

**PG AND RESEARCH DEPARTMENT OF MATHEMATICS**  
**NALLAMUTHU GOUNDER MAHALINGAM COLLEGE**  
**POLLACHI - 642001**

12<sup>th</sup> Board of Studies Meeting conducted in an online mode  
22.05.2021 & Time: 10.00 a.m.

Agenda

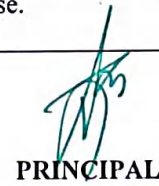
BoS / DM 12.1	:	Welcome address and Opening Remarks by Chairman, Board of studies, DEPARTMENT OF MATHEMATICS.
BoS / DM 12.2	:	Confirmation of the Minutes of the Previous meeting of Board of studies in the DEPARTMENT OF MATHEMATICS held on 22.02.20 and Action taken report of 11 <sup>th</sup> meeting of Board of studies
BoS / DM 12.3	:	12.3.1 Syllabus of I BSc MATHEMATICS under Regulation 2021.
	:	12.3.2 Syllabus of II BSc MATHEMATICS under Regulation 2021.
	:	12.3.3 Syllabus of III BSc MATHEMATICS under Regulation 2021.
	:	12.3.4 Syllabus of I MSc MATHEMATICS under Regulation 2021.
	:	12.3.5 Syllabus of II MSc MATHEMATICS under Regulation 2021.
	:	1. Decided to offer internship programme in schools for Undergraduate students during their summer vacation at the end of the fourth semester. 2. Decided to provide certificate course on Data Analytics and Python for PG students (Optional).
BoS / DM 12.4	:	Suggestion given by BOS Members
BoS / DM 12.5	:	Two more value added course for UG course.

DM – Short Form of Department of Mathematics.



**Head of the Department**

**Dr. V. Inthumathi, Ph.D.,**  
Associate Professor & Head  
Department of Mathematics  
N.G.M College, Pollachi - 642 001.

  
**PRINCIPAL**

**Dr. R. MUTHUKUMARAN M.A., M.Phil., B.Ed., Ph.D.,**  
Principal  
Nallamuthu Gounder Mahalingam College,  
Pollachi - 642 001.

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE, POLLACHI

DEPARTMENT OF MATHEMATICS


MINUTES OF BOS MEETING

The 12<sup>th</sup> Meeting of the Board of studies of the Department of Mathematics was held on 22.05.2021 at 10.00 a.m. conducted in an online mode. (<https://meet.google.com/sis-ruit-ixq>)

1. Members of the Board of Studies meeting:

1.	Dr. V. INTHUMATHI Associate Professor and Head	Chairman
2.	Dr. J. JAYASUDHA Assistant Professor	Internal Members
3.	Dr. V. CHITRA Assistant Professor	
4.	Dr. S. SIVASANKAR Assistant Professor	
5.	Mr. P. SIRAVANAN Assistant Professor	
6.	Dr. S. KALEESWARI Assistant Professor	
7.	Mrs. M. AMSAVENI Assistant Professor	
8.	Mrs. A. GNANASOUNDARI Assistant Professor	
9.	Dr. N. SELVANAYAKI Assistant Professor	
10.	Dr. M. MAHESWARI Assistant Professor	
11.	Mr. S. EARNEST RAJADURAI (SF Mathematics) Assistant Professor and Head	
12.	Mr. V. SREERAMAKRISHNAN (SF Mathematics) Assistant Professor	
13.	Ms. S. SENPAGAM(SF Mathematics) Assistant Professor	
14.	Ms. S. MAHALAKSHMI(SF Mathematics) Assistant Professor	
15.	Ms. A. ARUNADEVI(SF Mathematics) Assistant Professor	
16.	Dr. S. MONIKANDAN, Associate Professor, Department of Mathematics, M. S. University, Tirunelveli – 627 012	University Nominee

17.	Dr. NIVETHA MARTIN, Assistant Professor, Department of Mathematics, Arul Anandar College (Autonomous), Karumathur.	Academic Expert
18.	K. V. GAYATHRI (Ex) Administrative Officer, LIC of India.	Industrial Expert
19.	R.SUBASINI Assistant Professor and Head, Department of Science and Humanities, Pollachi Institute of Engineering and Technology, Pollachi – 642 205.	Alumni
20.	Dr. GOPALSEKAR, Associate Professor and Head, Department of Mathematics, KanchiMamunivarcetre for Post GraduateStudies, Pondicherry.	Academic Auditor
21.	C.KOWSALYAHARISHANTHI II M. Sc., Mathematics	Student Members
22.	V. S. RAMIDHA III B. Sc., Mathematics	

  
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**BoS/MA12.1 WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN,  
BOARD OF STUDIES, DEPARTMENT OF MATHEMATICS**

The Chairman, BoS of the Department of Mathematics welcomed and introduced the members of 12th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

**BoS/MA 12.2 TO CONFIRM THE MINUTES OF 11<sup>th</sup> BOS MEETING HELD ON 22.02.2020.**

The minutes of the 11<sup>th</sup> Board of Studies meeting held on 22.02.2020 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 11<sup>th</sup> Academic council.

~Action Taken Report (Enclosed in Annexure I)



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BoS/MA 12.3

BoS/MA 12.3.1

I BSc MATHEMATICS (I & II SEMESTER)

The presented syllabus was accepted by the experts fully without further suggestions.

BoS/MA 12.3.2

II BSc MATHEMATICS (III & IV SEMESTER)

The presented syllabus was accepted by the experts fully without further suggestions.

BoS/MA 12.3.3

III BSc MATHEMATICS (V & VI SEMESTER)

The presented syllabus was accepted by the experts fully without further suggestions.

**New Course Added:**

The following Skill Based Elective papers for III B. Sc., MATHEMATICS were accepted by the experts fully without further suggestions.

V SEMESTER- 1.Financial Mathematics – I (21UMS5S11)

VI SEMESTER-2.Financial Mathematics – II (21UMS6S21)

These changes have been made effect for the students admitted in the academic year 2021-22 with V and VI Semesters accordingly.

BoS/MA 12.3.4

I MSc MATHEMATICS (I & II SEMESTER)

The presented syllabus was accepted by the experts fully without further suggestions.

BoS/MA 12.3.5

II MSc MATHEMATICS (III & IV SEMESTER)

The presented syllabus was accepted by the experts fully without further suggestions.


**New Course Added:**

The following Core paper for II M. Sc., MATHEMATICS was accepted by the experts fully without further suggestions.

IV SEMESTER

Algebraic Topology(21PMS417) instead of Control Theory.

  
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BoS/MA12.4 SUGGESTIONS GIVEN BY THE BoS MEMBERS (External)

12.4.1: Subject Expert **Dr. Nivetha Martin** gave the following suggestions for the syllabus based on OBE (Outcome Based Education).

1. The programme outcomes shall be given as overall outcome for all B. Sc. degree programmes offered by the college.
2. The programme specific outcomes should be specific to the concerned branch.
3. The knowledge level of the course outcomes shall be confined for B.Sc., programmes up to level K3 and K4.

12.4.2: University Nominee **Dr. S. Monikandan** mentioned the following comments and recommendations.

1. Appreciated the introduction of new course Algebraic Topology as it will be more useful for higher research in Topology.
2. The existing course Operator Theory at an advanced level to take up the students for research.
3. Pointed that the content of PG courses with standard prescribed text books are strong and promising to compete with the benchmarked Institutions.
4. Asked to prescribe problem oriented text books for some PG courses.
5. To offer group Project/Internships (for UG students).

12.4.3: **Dr. GopalSekar**, Academic Auditor

1. Recommends internship programmes at schools for Under Graduate students during their summer vacation at the end of the fourth semester.
2. Raised a question for offering Ancillary Mathematics course for Non-Mathematics students admitted in B. Sc., Chemistry programme.

12.4.4: **K. V. Gayathri**, Industry Expert, highlights the opportunities in the field of Insurance and Actuary further she recalled the confidence and the subject knowledge gained during her B.Sc., Mathematics programme offered by NGM College.

12.4.5: **R. Subasini**, Alumni, suggested one more value added course may be offered for PG degree.

12.4.6: **Kowsalyaharishanthi C.**, II M. Sc., Mathematics and **Ramidha V.S.**, III B. Sc., Mathematics wished to

1. opt Projects for B. Sc. Programme.
2. have hands on training with some open source software.



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The members had a brainstorming discussion and interaction among themselves. After discussion, fruitful suggestions were incorporated appropriately in the Curriculum and Syllabi.

Based on the suggestions given by the members, BOS resolved to recommend the following to the Academic Council for further approval.

- a) The syllabus of First Year B. Sc., Mathematics under Regulation 2021-22.
- b) The syllabus of Second Year B. Sc., Mathematics under Regulation 2021-22.
- c) The syllabus of Third Year B. Sc., Mathematics under Regulation 2021-22.
- d) The syllabus of First Year M. Sc., Mathematics under Regulation 2021-22.
- e) The syllabus of Second Year M. Sc., Mathematics under Regulation 2021-22.



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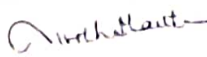



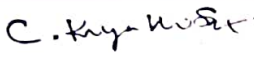
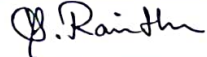
**PRINCIPAL**


**Dr. P. MUTHUKUMARAN M.A., M.Phil., B.Ed., Ph.D.,**  
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**Members Present:**

<b>Chairman</b>	
Dr. V. INTHUMATHI, Associate Professor and Head	V. Inthumathi
<b>Internal Members</b>	
Dr. J. JAYASUDHA, Assistant Professor	J. Jayasudha
Dr. V. CHITRA, Assistant Professor	V. Chitra
Dr. S. SIVASANKAR, Assistant Professor	S. Sivasankar
Mr. P. SIRAVANAN, Assistant Professor	P. Siravanan
Dr. S. KALEESWARI, Assistant Professor	S. Kaleeswari
Mrs. M. AMSAVENI, Assistant Professor	M. Amaveni
Mrs. A. GNANASOUNDARI, Assistant Professor	A. Gnanasoundari
Dr. N. SELVANAYAKI, Assistant Professor	N. Selvanayaki
Dr. M. MAHESWARI, Assistant Professor	M. Maheswari
Mr. S. EARNEST RAJADURAI, Assistant Professor and Head (SF)	S. Earnest Rajadurai
Mr. V. SREERAMAKRISHNAN, Assistant Professor (SF)	V. Sreeramakrishnan
Ms. S. SENPAGAM, Assistant Professor (SF)	S. Senpaga
Ms. S. MAHALAKSHMI, Assistant Professor (SF)	S. Mahalakshmi
Ms. A. ARUNADEVI, Assistant Professor (SF)	A. Arunadevi
<b>University Nominee</b>	
Dr. S. MONIKANDAN, Associate Professor, Department of Mathematics, M. S. University, Tirunelveli – 627 012	S. Monikandan
<b>Academic Experts</b>	



Dr. NIVETHA MARTIN, Assistant Professor, Department of Mathematics, Arul Anandar College (Autonomous), Karumathur.	
<b>Industrial Experts</b>	
GAYATHRI K. V. (Ex) Administrative Officer, LIC of India.	
<b>Alumni</b>	
R.SUBASINI Assistant Professor and Head, Department of Science and Humanities, Pollachi Institute of Engineering and Technology, Pollachi - 642 205.	
<b>Academic Auditor</b>	
Dr. GOPALSEKAR, Associate Professor and Head, Department of Mathematics, KanchiMamunivarcentre for Post GraduateStudies, Pondicherry.	
<b>Student Members</b>	
KOWSALYAHARISHANTHIC. II M. Sc., Mathematics	
RAMIDHA V.S. III B. Sc., Mathematics	

  
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ANNEXURE I

Minutes of the 11<sup>th</sup> Meeting – Action Taken Report

S.No	Suggestion given by expert members	Action taken
1	To implement Bharathiar University syllabus for both Allied Mathematics for Physics I & II, Allied Mathematics for Chemistry I & II as strongly recommended	Reviewed and Implemented
2	To enable the question setters, indications for theory questions(percentagewise) shall be detailed for core papers OR-I & OR-II	Implemented
3	Programming in PYTHON, R-software, MAPLE shall be included	Implemented
4	To include 1. 3D-Printing 2. Android App Development as value added programmes for B. Sc.	Implemented
5	To incorporate open electives	
6	Number Theory based paper – “Mathematics for Cyber Security” shall be considered	



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**List of Courses having focus on local, national, regional and global developmental needs  
offered by the Department of Mathematics**

DEPARTMENT OF MATHEMATICS						
Programme: B. Sc., Mathematics						Year: 2021
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
21UMS101	Classical Algebra			✓		School and College teaching
21UMS102	Calculus			✓		School and College teaching
21UMS1A1	Mathematical Statistics-I		✓			UGC, CSIR and NET exams
21UMS203	Trigonometry, Vector Calculus and Fourier Series			✓		School and College teaching
21UMS204	Analytical Geometry			✓		School and College teaching
21UMS2A2	Mathematical Statistics-II		✓			UGC, CSIR and NET exams
21UMS305	Dynamics			✓		School and College teaching
21UMS306	Numerical Techniques				✓	Employability in IT sector
21UMS3N11 / 21UMS3N12	Quantitative Aptitude-I/ Astronomy-I		✓			UGC, CSIR and NET exams
21UMS407	Statics			✓		School and College teaching
21UMS408	Operations Research-I				✓	Pursue research
21UMS4N21 / 21UMS4N22	Quantitative Aptitude-II/ Astronomy-II		✓			UGC, CSIR and NET exams
21UMS509	Modern Algebra				✓	Pursue research
21UMS510	Real Analysis-I				✓	Pursue research
21UMS511	Operations Research-II				✓	Pursue research
21UMS512	Theory of Numbers			✓		School and College teaching
21UMS5E11	Programming in C				✓	Employability in IT sector
21UMS5E21	Programming lab in C				✓	Employability in IT sector

21UMS5S11	Financial Mathematics-I		✓			UGC, CSIR and NET exams
21UMS613	Linear Algebra				✓	Pursue research
21UMS614	Real Analysis-II				✓	Pursue research
21UMS615	Complex Analysis				✓	Pursue research
21UMS6E31	Discrete Mathematics			✓		School and College teaching
21UMS6E41	OOP with C++				✓	Employability in IT sector
21UMS6E51	Programming lab in OOP with C++				✓	Employability in IT sector
21UMS6S21	Financial Mathematics-II		✓			UGC, CSIR and NET exams



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**List of Courses having focus on local, national, regional and global developmental needs  
offered by the Department of Mathematics**

DEPARTMENT OF MATHEMATICS						
Programme: M. Sc., Mathematics						Year: 2021
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
21PMS101	Algebra				✓	Pursue research
21PMS102	Real Analysis				✓	Pursue research
21PMS103	Complex Analysis				✓	Pursue research
21PMS104	Ordinary Differential Equations				✓	Pursue research
21PMS1E1	Matlab				✓	Employability in IT sector
21PMS1E2	Programming Lab in Matlab				✓	Employability in IT sector
21PMS205	Linear Algebra				✓	Pursue research
21PMS206	Mathematical Statistics				✓	Pursue research
21PMS207	Partial Differential Equations				✓	Pursue research
21PMS208	Mechanics				✓	Pursue research
21PMS209	Numerical Analysis				✓	Employability in IT sector
21PMS210	Programming lab in Numerical Analysis using Matlab				✓	Employability in IT sector
21PMS2N1/ 21PMS2N2	Mathematical Statistics and Techniques/ Mathematics in Finance		✓			UGC, CSIR and NET exams
21PMS311	Topology				✓	Pursue research
21PMS312	Functional Analysis				✓	Pursue research
21PMS313	Combinatorics			✓		School and College teaching

21PMS314	Graph Theory		✓			UGC, CSIR and NET exams
21PMS415	Fluid Dynamics		✓			UGC, CSIR and NET exams
21PMS416	Operator Theory		✓			UGC, CSIR and NET exams
21PMS417	Algebraic Topology				✓	Pursue research
21PMS4E5	Mathematical Methods		✓			UGC, CSIR and NET exams



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**List of Courses having focus on employability/ entrepreneurship/ skill development offered  
by the Department of Mathematics**

<b>DEPARTMENT OF MATHEMATICS</b>						
Programme: B. Sc. Mathematics					Year: 2021	
Course Code	Course Title	Employability (EM) / Entrepreneurship (EN) / Skill Development (SD)			Focus	Year of Introduction
		EM	EN	SD		
21UMS408	Operations Research – I	✓	✓	✓	Solving real life problems	2013
21UMS511	Operations Research – II	✓	✓	✓	Solving real life Problems	2013
21UMS3N11	NME - Quantitative Aptitude – I	✓		✓	Logical & Verbal reasoning	2013
21UMS4N21	NME - Quantitative Aptitude – II	✓		✓	Logical & Verbal reasoning	2013
21UMS1A1	Mathematical Statistics – I	✓	✓	✓	Survey, Data Analysis	2013
21UMS2A1	Mathematical Statistics – II	✓	✓	✓	Survey, Data Analysis	2013
21UMS5E11	Programming in C	✓		✓	Software Management	2013
21UMS6E41	OOP with C++	✓		✓	Software Management	2013
21UMS306	Numerical Techniques	✓		✓	Skill development (Problem Solving)	2017
21UMS5S11	Financial Mathematics-I	✓	✓	✓	Debit and credit management	2021
21UMS6S21	Financial Mathematics-II	✓	✓	✓	Debit and credit management	2021



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DEPARTMENT OF MATHEMATICS						
Programme: M. Sc., Mathematics					Year: 2021	
Course Code	Course Title	Employability (EM) / Entrepreneurship (EN) / Skill Development (SD)			Focus	Year of Introduction
		EM	EN	SD		
21PMS104	Ordinary Differential Equations	✓		✓	Skill development (Problem Solving)	2013
21PMS207	Partial Differential Equations	✓		✓	Skill development (Problem Solving)	2013
21PMS313	Combinatorics	✓		✓	Skill development (Problem Solving)	2013
21PMS3E3	Latex		✓	✓	Technical Skills to prepare Research Articles	2013
21PMS1E1	Matlab		✓	✓	Technical Skills on Software Management	2015
21PMS206	Mathematical Statistics	✓	✓	✓	Survey, Data Analysis	2015
21PMS209	Numerical Analysis	✓		✓	Skill development (Problem Solving)	2015
21PMS210	Programming Lab in Numerical analysis using Matlab	✓		✓	Software Management	2015
21PMS2N1	Mathematical Statistics & Techniques	✓	✓	✓	Survey, Data Analysis	2015

  
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**Percentage of Revision of B. Sc., Mathematics Syllabus under Regulation 2021**

DEPARTMENT OF MATHEMATICS							
S.No	Course Code	Course Title	Change Details	% of Changes	Content Deleted	Content Updated	Reason for Change
1	21UMS5S11	Financial Mathematics-I	New paper	3.85	-	-	For skill development and employability
2	21UMS6S21	Financial Mathematics-II	New paper	3.85	-	-	For skill development and employability

**Percentage of Revision of M. Sc., Mathematics Syllabus under Regulation 2021**

DEPARTMENT OF MATHEMATICS							
S.No	Course Code	Course Title	Change Details	% of Changes	Content Deleted	Content Updated	Reason for Change
1	21PMS417	Algebraic Topology	New paper	4.34	-	-	To pursue research in Algebraic Topology



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