

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE (AUTONOMOUS)-POLLACHI

578	B.Sc. Botany	Major Practical - IV (For VI Sem Theory Papers)	22UBY615	2022
579	B.Sc. Botany	Project & Viva-voce	22UBY616	2022
580	B. Sc. Zoology	Non Major Elective I Practical Skill in Human Health	22UZY3N2	2022
581	B. Sc. Zoology	Skill based Elective -II Biofarming	22UZY6S3	2022
582	B. Sc. Zoology	Advanced Learner Course-II Zoology for competitive Exams	22UZY6AL	2022
583	B. Sc. Zoology	Project	22UZY616	2022
584	M.Sc. Mathematics	Core VI: Mathematical Statistics	22PMS206	2022
585	M.Com	Business Environment	22PCO102	2022
586	M.Com	Investment Management	22PCO2N1	2022
587	M.Com	Fundamentals of Marketing	22PCO2N2	2022
588	Tamil Aided	Tamil Paper I	22UTL101	2022
589	Tamil Aided	Tamil Paper II	22UTL202	2022
590	Tamil Aided	Tamil Paper III	22UTL303	2022
591	Tamil Aided	Tamil Paper IV	22UTL404	2022
592	B.A Tamil	IKKALA ILAKKIYAM	22UTM101	2022
593	B.A Tamil	ARA ILAKKIYAM	22UTM102	2022
594	B.A Tamil	Allied - I TAMILAGA VARALARUM PANBADUM	22UTM1A1	2022
595	B.A Tamil	SITRILAKKIYAM	22UTM204	2022
596	B.A Tamil	TAMIL ILAKKIYA VARALARU	22UTM2A2	2022
597	B.A Tamil	NANNOOL SOLLATHIGARAM	21UTM305	2022
598	B.A Tamil	BAKTHI ILAKKIYAM	21UTM306	2022
599	B.A Tamil	KAAPPIYANGAL	20UTM509	2022
600	B.A Tamil	SANGA ILAKKIYAM ETTUTHOGAI	20UTM613	2022
601	B.A Tamil	SANGA ILAKKIYAM PATHUPAATTU	20UTM614	2022
602	B.Sc Computer Science	Computing Fundamentals and C Programming	22UCS101	2022
603	B.Sc Computer Science	Allied-1: Mathematics(Statistical Methodes and Linear Algebra)	22UCS1A1	2022

BoS Minutes
Highlighted



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PG AND RESEARCH DEPARTMENT OF MATHEMATICS.

NALLAMUTHU GOUNDER MAHALINGAM COLLEGE
POLLACHI

13th Board of Studies Meeting in the Department of
Mathematics

Date & Time: 04/06/2022 & 10.00 A.M.

Agenda

BoS / DM 13.1	:	Welcome address and Opening Remarks by Chairman, Board of studies in the DEPARTMENT OF MATHEMATICS
BoS / DM 13.2	:	Confirmation of the Minutes of the 13 th / Previous meeting of Board of studies in the DEPARTMENT OF MATHEMATICS held on 04/06/2022 and Action taken report of 12 th meeting of Board of studies
BoS / DM 13.3	:	13.3.1 Syllabus of I BSc MATHEMATICS under Regulation 2022
		13.3.2 Syllabus of II BSc MATHEMATICS under Regulation 2022
		13.3.3 Syllabus of III BSc MATHEMATICS under Regulation 2022
		13.3.4 Syllabus of I MSc MATHEMATICS under Regulation 2022.
		13.3.5 Syllabus of II MSc MATHEMATICS under Regulation 2022.
BoS / DM 13.4	:	Suggestion given by BOS Members
BoS / DM 13.5	:	

DM – Short Form of Department of Mathematics


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DEPARTMENT OF MATHEMATICS

MINUTES OF BOS MEETING

The 13th Meeting of the Board of Studies of the Department of Mathematics was held on 04/06/2022 at
10.00 a.m. in the Department of
Mathematics, Nallamuthu Gounder Mahalingam College, Pollachi-642 001

1. The following members were present:

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


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	Udumalpet - 642 126 Mobile No. : 98423 62234	
17.	Ms. S. RAGHAVI 1/59, Kuralkuttai, Udumalpet- 642154 (Alumini)	Alumnus nominated by Principal / HoD
18.	Ms. C. KOWSALYAHARISHANTHI 115b, KaliyammanKovil Street Pakkothipalayam Suleeswan Patti(PO) Pollachi - 642 006 Mobile No. : 63747 86242 (Alumni)	
19.	Dr. M. SIVASUBRAMANIAN Assistant Professor Department of Mathematics Government Arts College Udumalpet-642 126 Mobile No.: 9095542186	Academic Auditor(UG)
20.	Dr. C. JANAKI Assistant Professor Department of Mathematics L.R.G. Govt. Arts College for Women Tiruppur - 641 604 Mobile No. : 73390 90548 E-Mail: janakicsekar@gmail.com	Academic Auditor(PG)
21.	Ms. K. Kalaivani III B. Sc. Mathematics	Student Members
22.	Ms. G. Manjueswari II M. Sc. Mathematics	



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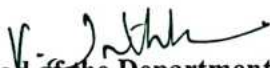
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BoS/DM 13.1 WELCOME ADDRESS AND OPENING REMARKS BY CHAIRMAN, BOARD OF STUDIES IN THE DEPARTMENT OF MATHEMATICS

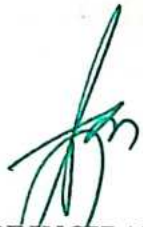
The Chairman, BoS of the Department of Mathematics welcomed and introduced the members of 13th Board of Studies and thanked each one of them for sparing their valuable time to attend the meeting.

BoS/DM13.2 TO CONFIRM THE MINUTES OF 12th BOS MEETING HELD ON 22/05/2021. The minutes of the 12th Board of Studies meeting held on 22/05/2021 were communicated to the members. The comments received have been incorporated and placed for confirmation. The same was approved by the 12th Academic council.

~ Action Taken Report (Enclosed in Annexure 1)


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BoS/DM 13.3

BoS/DM 13.3.1

I BSc MATHEMATICS (I & II SEMESTER)

- **In Classical Algebra(22UMS101)**, the content of the first unit is modified as finding the solution of numerical, algebraic and transcendental equations. (20%)
Text Book: Venkataraman M. K, Numerical Methods in Science and Engineering, The National Publishing Company, Madras, 2009.
- **In Calculus(22UMS102)** paper, include the topics Curvature and Radius of curvature and Envelopes (Excluding Polar co-ordinates) in Unit-II instead of different integrals of PDE, Standard type of first order equation (Type-III and Type-IV). (10%)
- The Unit-I of the course **Classical Algebra** "Sequences and Series" to be included as Unit-II in the course **Trigonometry, Vector Calculus and Fourier series(22UMS203)**. (20%)
- **In Mathematical Statistics-I (22UMS1A1)**, include the topic "Introduction to Random Variables"- Simple problems. (10%)
- The experts of BoS Meeting strongly recommended to enrich the syllabi of
 - Ancillary Mathematics for Physics-I,
 - Ancillary Mathematics for Chemistry-I
 - Ancillary Mathematics for Physics-II and
 - Ancillary Mathematics for Chemistry-II,

With the following changes

➤ **Ancillary Mathematics for Chemistry-I(22UCY1A1)**

Unit-I

The topics eigen values, eigen vectors to be included along with the existing topics.

Unit-II

Combine Unit-II and Unit-III as a single unit.

Unit-III

To introduce the summation of Binomial series, Exponential Series and Logarithmic series.

Unit-IV

To introduce Gauss Elimination, Gauss Jordan methods and finding inverse of a matrix.

Text Book:Kandasamy P, Thilagavathy K and Gunavathi K, Numerical Methods, S. Chand company Ltd, 2012.

Unit-V

To include relation between the Beta and Gamma function along with the existing topics (55%)

The same syllabus to be incorporated for Ancillary Mathematics for Physics-I(22UPS1A1) (55%)

➤ **Ancillary Mathematics for Chemistry-II(22UCY2A2),**

Unit-I

The contents of Unit-II to be shifted to Unit-I

Unit-II

To introduce inverse Laplace transforms and solving ODE using Laplace transforms

Unit-III and Unit-IV no changes

Unit-V

To include Gauss divergence theorem along with the existing topics (50%)

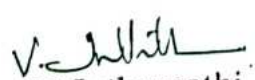
➤ **Ancillary Mathematics for Physics-II(22UPS2A2)**

Unit-I, Unit-II, Unit-III and Unit-IV same as Ancillary Mathematics for Chemistry-II

Unit-V

To include Green's, Stokes Theorem, Gauss Divergence Theorem and remove Exponential Series.

BoS/DM 13.3.2


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- II BSc MATHEMATICS (III & IV SEMESTER)
- In Numerical Techniques (22UMS306) paper all contents of simultaneous linear algebraic equation to be made as Unit-I and to introduce Interpolation unequal intervals in Unit-II with the existing contents. (20%)
 - The course Programming in C(22UMS408) and Programming Lab in C(22UMS409) to be shifted to Semester-IV.

BoS/DM 13.3.3

III BSc MATHEMATICS (V & VI SEMESTER)

- The course OR-I(22UMS512) to be shifted to Semester-V
- The course OOP with C++(22UMS5E1) and Programming Lab in OOP with C++(22UMS5E3) to be shifted to Semester-V
- In the course Programming Lab in OOP with C++(22UMS5E3), the last five Programmes shall be framed by comparing both C and C++.
- The course OR-II(22UMS616) to be shifted to Semester-VI. (10%)

These changes have been implemented with effect from the academic year 2022-2023 in the respective semesters.

BoS/DM 13.3.4

I MSc MATHEMATICS (I & II SEMESTER)

- The entire syllabus of the course Mathematical Statistics is revised and to be implemented the following text book,
John E. Freund's Mathematical Statistics with Applications Irwin Miller, Marylees Miller, Eighth Edition.

BoS/DM 13.3.5

II MSc MATHEMATICS (III & IV SEMESTER)

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

BoS/MA 13.4 SUGGESTIONS GIVEN BY THE BoS MEMBERS

13.4.1: Dr. P.S. Sivakumar and academic auditor Dr. M. Sivasubramanian gave the following suggestions:

1. Advised to change few topics in some major papers for UG program to enrich the fundamental concepts.
2. Strongly recommends to update the syllabi of Ancillary Mathematics papers for Physics and Chemistry programs.

13.4.2: Dr. S. Monikandan gave suggestion to introduce certificate courses/valued added courses for PG programs.


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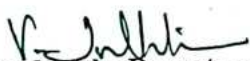

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13.4.3: Ms. K. Kalaivani requested to interchange the scheme of the program in order meet the placement requirements.

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., under Regulation 2022-23
- b) The syllabus of Second Year B.Sc., under Regulation 2022-23
- c) The syllabus of Third Year B.Sc., under Regulation 2022-23
- d) The syllabus of First Year M.Sc., under Regulation 2022-23
- e) The syllabus of Second Year M.Sc., under Regulation 2022-23


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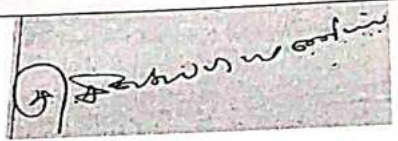
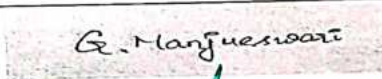
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Members Present:

Chairman	
Dr. V. INTHUMATHI (Chairman)	V. Inthumathi
Internal Members	
Dr. J. JAYASUDHA Assistant Professor	J. Jayasudha
Dr. R. SANTHI Assistant Professor	R. S.
Dr. V. CHITRA Assistant Professor	V. Chitra
Dr. S. SIVASANKAR Assistant Professor	S. S.
Mr. P. SIRAVANAN Assistant Professor	P. Siravanan
Dr. S. KALEESWARI Assistant Professor	S. Kaleeswari
Mrs. A. GNANASOUNDARI Assistant Professor	A. Gnanasoundari
Dr. N. SELVANAYAKI Assistant Professor	N. Selvanayaki
Dr. M. MAHESWARI Assistant Professor	M. Maheswari
Mrs. M. AMSAVENI Assistant Professor	M. Amsaveni
Mr. S. EARNEST RAJADURAI (SF Mathematics) Assistant Professor and Head	S. Earnest Rajadurai
Ms. S. SENPAGAM(SF Mathematics) Assistant Professor	-Absent-
Mr. R. AbinPrakash(SF Mathematics) Assistant Professor	R. AbinPrakash
University Nominee	
Dr. S. MONIKANDAN Associate Professor Department of Mathematics M. S. University Tirunelveli-627 012	S. Monikandan
Academic Experts	
Dr. P. S. SIVAKKUMAR Associate Professor Department of Mathematics Govt. Arts College Udumalpet - 642 126 Mobile No. : 98423 62234	P. S. Sivakkumar

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Alumnus nominated by Principal / HoD	
Ms. S. RAGHAVI 1/59, Kuralkuttai, Udumalpet- 642154 (Alumini)	S. Raghavi
Ms. C. KOWSALYAHARISHANTHI 115b, KaliyammanKovil Street Pakkothipalayam Suleeswan Patti(PO) Pollachi - 642 006 Mobile No. : 63747 86242 (Alumni)	C. Kowsalya Harishan
Special Invitees	
Dr. M. SIVASUBRAMANIAN(Academic Auditor UG) Assistant Professor Department of Mathematics Government Arts College Udumalpet-642 126 Mobile No.: 9095542186	
Dr. C. JANAKI(Academic Auditor PG) Assistant Professor Department of Mathematics L.R.G. Govt. Arts College for Women Tiruppur - 641 604 Mobile No. : 73390 90548 E-Mail: janakicsekar@gmail.com	Received the report through online
Student Members	
Ms. K. Kalaivani III B. Sc. Mathematics	
Ms. G. Manjueswari II M. Sc. Mathematics	


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ANNEXURE I

Minutes of the 12th Meeting – Action Taken Report

S.No	Suggestion given by expert members	Action taken
1.	The suggestion given by the subject expert Dr. Nivetha Martin regarding program outcomes	Implemented
2.	Decided to offer group project/internships in the final year for UG students	Implemented
3.	Certificate course on fundamentals of insurance and actuary.	Implemented


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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: 2022	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
22UMS101	Classical Algebra			✓		School and College teaching
22UMS102	Calculus			✓		School and College teaching
22UMS1A1	Mathematical Statistics-I		✓			UGC, CSIR and NET exams
22UMS203	Trigonometry, Vector Calculus and Fourier Series			✓		School and College teaching
22UMS204	Analytical Geometry			✓		School and College teaching
22UMS2A2	Mathematical Statistics-II		✓			UGC, CSIR and NET exams
22UMS305	Dynamics			✓		School and College teaching
22UMS306	Numerical Techniques				✓	Employability in IT sector
22UMS3N1	Quantitative Aptitude-I		✓			UGC, CSIR and NET exams
22UMS407	Statics			✓		School and College teaching
22UMS408	Programming in C				✓	Employability in IT sector
22UMS409	Programming lab in C				✓	Employability in IT sector
22UMS4N3	Quantitative Aptitude-II		✓			UGC, CSIR and NET exams
22UMS510	Modern Algebra				✓	Pursue research
22UMS511	Real Analysis-I				✓	Pursue research
22UMS512	Operations Research-I				✓	Pursue research
22UMS513	Complex Analysis				✓	Pursue research


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22UMS5E1	OOP with C++				✓	Employability in IT sector
22UMS5E3	Programming lab in OOP with C++				✓	Employability in IT sector
22UMS5AL	Advanced Operations Research-I				✓	Pursue research
22UMS5S1	Financial Mathematics-I		✓			Employability in Marketing and Insurance sector
22UMS614	Linear Algebra				✓	Pursue research
22UMS615	Real Analysis-II				✓	Pursue research
22UMS616	Operations Research-II				✓	Pursue research
22UMS6E4	Theory of Numbers			✓		School and College teaching
22UMS6E6	Discrete Mathematics			✓		School and College teaching
22UMS6AL	Advanced Operations Research-II				✓	Pursue research
22UMS6S4	Financial Mathematics-II		✓			Employability in Marketing and Insurance sector



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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: 2022	
Course Code	Course Title	Need				Rationale
		Local	National	Regional	Global	
22PMS101	Algebra				✓	Pursue research
22PMS102	Real Analysis				✓	Pursue research
22PMS103	Complex Analysis				✓	Pursue research
22PMS104	Ordinary Differential Equations				✓	Pursue research
22PMS1E1	Matlab				✓	Employability in IT sector
22PMS1E3	Programming Lab in Matlab				✓	Employability in IT sector
22PMS205	Linear Algebra				✓	Pursue research
22PMS206	Mathematical Statistics				✓	Pursue research
22PMS207	Partial Differential Equations				✓	Pursue research
22PMS208	Mechanics				✓	Pursue research
22PMS209	Numerical Analysis				✓	Employability in IT sector
22PMS210	Programming lab in Numerical Analysis using Matlab				✓	Employability in IT sector
22PMS2N1	Mathematical Statistics and Techniques		✓			UGC, CSIR and NET exams
22PMS311	Topology				✓	Pursue research
22PMS312	Functional Analysis				✓	Pursue research
22PMS313	Combinatorics			✓		School and College teaching
22PMS314	Graph Theory		✓			UGC, CSIR and NET exams


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22PMS3AL	Algebraic Number Theory			✓		School and College teaching
22PMS415	Fluid Dynamics		✓			UGC, CSIR and NET exams
22PMS416	Operator Theory		✓			UGC, CSIR and NET exams
22PMS417	Algebraic Topology				✓	Pursue research
22PMS4E1	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**

DEPARTMENT OF MATHEMATICS						
Programme: B. Sc. Mathematics					Year: 2022	
Course Code	Course Title	Employability (EM) / Entrepreneurship (EN) / Skill Development (SD)			Focus	Year of Introduction
		EM	EN	SD		
22UMS101	Classical Algebra	✓		✓	To enrich the fundamental concepts of mathematics	
22UMS102	Calculus	✓		✓	Solving Differential equations and Integral equations	
22UMS1A1	Mathematical Statistics-I	✓		✓	Survey, Data Analysis	2013
22UCY1A1	Ancillary Mathematics for Chemistry-I			✓	To apply mathematical concepts in chemistry	
22UPS1A1	Ancillary Mathematics for Physics-I			✓	To solve problems related to mathematical physics	
22UMS203	Trigonometry ,Vector Calculus and Fourier Series	✓		✓	Skill development	
22UMS204	Analytical Geometry	✓		✓	Skill development	
22UMS2A2	Mathematical Statistics-II	✓		✓	Survey, Data Analysis	2013
22UCY2A2	Ancillary Mathematics for Chemistry-II			✓	To apply mathematical concepts in chemistry	
22UCY2A3	Programming Lab for Chemistry using MATLAB		✓		Solving problems & Software Management	2021
22UPS2A2	Ancillary Mathematics for Physics-II			✓	To solve problems related to mathematical physics	
22UPS2A3	Programming Lab for Physics using MATLAB		✓		Solving problems & Software Management	2021
22UMS305	Dynamics			✓	Solving real life problems	
22UMS306	Numerical Techniques			✓	Improving problem solving skills and solving numerical problems. Finding accurate solution	2017

22UMS3N1	NME: Quantitative Aptitude-I	✓		✓	Logical & Verbal reasoning	2013
22UMS3N2	NME: Astronomy I		✓		Explore the History of solar system	
22UMS407	Statics	✓			Solving real life problems	
22UMS408	Programming in C	✓		✓	Improve programming knowledge & Software Management	2013
22UMS409	Programming lab in C		✓		Improve programming knowledge & Software Management	
22UMS4N3	Quantitative Aptitude-II	✓		✓	Logical & Verbal reasoning	2013
22UMS4N4	Astronomy-II		✓		Explore the History of Astronomy	
22UMS510	Modern Algebra	✓			Develop the concept of Algebra Structures to pursue further study	
22UMS511	Real Analysis-I	✓			Skill development , problem solving and pursuing research.	
22UMS512	Operations Research-I	✓		✓	Solving real life problems	2013
22UMS513	Complex Analysis			✓	Pursue research and NET examination	
22UMS5E1	OOP with C++			✓	Software Management	2013
22UMS5E3	Programming lab in OOP with C++			✓	Software Management	
22UMS5AL	Advanced Operations Research-I				Solving real life Problems	
22UMS5S1	Financial Mathematics-I			✓	Debit and credit management	2021
22UMS614	Linear Algebra	✓		✓	Developing the use of Linear Algebra to solve Real time problems as one of the mathematical tool	
22UMS615	Real Analysis-II	✓		✓	Skill development , problem solving and pursuing research.	
22UMS616	Operations Research-II		✓	✓	Solving real life Problems	2013
22UMS6E4	Theory of Numbers	✓		✓	Solving combinatorial and computational problems	

22UMS6E6	Discrete Mathematics	✓		✓	Solving problems connecting various branches of computer science and mathematics	
22UMS6AL	Advanced Operations Research-II				Solving real life Problems	
22UMS6S4	Financial Mathematics-II			✓	Debit and credit management	2021


Head of the Department

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Coimbatore District

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

DEPARTMENT OF MATHEMATICS						
Programme: M. Sc., Mathematics					Year: 2022	
Course Code	Course Title	Employability (EM) / Entrepreneurship (EN) / Skill Development (SD)			Focus	Year of Introduction
		EM	EN	SD		
22PMS101	Algebra	✓		✓	Skill development and pursue research	
22PMS102	Real Analysis	✓		✓	Pure research and NET exam	
22PMS103	Complex Analysis			✓	Skill development and pursue research	
22PMS104	Ordinary Differential Equations			✓	Skill development & Solving real life Problems	2013
22PMS1E1	Matlab		✓	✓	Technical Skills on Software Management	2015
22PMS1E2	Special Functions			✓	Solving various classical problems	
22PMS1E3	Programming Lab in MATLAB		✓		Technical Skills on Software Management	
22PMS205	Linear Algebra	✓			Developing the use of Linear Algebra to solve Real time problems as one of the mathematical tool	
22PMS206	Mathematical Statistics	✓	✓	✓	Survey, Data Analysis	2015
22PMS207	Partial Differential Equations			✓	Skill development & Solving real life Problems	2013

22PMS208	Mechanics			✓	Skill development in the field of Physics related to Maths	
22PMS209	Numerical Analysis		✓	✓	Skill development & Solving real life Problems	2015
22PMS210	Programming Lab in Numerical analysis using Matlab		✓		Software Management & Solving real life Problems	2015
22PMS2N1	Mathematical Statistics & Techniques	✓		✓	Survey, Data Analysis	2015
22PMS2N2	Mathematics in Finance		✓	✓	Applying mathematical formulas and equations to financial problems	
22PMS311	Topology	✓			Pursue research	
22PMS312	Functional Analysis			✓	Skill development Problem Solving and applications to real life	
22PMS313	Combinatorics			✓	Skill development (Problem Solving)	2013
22PMS314	Graph theory			✓	Develop to use Graph Theory as a modern mathematical tool in various fields.	
22PMS3E1	Latex		✓	✓	Technical Skills to prepare Research Articles	2013
22PMS3E3	Programming Lab in Latex		✓		Technical Skills to prepare Research Articles.	2013
22PMS3AL	Algebraic Number Theory				Solving combinatorial and computational problems	

22PMS415	Fluid Dynamics	✓			Solving real life problems and pursue research	
22PMS416	Operator Theory	✓			Improve problem solving skills, creativity and research	
22PMS417	Algebraic Topology	✓			Pursue research	2021
22PMS4E1	Mathematical Methods	✓		✓	Skill development	


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N.G.M COLLEGE - CURRICULUM DEVELOPMENT CELL
M. Sc. MATHEMATICS SCHEME OF EXAMINATION FOR (2022 – 2024 Batch)
CHOICE BASED CREDIT SYSTEM & OBES

Subject Code	Subjects	Ins Hrs/week	Examinations				Credits
			Dur. Hrs	CIA	ESE	Total	
SEMESTER I							
22PMS101	Core I: Algebra	6	3	50	50	100	4
22PMS102	Core II: Real Analysis	6	3	50	50	100	4
22PMS103	Core III: Complex Analysis	6	3	50	50	100	4
22PMS104	Core IV: Ordinary Differential Equations	6	3	50	50	100	4
22PMS1E1/ 22PMS1E2	Major Elective I : Matlab/Special Functions	4	3	25	25	50	3
22PMS1E3	Major Elective Practical II : Programming Lab in Matlab	2	3	25	25	50	2
TOTAL		30	-	250	250	500	21
SEMESTER II							
22PMS205	Core V: Linear Algebra	6	3	50	50	100	4
22PMS206	Core VI: Mathematical Statistics	6	3	50	50	100	4
22PMS207	Core VII: Partial Differential Equations	5	3	50	50	100	4
22PMS208	Core VIII: Mechanics	6	3	50	50	100	4
22PMS209	Core IX: Numerical Analysis	4	3	25	25	50	3
22PMS210	Core Practical X: Programming lab in Numerical Analysis using Matlab	2	3	25	25	50	2
22PMS2N1/ 22PMS2N2	Non-Major Elective: Mathematical Statistics and Techniques/Mathematics in Finance	1	3	50	50	100	2
22PMS2VA	Value Added Course: Internet of Things	-	-	-	-	-	2*
TOTAL		30	-	300	300	600	23

SEMESTER III							
22PMS311	Core XI: Topology	6	3	50	50	100	4
22PMS312	Core XII: Functional Analysis	6	3	50	50	100	4
22PMS313	Core XIII: Combinatorics	6	3	50	50	100	4
22PMS314	Core XIV: Graph Theory	6	3	50	50	100	4
22PMS3E1/ 22PMS3E2	Major Elective III: Latex/ Mathematical Modelling	4	3	25	25	50	3
22PMS3E3	Major Elective Practical IV: Programming Lab in Latex	2	3	25	25	50	2
22PMS3AL	Advanced Learner Course (Optional) : Algebraic Number Theory	-	-	50	50	100	4*
22PMS3CC	Certificate Course: Data Analytics with Python	-	-	-	-	-	2*
TOTAL		30	-	250	250	500	21
SEMESTER IV							
22PMS415	Core XV: Fluid Dynamics	6	3	50	50	100	4
22PMS416	Core XVI: Operator Theory	6	3	50	50	100	4
22PMS417	Core XVII: Algebraic Topology	6	3	50	50	100	4
22PMS4E1/ 22PMS4E2	Major Elective V: Mathematical Methods/Fuzzy Logic and Fuzzy sets	6	3	50	50	100	5
22PMS4P1	Core XVIII: Project	4+ 2(Lab)	----	100	100	200	8
TOTAL		30	----	300	300	600	25
GRAND TOTAL		120		1100	1100	2200	90


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 PRINCIPAL I/c
 Nallamuthu Gounder Mahalingam College
 Pollachi - 642 001, Coimbatore District.

Programme Code:	M.Sc.	Programme Title:	M.Sc. Mathematics	
Course Code:	22PMS206	Title	Batch:	2022 - 2024
Lecture Hrs./Week or Practical Hrs./Week	6	MATHEMATICAL STATISTICS	Semester:	II
			Credits:	4

Course Objective

The objective of this syllabus is to give a systematic introduction to modern probability theory and mathematical statistics

Course Outcomes (CO)

On successful completion of this core paper, the students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Understand the concepts of random variables, characteristic functions, probability distributions, samples and statistics.	K2
CO2	Calculate expected value and higher moments of the distribution functions and probabilities associated with the distributions (normal, t, χ^2 and F) of random variable. Analyze the central limit theorem.	K3
CO3	Evaluate the properties of point estimators (consistency, efficiency, sufficiency) and their goodness to decision making problems.	K5
CO4	Constructing confidence interval for the population mean, the difference between two population means, the true proportion, difference between the actual proportions, variances and ratio of two variances of the two populations.	K4
CO5	Formulate statistical hypothesis concerning means, difference between means and the variances of populations.	K4

Mapping

PO /PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PSO1	PSO2
CO1	H	M	H	M	H	H	M	H	M
CO2	H	H	H	M	H	H	M	H	M
CO3	H	H	H	H	H	H	M	H	M
CO4	H	H	H	H	H	H	H	H	H
CO5	H	H	H	H	H	H	H	H	H

H - HIGH; M - MEDIUM; L - LOW.

Units	Content	Hrs.
Unit I	Probability Distributions and Probability Densities: Introduction – Probability Distributions – Continuous Random Variables – Probability Density Functions – Multivariate Distributions - Marginal Distributions – Conditional Distributions. Chapter 3: Sections: 3.1 - 3.7.	15
Unit II	Sampling Distributions: Introduction – The Distribution of the Mean – The Distribution of the Mean: Finite Populations – The Chi-Square Distribution – The t Distribution – The F Distribution. Chapter 8: Sections: 8.1 - 8.6.	16
Unit III	Estimation: Theory: Introduction - Unbiased Estimators – Efficiency – Consistency – Sufficiency – The Method of Moments - The Method of Maximum Likelihood. Chapter 10 :Sections: 10.1 – 10.5, 10.7, 10.8	15
Unit IV	Estimation: Applications: Introduction – The Estimation of Means – The Estimation of Differences Between Means - The Estimation of Proportions - The Estimation of Differences Between Proportions – The Estimation of Variances – The Estimation of the Ratio of Two Variances. Chapter 11: Sections: 11.1 - 11.7.	16
Unit V	Hypothesis Testing: Theory: Introduction – Testing a Statistical Hypothesis. Chapter12: Sections: 12.1 - 12.2. Hypothesis Testing: Applications: Introduction – Tests Concerning Means - Tests Concerning Differences Between Means - Tests Concerning Variances - Tests Concerning Proportions. Chapter13: Sections: 13.1 - 13.5.	16
	Total Contact Hrs.	78

Pedagogy:

Direct Instruction, Flipped Class, Power Point Presentation.
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Assessment Methods:

Seminar, Chalk and talk, Quiz, Assignments, Group Task.

Text Book:

Irwin Miller and Marylees Miller, John E. Freund's Mathematical Statistics, Prentice Hall of India Private Limited, New Delhi, Sixth Edition, 2003.

Books for Reference:

Gupta S. C. Kapoor V. K., Fundamentals of Mathematical Statistics a Modern Approach,
Sultan Chand & Sons/10th Edition, 2000.

Related Online Contents [MOOC, SWAYAM, NPTEL, Websites etc.]

1. <https://nptel.ac.in/courses/111/106/111106150/>
2. <https://nptel.ac.in/courses/111/106/111106112/>
3. https://www.youtube.com/watch?v=G_RDxAZJ-ug
4. <https://www.youtube.com/watch?v=hcDb12fsbBU>
5. <https://www.youtube.com/watch?v=MOy2gcCkcRY>
6. <https://nptel.ac.in/courses/111/105/111105124/>

Course Designed by	Verified by HOD	Checked by	Approved by
Name and Signature	Name with Signature	CDC	COE
Name: Dr. V. INTHUMATHI 	Name: Dr. V. INTHUMATHI 	Name: K. SRINIVASAN 	Name: Dr. R. MANICKACHEZIAN 
Signature	Signature	Signature	Signature

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