: Abstract Algebra	4	5
	MU235CC2	Core Course X: Real Analysis	4	5
	MU235CC3	Core Course XI: Mathematical Modelling	4	5
	MU235PW1	Project Work	4	5
	MU235DE1	Discipline Specific Elective I: a)Number Theory	3	4
	MU235DE2	Discipline Specific Elective I: b) Astronomy		
	MU235DE3	Discipline Specific Elective I: c) Optimization Techniques		
	MU235DE4	Discipline Specific Elective II: a) Introduction to Machine Learning	3	4
	MU235DE5	Discipline Specific Elective II: b) Introduction to Python		
	MU235DE6	Discipline Specific Elective II: c) Introduction to Artificial Intelligence		
Part IV	MU235VE1	Value Education	2	2
	MU235SI1 /MU235IT1	Summer Internship/Industrial Training	2	-
		Total	26	30

Semester VI

Course	Course Code	Title of the Course	Credits	Hours/Week
Part III	MU236CC1	Core Course XII:Linear Algebra	5	6
	MU236CC2	Core Course XIII: Complex Analysis	4	6
	MU236CC3	Core Course XIV: Mechanics	4	6
	MU236DE1	Discipline Specific Elective III: a) Programming Language with C++ with Practical	3	5

Total number of Compulsory Credits = Academic credits +Non-academic credits: 140 + 15

Item 04/BoS. 23.05/06: Revision of syllabus for UG Semester I and II

The BoS members approved the Courses in Semesters I and Semester II for UG programme. and gave the following suggestions.

1. The syllabus for the Skill Enhancement course – III " Introduction to computational Mathematics " must be changed according to the book "Introductory Methods of Numerical Analysis" by S. S. Sastry
2. The Value added course Vedic Mathematics can be replaced with "Web Designing using HTML"

Item 05/BoS. 23.05/07: Ratification of curriculum structure 2020-23

The Ratification in 2020-23 structure for UG and PG programmes are as follows:

- Internship is introduced in semester IV/V of B. Sc Mathematics for 25 days
- The BoS members accepted the Value Added courses offered in Semesters II, IV and VI offered by the Department.
- The period of Internship for M. Sc Mathematics is minimum 25 days in semester II

Item 06/ BoS. 23.05/08: Syllabus for Value Added Courses

Specific Value-added Courses (SVC): They are offered in Semesters I, III and V, where students have to undergo the courses offered by the department. The BoS members approved syllabus for the Specific Value-added Course in Semester I for UG and PG programme.

Specific Value added Courses

S. No.	Course code	Title of the course	Total hours
1	MU231V01	Web Designing Using HTML	30
2	MP231V01	SCILAB	30

Generic Value-added Courses (GVC): They are offered in Semesters II, IV and VI where students can choose from the courses offered by all the departments.

Item 07/ BoS. 23.05/09: Introduction of PG School

School of Science

Biological Sciences – Botany, Zoology

Physical Sciences - Physics, Chemistry

Computing Sciences – Mathematics, Computer Science

School of Languages and Culture –English, History

School of Management Studies – Commerce, Economics

School of Human Excellence

School of Service Learning

Item 08 /BoS. 23.05/10: Revamping / Revision of curriculum for PG with PEOs, POs, PSOs and COs

LOCF is an initiative to create positive improvement in the Higher Education which aims to equip students with knowledge, skills, values, attitudes, leadership readiness/ qualities and life-long learning

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

POs	Upon completion of M. Sc. Degree Programme, the graduates will be able to:	Mapping with Mission
PEO1	apply scientific and computational technology to solve social and ecological issues and pursue research.	M1, M2
PEO2	continue to learn and advance their career in industry both in private and public sectors.	M4 & M5
PEO3	develop leadership, teamwork, and professional abilities to become a more cultured and civilized person and to tackle the challenges in serving the country.	M2, M5 & M6

PROGRAMME OUTCOMES (POs)

Pos	Upon completion of M.Sc. Degree Programme, the graduates will be able to:	Mapping with PEOs
PO1	apply their knowledge, analyze complex problems, think independently, formulate and perform quality research.	PEO1 & PEO2

PO2	carry out internship programmes and research projects to develop scientific and innovative ideas through effective communication.	PEO1, PEO2 & PEO3
PO3	develop a multidisciplinary perspective and contribute to the knowledge capital of the globe.	PEO2
PO4	develop innovative initiatives to sustain ecofriendly environment	PEO1, PEO2
PO5	through active career, team work and using managerial skills guide people to the right destination in a smooth and efficient way.	PEO2
PO6	employ appropriate analysis tools and ICT in a range of learning scenarios, demonstrating the capacity to find, assess, and apply relevant information sources.	PEO1, PEO2 & PEO3
PO7	learn independently for lifelong executing professional, social and ethical responsibilities leading to sustainable development.	PEO3

Programme Specific Outcomes(PSOs)

PSO	UponcompletionofM.Sc.DegreeProgramme,thegraduatesofMathe maticswillbeable to:	PO Addressed
PSO–1	acquire good knowledge and understanding, to solve specific theoretical & applied problems in different area of mathematics & statistics	PO1 & PO2
PSO–2	understand, formulate, develop mathematical arguments, logically and use quantitative models to address issues arising in social sciences, business and other context /fields.	PO3 & PO5
PSO–3	prepare the students who will demonstrate respectful engagement with other's ideas, behaviors, beliefs and apply diverse frames of references to decisions and actions	PO6
PSO–4	pursue scientific research and develop new findings with global impact using latest technologies.	PO4 & PO7
PSO–5	possess leadership, teamwork and professional skills, enabling them to become cultured and civilized individuals capable of effectively overcoming challenges in both private and public sectors.	PO5 & PO7

Course Structure

(i) Curricular Courses:

Distribution of Hours and Credits

Course	SEMESTER				Total	
	I	II	III	IV	Hours	Credits
Core– Theory	7(5) +	6(5)+	6(5) +	6(5) +	74	57

	7(5) + 6(4)	6(5)+ 6(4)	6(5) + 6(5) + 6 (4)	6 (5)		
Elective Course	5 (3) + 5 (3)	4 (3) + 4 (3)	3 (3) -	4 (3) -	25	18
Core Project		-		10 (7)	10	7
Skill Enhancement Course		4 (2)	3 (2)	4 (2)	11	6
Internship/ Industrial Activity			(2)		-	2
Extension Activity				(1)	-	1
Total	30 (20)	30 (22)	30 (26)	30 (23)	120	91

(ii) Co-curricular Courses

Course	SEMESTER				Total
	I	II	III	IV	Credits
Life Skill Training –I	-	(1)	-	-	1
Life Skill Training –II	-	-	-	(1)	1
Field Project	(1)		-		1
Specific Value-Added Courses	(1)		(1)		2
Generic Value-Added Courses		(1)		(1)	2
MOOC		(1)		(1)	2
Community Engagement Activity (UBA)		(1)			1

Total Number of Hours   =120

Total Number of Credits=91 + (10)

Non-academic courses are mandatory and conducted outside the regular working

Specific Value added Course

S. No.	Course code	Title of the course	Total hours
1	MP231V01	SCILAB	30
2.	MP231V02	Creating Documents using LaTex	30

Courses Offered
Semester I

Course Code	Title of the Course	Hours / Week	Credits
MP231CC1	Core Course I: Algebraic Structures	7	5
MP231CC2	Core Course II: Real Analysis I	7	5
MP231CC3	Core Course III: Ordinary Differential Equations	6	4
MP231EC1	Elective Course I: a) Number theory and Cryptography		
MP231EC2	Elective Course I: b) Graph Theory and Applications	5	3
MP231EC3	Elective Course I: c)Programming In C++		
MP231EC4	Elective Course II: a)Discrete Mathematics		
MP231EC5	Elective Course II: b) Analytic Number Theory	5	3
MP231EC6	Elective Course II:c) Fuzzy sets and their Applications		
	Total	30	20

Semester II

Course Code	Title of the Course	Hours / Week	Credits
MP232CC1	Core Course IV: Advanced Algebra	6	5
MP232CC2	Core Course V: Real Analysis II	6	5
MP232CC3	Core Course VI: Partial Differential Equations	6	4
MP232EC1	Elective Course III: a) Mathematical Statistics		
MP232EC2	Elective Course III: b)Statistical Data Analysis using R programming	4	3
MP232EC3	Elective Course III: c) Programming in C++Practical		
MP232EC4	Elective Course IV: a) Operations Modeling		
MP232EC5	Elective Course IV: b) Mathematical Python	4	3
MP232EC6	Elective Course IV: c) Neural Networks		

MP232SE1	Skill Enhancement Course I – Modelling and Simulation with Excel	4	2
	Total	**30**	**22**

Semester III

Course Code	Title of the Course	Hours / Week	Credits
MP233CC1	Core Course VII: Complex Analysis	6	5
MP233CC2	Core Course VIII: Probability Theory	6	5
MP233CC3	Core Course IX: Topology	6	5
MP233CC4	Core Course X: Core – Industry Module Mechanics	6	4
MP233EC1	Elective Course V: a)Stochastic Processes	3	3
MP233EC2	Elective Course V: b) Tensor Analysis and Relativity		
MP233EC3	Elective Course V: c)Financial Mathematics		
MP233SE1	Skill Enhancement Course II: Professional Communication Skill: Term paper & Seminar presentation Assignment of Problem by faculty Lecture - I (by the student) 25% Lecture - II (by the student) 25% Lecture - III (by the student) 25% Submission of a write-up(10to15pages using LaTex)25% Marks / Grade Points / Lecture Grade as per the Regulation)	3	2
MP233IS1	Internship/ Industrial activity (Carried out in Summer Vacation at the end of I year – 25 Days)	-	2
	Total	**30**	**26**

Semester IV

Course Code	Title of the Course	Hours / Week	Credits
MP234CC1	Core Course X: Functional Analysis	6	5
MP234CC2	Core Course XI: Differential Geometry	6	5
MP234PW1	Core Project	10	7
MP234EC1	Elective Course VI: a) Algebraic Topology	4	3

MP234EC2	Elective Course VI: b) Resource Management Techniques		
MP234EC3	Elective Course VI: c) Research Methodology		
MP234SE1	Professional Competency Skill Enhancement Course: Training for Competitive Examinations • Mathematics for NET / UGC - CSIR/ SET / TRB Competitive Examinations (2 hours) • General Studies for UPSC / TNPSC / Other Competitive Examinations (2 hours) OR Mathematics for Advanced Research Studies (4 hours)	4	2
MP234EA1	Extension Activity	-	1
	Total	**30**	**23**
	TOTAL	**120**	**91**

Item 09/BoS. 23.05/11: Revision of syllabus for PG Semester I and II

The BoS members approved the Courses in Semesters I and Semester II for PG programme. and gave the following suggestions.

1. "Modeling and Simulation with Excel" can be included in Skill Enhancement Course I.
2. While offering "Programming in C++ and Numerical Methods" in Elective I, the practical for the respective course must be offered in Skill Enhancement course I
3. Since "Topology" is a core paper in Semester III, "Algebraic Topology" can be offered in Semester IV
4. While offering "Statistical Data Analysis using R programming" , R programming practical must be offered in Skill Enhancement course II
5. The course "Mathematical Python" can be offered as an Elective Course
6. NPTEL courses can be included in Web Resources.

Item 10/BoS.23.05/12: Classification of New Courses / Multidisciplinary / Industry 4.0

The members of the Board classified the **UG courses** in the new structure based on New Courses/ Multidisciplinary / Industry 4.0

Sl.No	Semester	Course Code	Name of the Course	New Courses	Multi disciplinary courses	Industry 4.0
1	I	MU231CC1	Algebra &Trigonometry	✓	-	-
2	I	MU231CC2	Differential Calculus	✓	-	-
3	I	MU231EC1	Allied Mathematics I - Algebra and Differential Equations	-	-	-
4	I	MU231NM1	Mathematics For Competitive Examinations- I	✓	-	-
5	I	MU231FC1	Bridge Mathematics	✓	-	-
6	I	MU231V01	Web Designing using HTML	-	✓	✓
7	II	MU232CC1	Coordinate and Spatial Geometry	✓	-	-
8	II	MU232CC2	Integral Calculus	✓	-	-
9	II	MU232EC1	Vector Calculus and Fourier Series	-	-	-
10	II	MU232NM1	Mathematics for Competitive Examinations II	✓	-	-
11	II	MU232SE1	Introduction to Computational Mathematics	✓	-	-

The members of the Board classified the **PG courses** in the new structure based on New Courses/ Multidisciplinary / Industry 4.0

Sl.No	Semester	Course Code	Name of the Course	New Courses	Multi disciplinary courses	Industry 4.0
1.	I	MP231CC1	Algebraic Structures	-	-	-
2.	I	MP231CC2	Real Analysis I	✓	-	-
3.	I	MP231CC3	Ordinary Differential Equations	✓	-	
4.	I	MP231EC1	Number theory and Cryptography	✓	-	✓
5.	I	MP231EC2	Graph Theory and Applications	✓	-	
6.	I	MP231EC3	Programming In C++	-	✓	✓
7.	I	MP231EC4	Discrete Mathematics	✓	-	-
8.	I	MP231EC5	Analytic Number Theory	✓	-	-
9.	I	MP231EC6	Fuzzy sets and their Applications	✓	-	-
10.	I	MP231V01	SCILAB	-	✓	✓
11.	I	MP231V02	Creating Documents using LaTex	-	✓	✓
12.	II	MP232CC1	Advanced Algebra	✓	-	-
13.	II	MP232CC2	Real Analysis II	✓	-	-
14.	II	MP232CC3	Partial Differential Equations		-	-
15.	II	MP232EC1	Mathematical Statistics	✓	-	-
16.	II	MP232EC2	Statistical Data Analysis using R programming	✓	✓	✓
17.	II	MP232EC3	Programming in C++Practical	✓	✓	✓
18.	II	MP232EC4	Operations Modeling	✓		
19.	II	MP232EC5	Mathematical Python	✓	✓	✓
20.	II	MP232EC6	Neural Networks	✓	✓	
21.	II	MP232SE1	Modelling and Simulation with Excel	✓	✓	✓

Item 11/BoS. 23.05/13: Classification of courses as Employability / Entrepreneurship / Skill Development

The members of the Board classified the **UG courses** in the new structure based on Employability / Entrepreneurship / Skill Development

Sl. No	Semester	Course Code	Name of the Course	Employability	Skill Development
1.	I	MU231CC1	Algebra &Trigonometry	✓	✓
2.	I	MU231CC2	Differential Calculus	✓	✓
3.	I	MU231EC1	Allied Mathematics I - Algebra and Differential Equations	-	✓
4.	I	MU231NM1	Mathematics For Competitive Examinations- I	✓	✓
5.	I	MU231FC1	Bridge Mathematics	-	✓
6.	I	MU231V01	Web Designing using HTML		✓
7.	II	MU232CC1	Coordinate and Spatial Geometry	✓	✓
8.	II	MU232CC2	Integral Calculus		✓
9.	II	MU232EC1	Vector Calculus and Fourier Series	✓	✓
10	II	MU232NM1	Mathematics for Competitive Examinations II	✓	✓
11	II	MU232SE1	Introduction to Computational Mathematics	✓	✓

The members of the Board classified the **PG courses** in the new structure based on Employability / Entrepreneurship / Skill Development

Sl. No	Semester	Course Code	Name of the Course	Employability	Entrepreneurship	Skill development
1.	I	MP231CC1	Algebraic Structures	-	-	✓
2.	I	MP231CC2	Real Analysis I	-	-	✓
3.	I	MP231CC3	Ordinary Differential Equations	✓	-	✓
4.	I	MP231EC1	Number theory and Cryptography	✓	-	✓
5.	I	MP231EC2	Graph Theory and Applications	✓	-	✓
6.	I	MP231EC3	Programming In C++	✓	-	✓
7.	I	MP231EC4	Discrete Mathematics	✓	✓	✓
8.	I	MP231EC5	Analytic Number Theory	-	-	✓
9.	I	MP231EC6	Fuzzy sets and their Applications	-	-	✓
10.	I	MP231V01	SCILAB	-	-	✓
11.	I	MP231V02	Creating Documents using LaTex	-	-	✓
12.	II	MP232CC1	Advanced Algebra	✓	-	✓
13.	II	MP232CC2	Real Analysis II		-	✓
14.	II	MP232CC3	Partial Differential Equations	✓	-	✓
15.	II	MP232EC1	Mathematical Statistics	-	✓	✓
16.	II	MP232EC2	Statistical Data Analysis using R programming	✓	-	✓
17.	II	MP232EC3	Programming in	✓	-	✓

			C++Practical			
18.	II	MP232EC4	Operations Modeling	-	✓	✓
19.	II	MP232EC5	Mathematical Python	✓	-	✓
20.	II	MP232EC6	Neural Networks	-	-	✓
21.	II	MP232SE1	Modelling and Simulation with Excel	✓	-	✓

Item 12/BoS. 23.05/14: Classification of Courses as Local / National / Regional / Global

The members of the Board classified the **UG courses** in the new structure based on Local / National / Regional / Global

Sl. No	Semester	Course Code	Name of the Course	National	Regional	Global
1.	I	MU231CC1	Algebra &Trigonometry	✓	-	-
2	I	MU231CC2	Differential Calculus	✓	-	-
3	I	MU231EC1	Allied Mathematics I - Algebra and Differential Equations	✓	-	-
4	I	MU231NM1	Mathematics For Competitive Examinations- 1	-	✓	-
5	I	MU231FC1	Bridge Mathematics	✓	-	-
6	I	MU231V01	Web Designing using HTML		-	-
7	II	MU232CC1	Coordinate and Spatial Geometry	✓	-	-
8	II	MU232CC2	Integral Calculus	✓	-	-
9	II	MU232EC1	Vector Calculus and Fourier Series	✓		-
10	II	MU232NM1	Mathematics for Competitive Examinations II	-	✓	-
11	II	MU232SE1	Introduction to Computational Mathematics	-	-	✓

The members of the Board classified the **PG courses** in the new structure based on Local / National / Regional / Global

Sl.No	Semester	Course Code	Name of the Course	Global
1	I	MP231CC1	Algebraic Structures	✓
2	I	MP231CC2	Real Analysis I	✓
3	I	MP231CC3	Ordinary Differential Equations	✓
4	I	MP231EC1	Number theory and Cryptography	✓
5	I	MP231EC2	Graph Theory and Applications	✓
6	I	MP231EC3	Programming In C++	✓
7	I	MP231EC4	Discrete Mathematics	✓
8	I	MP231EC5	Analytic Number Theory	✓
9	I	MP231EC6	Fuzzy sets and their Applications	✓
10	I	MP231V01	SCILAB	✓
11	I	MP231V02	Creating Documents using LaTex	✓
12	II	MP232CC1	Advanced Algebra	✓
13	II	MP232CC2	Real Analysis II	✓
14	II	MP232CC3	Partial Differential Equations	✓
15	II	MP232EC1	Mathematical Statistics	✓
16	II	MP232EC2	Statistical Data Analysis using R programming	✓
17	II	MP232EC3	Programming in C++Practical	✓
18	II	MP232EC4	Operations Modeling	✓
19	II	MP232EC5	Mathematical	✓

				Python	
20	II	MP232EC6		Neural Networks	✓
21	II	MP232SE1		Modelling and Simulation with Excel	✓

Item 13/BoS. 23.05/15: Classification of Courses as Crosscutting Issues

The members of the Board classified the **UG courses** in the new structure based on Crosscutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics

Sl. No	Semester	Course Code	Name of the Course	Human Values
1	I	MU231CC2	Core Course II: Differential Calculus	-
2	I	MU231EC1	Elective Course I: Algebra and Differential Equations	-
3	I	MU231EC1	Allied Mathematics I - Algebra and Differential Equations	-
4	I	MU231NM1	Non Major Elective NME I: Mathematics for Competitive Examinations I	-
5	I	MU231FC1	Foundation Course: Bridge Mathematics	-
6	I	MU231V01	Web Designing using HTML	-
7	I & II	UG232LC1	Life Skill Training I: Catechism	✓
		UG232LM1	Life Skill Training I: Moral	✓
8	II	MU232CC1	Core Course III: Coordinate and Spatial Geometry	-
9	II	MU232CC2	Core Course IV: Integral Calculus	-
10	II	MU232EC1	Elective Course II: Vector Calculus and Fourier Series	-
11	II	MU232NM1	Non-major Elective NME II: Mathematics For Competitive Examinations- II	-
12	II	MU232SE1	Skill Enhancement Course SEC I: Introduction to Computational Mathematics	-

Item 14/BoS. 23.05/16: Recommendation of books and journals for UG and PG

The expert committee members suggested the following books

1. Web Technology and Design – C.Xavier
2. Introductory Methods of Numerical Analysis -S. S. Sastry

The expert committee members suggested the following journals

1. Indian Journal of Pure and Applied Mathematics.
2. AKCE international Journal of Graph and Combinatorics
3. Indian Journal of Discrete Mathematics
4. The Journal of Indian Mathematical Society

Item 15 /BoS. 23.05/17: Suggestion for innovative teaching and evaluation techniques for UG and PG

1. For a teacher looking for innovative teaching methods in a classroom, turning towards the latest technology will offer a vast number of updated solutions depending on the need of the students.
2. The use of technology in the classroom makes the content of the classroom more interesting and makes learning fun.
3. Teachers should take initiative and responsibility to evaluate their teaching and make improvement overtime.

Item 16/BoS. 23.05/18: Conduct of seminars / workshops in collaborations with Government Agents / Universities / NGOs

The number of seminars, Conference conducted during the academic year 2022-2023

was found to be satisfactory and sufficient for Mathematics

Item 17/BoS. 23.05/19: New measures to be undertaken by the department

1. Introduce interactive online tutorials to supplement classroom learning and provide additional practice.
2. Implement peer tutoring sessions where advanced students can help their peers struggling with certain concepts.
3. Organize regular workshops and seminars to showcase real-world applications of mathematical principles.

Item 18/BoS. 23.05/20: Feedback and action taken

Feedback Received

1. The syllabus must be updated with input from industry experts and teachers.
2. The workshops organized by the department are helpful.
3. It would be beneficial to include computer-related courses to improve our skills.
4. The teaching methods are effective.
5. Courses on Mathlab and LaTeX would be useful.
6. Overall, the curriculum and education are good, but maybe we could reduce the syllabus and focus more on practical skills and real-world applications.

Action Taken

1. Collaborated with industry experts and teachers to update the syllabus.
2. Increased the frequency and variety of workshops organized by the department to further assist students.
3. Introduced additional computer-related courses to enhance students' skills.
4. Implemented teaching methods that have been deemed effective by students.
5. One of these courses is about making documents with LaTeX.
6. Revising the curriculum to streamline the syllabus and prioritize practical skills and real-world applications.

Feedback from the Student Representatives
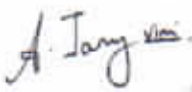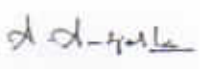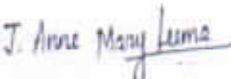
Sl No	Name of the Student	Feedback	Action Taken	Signature
1	Miss S. Karthika (UG)	Design curriculum components that bridge the gap between high school Mathematics and college-level Mathematics	We have planned to incorporate a Foundation Course called "Bridge Mathematics" into the undergraduate syllabus.	Karthika. S
2	Miss Shiba (PG)	Applications of the courses can be explained.	Planned to explain the applications of the specific course through lecture method.	Shiba. P A

Item 19/BoS. 23.05/21:Next meeting of BoS

The members of the board suggested to have the next meeting of Board of Studies tentatively in the month of December, 2023.

Name of the Members	Designation	Signature
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Dr. S. Sujitha, M.Sc., M.Phil., B.Ed., Ph.D.,	"	V. Sujin Flower

Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D.,	,,	
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Dr. L. Jesmalar, M.Sc., B.Ed., M.Phil., Ph.D., SET.,	,,	
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Mrs. Shiny M.Sc., M.Phil., M.Ed.,	,,	
Mrs. P. C. Priyanka Nair M.Sc., M.Phil., B.Ed.,	,,	