



Department of Mathematics

Holy Cross College (Autonomous)

Nationally Re-Accredited with A+ by NAAC (CGPA 3.35-IV Cycle),
Nagercoil-629004, Kanyakumari District, TamilNadu, India.



Minutes of the Board of Studies meeting of the Department of Mathematics held on 26.11.2021 at
10.00 AM via Google Meet

Ref. No. MAT/ BoS/ 2021-2022/ XVI

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- i. Dr. T. Sheeba Helen, M.Sc., M.Phil., B.Ed., Ph.D., - Member
- ii. Ms. G. Jovit Vinish Melma M.Sc., B.Ed., M.Phil.,
(Substitute for Dr. M. K. Angel Jebitha, M.Sc., M.Phil., B.Ed., Ph.D.,) - Member
- iii. Dr. S. Sujitha, M.Sc., M.Phil., B.Ed., Ph.D., - Member
- iv. Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D., - Member
- v. Dr. J. Befija Minnie, M.Sc., B.Ed., M.Phil., Ph.D., - Member
- vi. Sr. S. Antony Mary, M.Sc., NET, SET., - Member
- vii. Dr. L. Jesmalar, M.Sc., B.Ed., M.Phil., Ph.D., SET., - Member
- viii. Dr. A. Jancy Vini, M.Sc., M.Phil., SET., Ph.D., - Member
- ix. Ms. J.C. Mahizha, M.Sc., M.Phil., SET - Member
- x. Dr. K. Jeya Daisy, M.Sc., B.Ed., M.Phil., Ph.D., - Member
- xi. Ms. J. Anne Mary Leema, M.Sc., B.Ed., SET., - Member
- xii. Ms. R.N. Rajalekshmi, M.Sc., B.Ed., M.Phil., SET., - Member
- xiii. Dr. S. Kavitha, M.Sc., M.Phil., SET., Ph.D., - Member
- xiv. Ms. V. Princy Kala, M.Sc., M.Phil., SET - Member
- xv. Dr. C. Jenila, M.Sc., B.Ed., M.Phil., Ph.D., - Member

xvi. Ms.G. Indhu, M.Sc., B.Ed.,	- Member
xvii. Ms.C. JoselinJenisha , M.Sc., B.Ed., M.Phil., SET.,	- Member
xviii Dr. J.C. Eveline, M.Sc., Ph.D.,	- Member
xix. Miss. V. Susan Tharasa	- Student Representative
xx. Miss .T. JeyaAarya	- Student Representative

Agenda

1. Prayer
2. Welcome by the Chairperson
3. Reading of the minutes of the previous meeting
4. Revamping / Revision of Curriculum of UG
5. UG Syllabus for Semester V and VI
6. Classification of New Courses
7. Classification of courses as Employability / Entrepreneurship / Skill Development
8. Classification of courses as Local / National / Regional / Global
9. Classification of courses as Crosscutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics
10. Recommendation of books and journals for UG and PG
11. Feedback and action taken
12. Next Meeting of BoS
13. Any other.

The Board of Studies meeting commenced with a prayer by Dr. V. M. Arul Flower 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 and Head of the Department, Dr. V. M. Arul Flower Mary, 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/BoS21.11/03: Reading of the minutes of the previous meeting

Dr. V. M. Arul Flower Mary 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/BoS21.11/04: Revamping / Revision of Curriculum of UG

The overall structure of the curriculum framed in 2020 was accepted by the board with the following modifications .

UG Course Structure
Distribution of Hours and Credits

Course	Sem.	Sem.	Sem.	Sem.	Sem.	Sem.	Total	
	I	II	III	IV	V	VI	Hours	Credits
Part I–Language	6 (4)	6 (4)	6 (4)	6 (4)	-	-	24	16
Part II-English	6 (4)	6 (4)	6 (4)	6 (4)	-	-	24	16
Part-III								
Major Core	6(4)	6(4)	6(4)+ 5(4)	6(5) +5(4)	6 (5) + 6 (5) + 6 (4)	6 (5) + 6 (5) + 5 (4) + 5 (4)	74	57
Major Elective	-	-	-	-	5 (4)	6 (4)	11	8
Major Project	-	-	-	-	5 (5)	-	5	5
Allied	6 (4)	6(4)	5(5)	5(5)	-	-	24	16
Part IV								
Add-on Course (Professional English)	2 (2)	2 (2)	2 (2)	2 (2)	-	-	8	8
NME (Non-Major Elective)	2 (2)	2 (2)	-	-	-	-	4	4
SEC (Skill Enhancement Course)	2 (2)	2 (2)	-	-	-	2 (2)	6	6
AEC (Ability Enhancement Course)	-	-	-	-	2 (2)	-	2	2
Total	30 (22)	30 (22)	30 (23)	30 (24)	30 (25)	30 (24)	180	140
Non-Academic Course								
Part V								
FC – I (Values for Life)	-	(1)	-	-	-	-	-	1
FC – II (Personality Development)	-	-	-	(1)	-	-	-	1
FC–III (Human Rights Education)	-	-	-	-	(1)	-	-	1
FC –IV (Gender Equity Studies)	-	-	-	-	-	(1)	-	1

SLP-Community Engagement Course	-	(1)	(1)	-	-	-	-	2
SLP-Extension activity (RUN)	-	-	(1)	(1)	-	-	-	2
STP - Clubs & Committees / NSS	-	(1)	-	(1)	-	-	-	2

* Mandatory Courses conducted outside the regular working hours.

Total number of Hours = 180

Total number of Compulsory Credits = 140+10

Courses Offered

V	Part III	MC2051	Major Core VII: Linear Algebra	6	5
		MC2052	Major Core VIII: Real Analysis II	6	5
		MC2053	Major Core IX: Computer Oriented Numerical Methods	6	4
		MC20PR	Major - Project	5	5
		MC2055	Elective I (a) Graph Theory	5	4
	MC2056	(b) Fuzzy Mathematics			
	MC2057	(c) Object Oriented Programming with C++			
	Part IV	AEC201	AEC - Ability Enhancement Course: Environmental Studies	2	2
Part V	FCV203	Foundation Course III: Human Rights Education (HRE)	-	1	
VI	Part III	MC2061	Major Core X: Complex Analysis	6	5
		MC2062	Major Core XI: Mechanics	6	5
		MC2063	Major Core XII: Number Theory	5	4
		MC2064	Major Core XIII: Linear Programming	5	4
		MC2065	Elective II: (a) Astronomy	6	4
		MC2066	(b) Boolean Algebra		
		MC2067	(c) Web Designing with HTML		

	Part IV	SEM203	Skill Enhancement Course (*SEC) : Mathematics for Competitive Examination	2	2
	Part V	FCV204	Foundation Course IV: Gender Equity Studies	-	1

Self-Learning Courses- Extra Credit Courses

Semester	Course Code	Title of the Course	Credits
III /V	MC20S1	Discrete Mathematics– I	2
IV/VI	MC20S2	Discrete Mathematics– II	2

Value Added Courses

Semester	Course Code	Title of the Course	Total Hours
III /V	VAM201	Quick Arithmetic for Competitive Examinations	30
IV/VI	VAM202	Training for TNPSC and other Government Examinations	30
V	VAM207	Educational Psychology	30
VI	VAM208	Fundamentals of Algorithm	30

Item 03/BoS21.11/05: UG Syllabus for Semester V and VI

The modified syllabus for the fifth and sixth semesters for the UG programme were approved by the Board.

Courses offered for the students of **B.Sc. Mathematics** are given in the following structure.

SemesterV	Course Code	Course	Hours per week	Credit	Total marks
Part III	MC2051	Linear Algebra	6	5	100

Part III	MC2052	Real Analysis II	6	5	100
Part III	MC2053	Computer Oriented Numerical Methods	6	4	100
Part III	MC20PR	Project	5	5	100
Part III	MC2055	Graph Theory	5	4	100
Part IV	AEC201	AEC(Ability Enhancement Course); Environmental Studies	2	2	100
Part V	FCV205	Foundation Course III - Human Rights Education (HRE)	-	1	100

Semester VI	Course Code	Course	Hours per week	Credit	Total marks
Part III	MC2061	Complex Analysis	6	5	100
Part III	MC2062	Mechanics	6	5	100
Part III	MC2063	Number Theory	5	4	100
Part III	MC2064	Linear Programming	5	4	100
Part III	MC2065	Astronomy	6	4	100
Part IV	SEM203	Skill Enhancement Course (*SEC) – Mathematics for Competitive Examinations	2	2	100
Part V	FCV204	Foundation Course IV – Gender Equity studies	-	1	100

The BoS members approved the Courses in Semester V and Semester VI for UG programme.

The following are the revisions and changes made in the UG programme.

The following are the revisions and the changes in the syllabus of V Semester & VI semesters.

Sl.No.	Semester	Course Code	Course Title	Changes	
				Removed (if any)	Addition (if any)
1.	V	MC2051	Linear		Lattice Theory

			Algebra		
2.	V	MC2052	Real Analysis II	Countable and uncountable sets	Contraction and Contraction Mapping Theorem
3.	V	MC2053	Computer Oriented Numerical Methods	Nil	Theory from C language.(Two full units included with 4 hours theory and 2 hours practical)
	V	MC2055	Graph Theory	Chromatic Polynomials	Domination in graphs
4.	VI	MC2061	Complex Analysis	Unit I	Analytic functions
5.	VI	MC2062	Mechanics	Unit V	In Unit – I, Forces Acting at a Point: Resultant and Components - Sample cases of finding the resultant – Analytical expression for the resultant of two forces acting at a point – Triangle forces – Perpendicular Triangular forces – Converse of the Triangle of Forces- The Polygon of Forces. In Unit – V, Motion under the action of central forces.
6.	VI	MC2064	Linear Programming	Preliminaries in Unit I	In Unit V, Sequencing problem
7.	VI	MC2065	Astronomy	In Unit III, Refraction and Unit V	In Unit III, Heliocentric Parallax, effect of Heliocentric Parallax, to find the effect of Parallax on the Longitude and Latitude of a Star – Parsec In Unit IV, To fix the position of a planet in

					it's elliptic orbit – Geocentric and Heliocentric latitudes and longitudes – To prove that the Heliocentric longitude of the Earth and Geocentric longitude of the Sun differ by 180° Unit V - The Two Body Problem
8.	VI	SEM203	Skill Enhancement Course (*SEC) – Mathematics for Competitive Examinations	All the five Units	All the five Units are replaced.

Item 04/BoS21.11/06: Classification of New Courses

SLNo	Semester	Course Code	Name of the Course	New Courses
1.	V	MC2051	Linear Algebra	-
2.	V	MC2052	Real Analysis II	-
3.	V	MC2053	Computer Oriented Numerical Methods	✓
4.	V	MC20P R	Project	-
5.	V	MC2055	Graph Theory	✓
6.	VI	MC2061	Complex Analysis	
7.	VI	MC2062	Mechanics	✓
8.	VI	MC2063	Number Theory	
9.	VI	MC2064	Linear Programming	✓
10.	VI	MC2065	Astronomy	✓
11.	VI	SEM203	Skill Enhancement Course (*SEC) – Mathematics for Competitive Examinations	✓

Item 05/BoS21.11/07 Classification of courses as Employability / Entrepreneurship / Skill Development

SLNo	Semester	Course Code	Name of the Course	Employability	Entrepreneurship	Skill development
1.	V	MC2051	Linear Algebra			✓
2.	V	MC2052	Real Analysis II			✓
3.	V	MC2053	Computer Oriented Numerical Methods		✓	✓
4.	V	MC20PR	Project			✓
5.	V	MC2055	Graph Theory	✓	✓	✓
6.	VI	MC2061	Complex Analysis			✓
7.	VI	MC2062	Mechanics	✓		✓
8.	VI	MC2063	Number Theory	✓	✓	✓
9.	VI	MC2064	Linear Programming	✓		
10.	VI	MC2065	Astronomy	✓		✓
11.	VI	SEM203	Skill Enhancement Course (*SEC) – Mathematics for Competitive Examinations	✓		✓

Item 07/BoS21.11/09: 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

SLNo	Semester	Course Code	Name of the Course	National	Regional	Global
1.	V	MC2051	Linear Algebra	✓		
2.	V	MC2052	Real Analysis II	✓		
3.	V	MC2053	Computer Oriented Numerical Methods			✓
4.	V	MC20PR	Project	✓		
5.	V	MC2055	Graph Theory	✓		
6.	VI	MC2061	Complex Analysis	✓		
7.	VI	MC2062	Mechanics	✓		

8.	VI	MC2063	Number Theory	✓		
9.	VI	MC2064	Linear Programming	✓		
10.	VI	MC2065	Astronomy			✓
11.	VI	SEM203	Skill Enhancement Course (*SEC) – Mathematics for Competitive Examinations		✓	

Item 07/BoS21.11/09: Classification of courses as Crosscutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics

The members of the Board classified the UG courses as Crosscutting Issues Gender Equity / Environment and Sustainability / Human Values / Professional Ethics

Sl.No	Semester	Course Code	Name of the Course	Gender Equity	Environment and Sustainability
1.	V	MC2051	Linear Algebra	-	-
2.	V	MC2052	Real Analysis II	-	-
3.	V	MC2053	Computer Oriented Numerical Methods	-	-
4.	V	MC20PR	Project	-	-
5.	V	MC2055	Graph Theory	-	✓
6.	VI	AEC201	AEC(Ability Enhancement Course): Environmental Studies	-	-
7.	VI	MC2062	Mechanics	-	-
8.	VI	MC2063	Number Theory	-	-
9.	VI	MC2064	Linear Programming	-	-
10.	VI	MC2065	Astronomy	-	✓
11.	VI	SEM203	Skill Enhancement Course (*SEC) – Mathematics for Competitive Examinations	-	-
12.	VI	FCV204	Foundation Course IV – Gender Equity studies	✓	-

Item 08/BoS21.11/10: Recommendation of books and journals for UG

The BoS members recommended the following books based on the modified/Revised syllabus for **B.Sc. Mathematics**.

1. Computer Oriented Numerical Methods - Programming in ANSI C, E. Balagurusamy, McGraw Hill Education (India) private Limited.(Eighth Edition)

2. Graph Theory

(i) S. A. Choudum, A First Course in Graph Theory, Macmillan India Ltd., 2011.

(ii) V. R. Kulli, (2010). Theory of Domination in Graphs. Vishwa International Publications, Gulbarga.

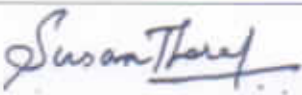

Item 09/BoS21.11/11: Feedback and action taken

Feedback Received

The preference is for offline classes due to satisfaction with the course and syllabus quality. The teaching techniques employed are appreciated, although there's room for improvement in soft skills and spoken English. Overall, satisfaction exists with the teaching methods and departmental discipline. The curriculum and syllabus are considered good.

Action Taken



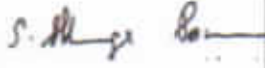
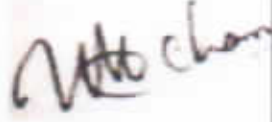

Offline classes have resumed, accompanied by various programs aimed at skill enhancement. In response to student requests, spoken English classes have been organized. The department has taken initiatives to further improve skills and has made extra efforts to adopt new teaching pedagogies for the betterment of the student community.

Sl.No	Student Representative	Feedback	Action Taken	Signature
1	Miss. V. SusanTharasa	Skill oriented courses can be introduced.	Value Added Courses based on skill development has been introduced.	
2	Miss .T. JeyaAarya	Introduce SET/NET syllabus.	SET/NET syllabus is introduced as Self Learning Course	

Item 10/BoS21.11/012 Next Meeting of the BoS

The members of the board suggested to have the next meeting of BoS in the month of August, 2022.

The meeting ended at 12 noon with the vote of thanks by Dr. T. Sheeba Helen.

Name of the Members	Designation	Signature
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Dr. V. Sujin Flower, M.Sc., M.Phil., Ph.D.,	"	<u>V. Sujin Flower</u>
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Ms. R.N. Rajalekshmi, M.Sc., B.Ed., M.Phil., SET.,	"	<u>R N Rajalekshmi</u>

Dr .S. Kavitha, M.Sc., M.Phil., SET.,Ph.D.,	”	<u>Shanika</u>
Ms. V. Princy Kala, M.Sc., M.Phil., SET	”	<u>Pamy</u>
Dr. C. Jenila, M.Sc., B.Ed., M.Phil., Ph.D.,	”	<u>Jenila</u>
Ms. V.G. Michael Florence, M.Sc., M.Phil.,	”	<u>Flora</u>
Ms. C. Joselin Jenisha , M.Sc., B.Ed., M.Phil., SET.,		<u>Joselin Jenisha</u>
Dr. J.C. Eveline, M.Sc., Ph.D.,		<u>J.C. Eveline</u>