BHARATHIDASAN UNIVERSITY

Tiruchirappalli- 620 024, India

DEPARTMENT OF MATHEMATICS

PROFILE

National Recognitions

DST FIST (Level 02)

DST PURSE

Faculty Members

Prof. A. Tamilselvan
Chair, Professor and Head

Dr. P.S. Srinivasan
Assistant Professor

Dr. V. Piramanantham
Assistant Professor

Dr. C. Durairajan
Assistant Professor

Prof. R. Balakrishnan
Adjunct Professor

Prof. M. Marudai
Honorary Professor

Preface

The Department of Mathematics started functioning in 1963 in the erstwhile Post-Graduate Centre of University of Madras. It is one among the oldest departments of the Bharathidasan University and got merged with the University in the year 1982. The Department presently offers courses in M.Sc., M.Phil., and Ph.D., programmes. In the past 10 years, the Department has made a steady progress and been regularly organizing various academic activities. Many outstanding mathematicians from India and abroad have visited the Department and delivered lectures. The Department takes an integrated and innovative approach in teaching and training the students. Apart from teaching, the faculty members are carrying out research in the frontier areas of mathematics including Coding Theory, Differential Equations and Numerical Analysis, Difference Equations, Discrete Dynamical Systems and Functional Analysis.

Professor and Head

Objectives:

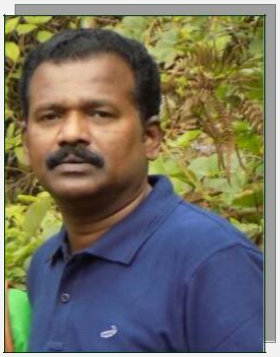
- To improve the quality of graduates in order to increase their ability to fit in various teaching and research institutions/organizations
- To promote learning of mathematical skills and give training in problem solving
- To enhance the employability of the students in teaching area
- To focus more research activities on the thrust areas : Differential Equations and Numerical Analysis, Difference Equations, Generalized Fixed Points and Coding Theory
- To provide training on using mathematical and statistical packages in the real life (MATLAB, SPSS, LaTeX and open source softwares such as SAGE, R, GeoGebra etc..)

Vision and Mission

- To provide high quality instructions in pure and applied Mathematics for teaching, to pursue research and to serve the community, in particular rural students.
- Be actively, visibly and notably involved in research at the forefront of Pure and Applied areas of Mathematics
- Offer training in postgraduate level (M. Sc. & M. Phil. Programme), doctoral level (Ph.D) and postdoctoral level (PDF)
- Organize workshops (Mini MTTS, MTTS, PTMT) sponsored by NBHM) for undergraduate students of Mathematics
- Organize UGC-sponsored refresher courses in Mathematics for the University and College teachers

Research Interest

Faculty I



Prof. A. Tamilselvan
Chair, Professor & Head

Area of Research/Specialization:

Differential Equations, Numerical Analysis, Fractional Differential Equations
Finite Difference Methods, Finite Volume Methods.

Achievements made in Teaching/Research/Extension

No. of Research Publications	: 31
No. of papers presented in Conferences	: 2
h-index	: 4
i-10 index	: 1
Total Citations	: 64
:	

Research Group Members

- V. Raja
- E. Sekar
- G. Janani Jayalaksmi
- S. Joe Christin Mary
- M Sarojini @ Sowmiya

Past Members

1. Dr. N. Geetha
2. Dr. J. Christy Roja
3. Dr. B. Sumithra

Faculty II

Dr.P.S. Srinivasan
Assistant Professor

Area of Research/Specialization:

Functional Analysis
Fixed point theory
Discrete Dynamical Systems

Achievements made in Teaching/Research/Extension

No. of Research Publications	:9
No. of papers presented in Conferences	:2
h-index	:5
i-10 index	:4
Total Citations	: 602
:	

Research Group Members

- D. Chellapillai
- Sujith

Faculty III

Dr.V.Pirmanantham
Assistant Professor

Area of Research/Specialization:

Differential Equations.

Achievements made in Teaching/Research/Extension

No. of Research Publications	: 6
No. of papers presented in Conferences	:3
h-index	: 4
i-10 index	: 2
Total Citations	: 32

Research Group Members

- R. Eswari
- K. Saranya
- D. Balraj

Faculty IV

Dr. C. Durairajan
Assistant Professor

Area of Research/Specialization:

Mathematical Coding theory

Achievements made in Teaching/Research/Extension

No. of Research Publications	: 18
No. of papers presented in Conferences	: 2
h-index	: 5
i-10 index	: 3
Total Citations	: 64
Projects Completed/Ongoing	: 2
:	

Research Group Members

- DHANALAKSHMI R
- KANAGARAJ G
- SARANYA R
- REGA B
- KARTHICK G
- ANNAMALAI N
- CRUZ M

Past Members

1. Dr. J. Mahalakshmi
2. Dr. P. Chella Pandian

Faculty V

Prof. R. Balakrishnan
Adjunct Faculty

Area of Research/Specialization:

Combinatorial Designs, Graph Colouring, Decompositions of graphs, Spectral Graph Theory..

Achievements made in Teaching/Research/Extension

No. of Research Publications	: 75
No. of papers presented in Conferences	: 6
h-index	: 15
i-10 index	: 27
Total Citations	: 1582
Projects Completed	: 4

Awards and Recognitions

1. One of the founders of the Ramanujan Mathematical Society which is now in its 35th year.
2. One of the founders of the Academy of Discrete Mathematics and Applications which is now in its 15th year.
3. Was the Chief Editor of the Mathematics Newsletter during the first 13 years. This journal is being published with grant from the National Board for Higher Mathematics, Department of Atomic Energy, Government of India. It is being mailed free to all educational institutions in India.
4. Was President of the Academy of Discrete Mathematics and Applications during 2016-18.
5. Was a member of the Editorial Board of the Journal of the Ramanujan Mathematical Society for 10 years.
6. One of the architects of the India-Taiwan Collaborative program in Discrete Mathematics under which already 5 conferences had been held alternately in Taiwan and India and the sixth is to be held this year at IIT, Varanasi.
7. Elected Fellow of the Institute of Combinatorics, Canada.
8. Was instrumental in launching the Outreach programme in Mathematics for P G students and Research scholars.
9. Books Published:
    1. A text book of Modern Algebra (with Prof N. Ramabadran) Vikas Publishing House NewDelhi
    2. A text book of Graph theory (with K. Ranganathan) , Second Edition, Springer Verlag, New York, 2012.
    3. Discerete Mathematics with applications to algorithm and programming (with Sriraraman Srihdaran) , CRC Press, Francis and Taylor, USA, 2018.
    4. Discerete Mathematics: Graph Algorithms, Linear Algebra, Coding Theory and Cryptography(with Sriraraman Srihdaran) , CRC Press, Francis and Taylor, (Under Print)

Research Group Members

Past Members

1. Dr. A. Anuradha

Faculty VI

Prof. M. Marudai
Honorary Professor

Area of Research/Specialization:

Functional analysis

Achievements made in Teaching/Research/Extension

No. of Research Publications	: 62
No. of papers presented in Conferences	: 2
h-index	: 10
i-10 index	: 11
Total Citations	: 325
Projects Completed/Ongoing	: 1

Research Group Members

- ANBUKKARASI V
- DHIVYA P
- THENMOZHI S
- MENAKA M
- POONGUZHALI G
- SANKARANARAYANAN

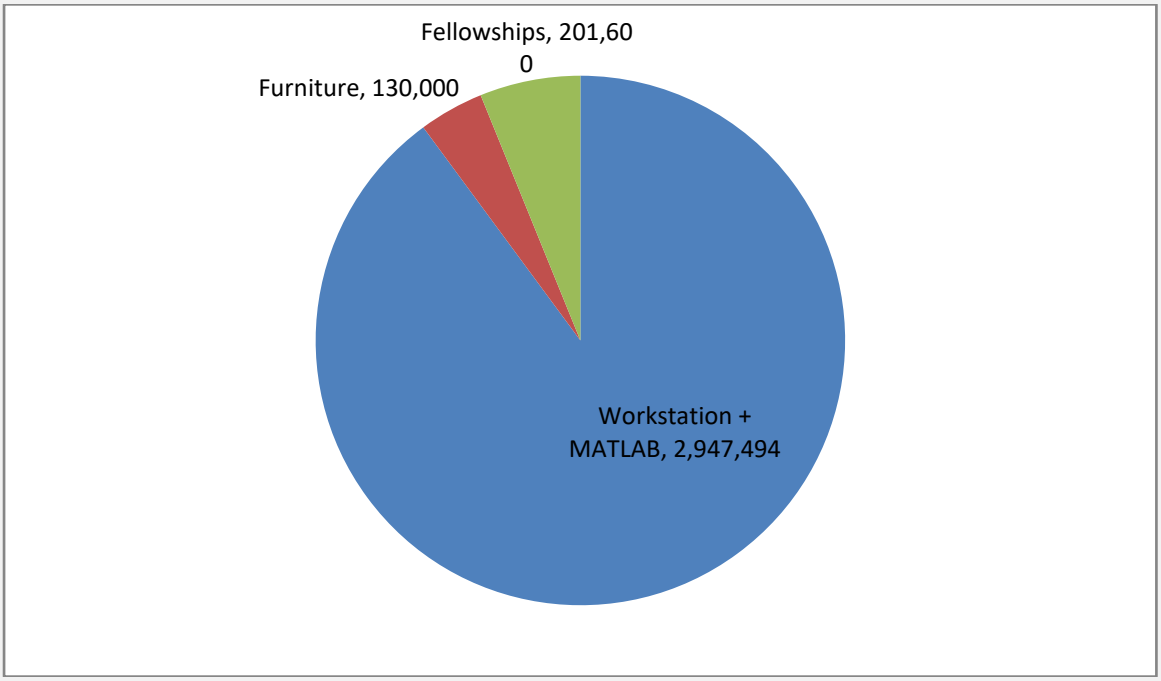
Past Members

1. DOMINIC Y
2. PRAGADEESHWARAR
3. GENO KADWIN J
4. BRIGHT V.S

We are funded by...

सत्यमेव जयते

Department of Sciences
& Technology
Government of India



Details of Research Projects – Appendix I

Details of Fellowships being availed by the Research Scholars/Project Staff

S. No.	Name	Reg. No.	Fellowship
1.	Menaka M	42069	UGC PROJECT -JRF
2.	Annamalai N	47518	DST- INSPIRE
3.	Geetha N	45373	DST-PURSE
4.	Poonguzali G	30055	URF
5.	Dhanalakshmi R	34572	URF
6.	Balraj D	34422	URF
7.	Anbukkarasi V	34444	URF
8.	AvudaiSelvi P		DST- INSPIRE
9.	Revathi G		Dr. Kothari PDF
10.	Dhanalakshmi R	34572	DST WOS-A
11.	Eswari R	31806	UGC-RGNF
12.	Cruz M	34082	URF
13.	Poonguzali G	30055	CSIR_JRF
14.	Sekar E	32681	URF
15.	Raja V	17696	URF
16.	Janani Jayalakshmi G	32679	DST-PURSE
17.			
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List of Research Publications since 2013-14 to 2017-18 – Appendix II

Books/Book Chapters (2013-14 to 2017-18)

1. A text book of Modern Algebra (with Prof N. Ramabadran) Vikas Publishing House NewDelhi
2 A text book of Graph theory (with K. Ranganathan) , Second Edition, Springer Verlag, New York, 2012.
3 Discerete Mathematics with applications to algorithm and programming (with Sriraraman Srihdaran) , CRC Press, Francis and Taylor, USA, 2018.
4 Discerete Mathematics: Graph Algorithms, Linear Algebra, Coding Theory and Cryptography(with Sriraraman Srihdaran) , CRC Press, Francis and Taylor, (Under Print)

Conferences/Workshops/Seminars Organized

S. No.	Conferences/Workshops/Seminars	Period
1.	Summer Programme in Mathematics	2014-2015
2.	National Workshop on Functional Analysis and Applications	2016-2017
3.		
4.		
5.		

Programmes offered

1. **M. Sc. Mathematics**
2. **M. Phil. Mathematics**
3. **Ph. D. Mathematics**

M. Sc. Mathematics

Program objectives

The objectives of **M. Sc. Mathematics** programme are:

- Mastery of Fundamental Mathematical Concepts (Algebra, Analysis, Geometry)
- Will gain the ability to understand and deal with abstract concepts
- Communicate mathematical concepts effectively
- Ability to think critically and creatively
- Analyze and model real world problems based on mathematical principles
- Ability to solve problems which are modelled
- Communicate the solutions in rigorous mathematical language
- Ability to progress independently and ethically

Eligibility

A candidate who has passed the B.Sc. Degree Examination of Bharathidasan University with Mathematics as the Major subject or an examination of any other University accepted by the Syndicate of Bharathidasan University as equivalent to the B.Sc. degree examination of Bharathidasan University may be permitted to qualify for the M.Sc. Degree in Mathematics by undergoing courses and appearing for the examinations of this Department. A candidate for admission to the programme shall not be more than 25 years of age on 1st July of the year of admission.

Selection Procedure

Selection will be made on the basis of merit list prepared from the 50% of marks from the B.Sc. Degree Examination and 50% marks from the Entrance examination. Admissions are made in accordance with State government reservation policy.

Programme structure – Appendix III

Students' achievements (2013-14)

S. No.	Reg. No.	Name	Exam(s) Qualified
1.	431281	T. Sagithya	CSIR-UGC NET
2	410819	R. Palanivel	CSIR-UGC NET
3.	421510	R. Vijayakumar	CSIR-UGC NET
4.	422155	N. Lakshminarayanan	CSIR-UGC NET
5.	425682	E. Sekar	CSIR-UGC NET
6.	400264	V.Vijayanand	CSIR-UGC NET
7.	423614	M.Madavan	CSIR-UGC NET
8.	421952	P. Avudai Selvi	CSIR-UGC NET
9.	420532	M.David Raj	CSIR-UGC NET
10	28127256	M.Cruz	TN-SET
11	28127382	C.Kannan	TN-SET
12		R.Ishwarya	TN-SET
13		Kumar	TN-SET
14.	28127838	E. Sekar	TN-SET
15.	4701118	R.Palanivel	TN-SET
16.	2703332	G. Janani Jayalakshmi	TN-SET
17		Gomathi	TN-SET
18	2703422	N. Lakshminarayanan	TN-SET
19	28128320	V. Vijayanand	TN-SET
20	2703380	K. Renuka	TN-SET
21	2704503	A. Naga gowri	TN-SET

Students' achievements (2014-15)

S. No.	Reg. No.	Name	Exam(s) Qualified
1.		S. Anukumar Kathirvel	CSIR-UGC NET
2	406592	R. Pasupathi	CSIR-UGC NET
3.	423847	N. Annamalai	CSIR-UGC NET
4.	420239	S. Dhanalaksmi	CSIR-UGC NET
5.	28128045	S. Joe christin mary	TN-SET
6.		R. Pasupathi	TN-SET
7.		D. Karthiga	TN-SET
8.	26126649	A. Panneer selvam	TN-SET
9.	28127525	S. Sagayarajjoseph Nirmalkumar	TN-SET

Students' achievements (2015-16)

S. No.	Reg. No.	Name	Exam(s) Qualified
1.	410690	Ribin Christel	CSIR-UGC NET
2	411715	P. Divya	CSIR-UGC NET
3.	426442	R. Kanaga	CSIR-UGC NET
4.	420269	G. Poonguzhali	CSIR-UGC NET
5.		Divya	TN-SET
6.		Ribin Christel	TN-SET
7.		T. Divya Devi	TN-SET
8.	26126536	R. Kanaga	TN-SET
9.	28127674	K. Rathiga	TN-SET

Students' achievements (2016-17)

S. No.	Reg. No.	Name	Exam(s) Qualified
1.		N. Muthu sarumathi	CSIR-UGC NET
2	420733	J. Amal Rayan	CSIR-UGC NET
3	26126794	N. Sarojini@Sowmiya	TN-SET
4		S. Riyas deen	TN-SET
5	28127328	S. Thenmozhi	TN-SET
6	28127272	B. Rega	TN-SET
7	26126781	S. Saranya	TN-SET
8		Anbukarasai	TN-SET

Awards Received by students/scholars

Year	Name of the Awarded Students	National Awards	
		Name of the Award	Awarding Institution
2013	N. Annamalai	DST -INSPIRE	DST
2014	P. AvudaiSelvi	DST -INSPIRE	DST
	N. Geetha	DST PURSE	DST
2015	R. Dhanalakshmi	DST-WOSA	DST
2017	G. Janani Jayalaksmi	DST PURSE	DST
	R. Eswari	Rajiv Gandhi Fellowship	UGC
2018	R. Saranya	CSIR Project	CSIR
2013	G. Poonguzali	URF	Bharathidasan University
2013	R. Dhanalakshmi	URF	Bharathidasan University
2013	D. Balraj	URF	Bharathidasan University
2013	V. Anbukkarasi	URF	Bharathidasan University
2017	E. Sekar	URF	Bharathidasan University
2017	V. Raja	URF	Bharathidasan University
2018	S. Joe Cristian Mary	URF	Bharathidasan University

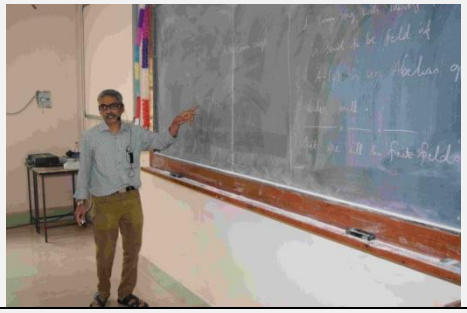
Ph. D. Awardees		M. Sc. Gold Medalists	
Name	**Year of passing**	**Name**	**Year of passing**
Priyadharshini H M	2013	P. Avudai selvi	2013
Rajendran V	2013	A. Naga gowri	2014
Subburayan V	2013	R. Vijaya kumar	2015
Anuradha A	2013	S. Joe christin mary	2016
Chella Pandian P	2014	Ribin Christal	2017
Pragadeeswarar V	2015	N Muthu Sarumathi	2018
Dominic Y	2015		
Maria Joseph J	2015		
Geetha N	2016		
Christy Roja J	2017		
Sumithra B	2017		
Avudai selvi P	2018		
Geno kadvin	2018		
Bright V S	2018		

Facilities

Work Station	
	

Conferences, Seminars and Workshop Organised

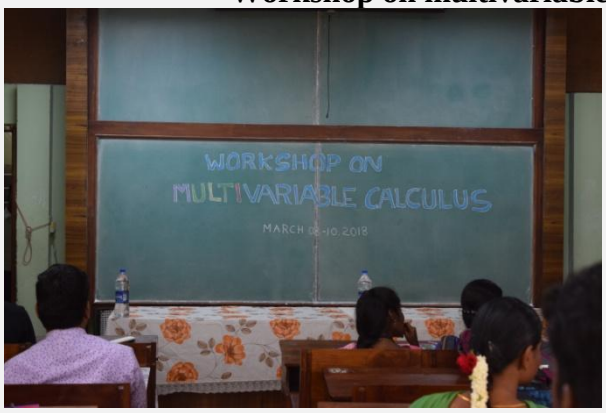
Workshop on Algebra Funded by National Academy of Sciences, 16-8-2018 – 18-8-2018

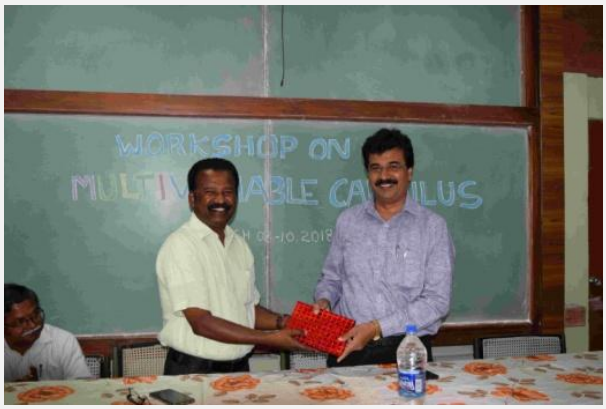


Ramanujan's Birthday One day seminar 21/12/2017

Special Seminar by Prof. P. Veeramani March 2017.

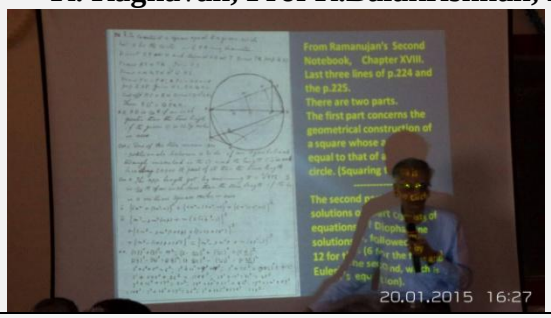
Workshop on multivariable calculus March 08-10, 2018

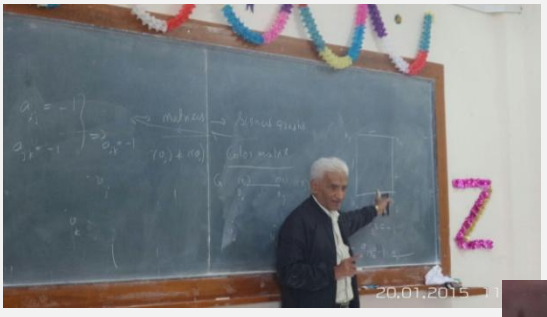




Quiz program , 2015

Ramanujam day Celebration 21-08-2014 – 22-08-2014
Seminars given by Eminent Mathematicians, Prof. K. Srinivasa Rao, , Dr K. Srinivas, Prof K. Raghavan, Prof R.Balakrishnan, Prof. E. Sampath Kumar, Prof Ravi Kulkarni



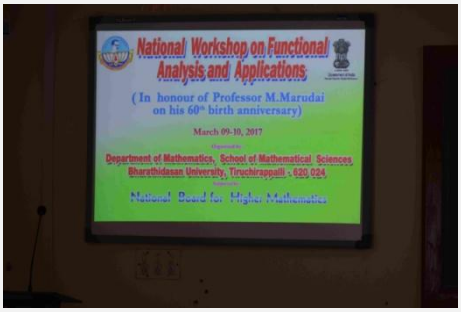


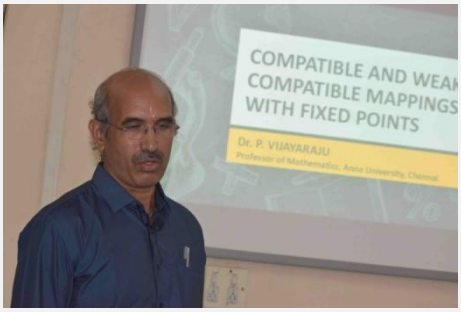
Science day Celebration 12-05-2015

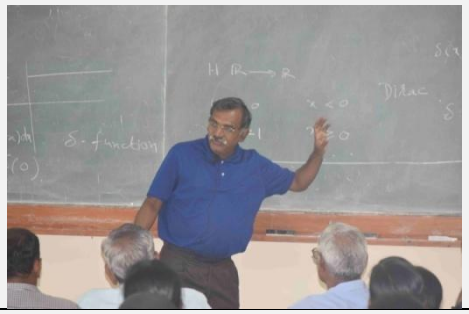
Special Seminar by Prof. T. Parthasarathy 24-08-2014

Summer Programme in Mathematics May 11-15, 2015

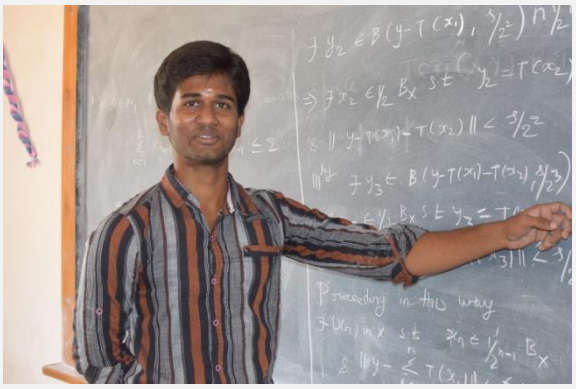
National Workshop on Functional Analysis and Applications
(In honour of Professor M.Marudai on his 60-th anniversary) March 09-10 ,2017







Departmental Activities

Fresher's Day cum M.Phil. Farewell day Celebrations 25/07/2017 	**Teacher's Day Celebration05/09/2017** 
Departmental Tour to Cochin 10/01/2015 	**Departmental Tour to Cochin 10/01/2015** 
Students Seminar 19/03/2016 	**Studnt Seminar 19/03/2016** 

Pongal Celebrations - 2018

Farewell for Msc. 2016-18 Batch

Farewell for Msc. 2015-17 Batch

Contact us

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www.bdu.ac.in

Appendix I

Research & Consultancy Projects

Completed Projects

S. No.	Principal Investigator	Project Title	Period		Funding Agency	Amount ₹ (in lakhs)
			From	To		
1.	M. Marudai	Application of generalized fixed points in game theory	2012	2015	UGC	910800.00
2.	C.DURAIRAJAN	On covering radius and various parameter of Optimal Codes and Covering codes	2010	2013	DST	455000
3.	J. Mahalakshmi	On Covering Codes	2012	2015	DST	1100000
4.	R. Dhanalakshmi	On Identifying Codes	2015	2018	DST	1700000
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						

Ongoing Projects

S. No.	Principal Investigator	Project Title	Period		Funding Agency	Amount ₹ (in lakhs)
			From	To		
1.	C.DURAIRAJAN	On covering radius and various parameter of Z_q-simplex codes and Z_q-maxdonald codes and covering codes	2016	2019	CSIR	1350000
2.						
3.						
4.						
5.						
6.						

Appendix II

List of Research Publications since 2013-17

1. Piramanantham V, Kamenetv type oscillation criteria for emden-fowler Nonlinear neutral dynamic equations, Far East Journal of Mathematical Sciences 2013

2. Marudai M, Fixed point theorems for generalized weak contractions satisfying rational expressions On ordered Partial Metric Space, Lobachevskii Journal of Mathematics 2013

3. Marudai M, Best proximity points: Approximation and optimization in partially ordered metric spaces, Optimization Letters 2013

4. Marudai M , Fixed point theorems for mappings satisfying a contractive condition of rational expression on a Ordered partial metric space, Thai Journal of Mathematics 2013

5. Durairajan C, On the Covering Radius of Some Modular Codes, Advances in Mathematical Of Communications , 2014

6. Tamilselvan A, Numerical Method for Singularly Perturbed Third Order Ordinary Differential Equations of Convection-Diffusion Type, Numerical Mathematics: Theory, Methods and Applications 2014

7.Marudai M , The Existence and Uniqueness of Coupled Best Proximity Point for Proximally Coupled Contraction In a Complete Ordered Metric Space,Abstract and Applied Analysis 2014

8. Marudai M, Coupled best proximity points in ordered metric spaces, Fixed Point Theory and Applications 2014.

9. Marudai M, Best Proximity Point for Generalized Proximal Weak Contractions in Complete Metric Space, Journal of Applied Mathematics 2014.

10. Durairajan C, On $\mathbb{Z}q$-linear and $\mathbb{Z}q$-Simplex codes and its related parameters for q is a prime power,
Journal of Discrete Mathematical Sciences and Cryptography 2015.

11. Marudai M, Best Proximity Points for Generalized Proximal Weak Contractions Satisfying Rational Expression On Ordered Metric Spaces, Abstract and Applied Analysis 2015.

12. Tamilselvan A, Numerical solution of stiff system by Trapezoidal Method, International journal of mathematical sciences and engineering application 2015

13. Tamilselvan A, Parameter uniform numerical method for third order singularly perturbed turning point problems exhibiting boundary layers, International Journal of Applied and Computational Mathematics 2015.

14. Tamilselvan A, Parameter uniform numerical method for solving second order singularly perturbed turning point problems with Robin boundary conditions , Procedia Engineering 2015.

15. Marudai M, Unique Fixed point theorem for weakly B-contractive mappings, Far East Journal of Mathematical Sciences 2015.

16. Marudai M, Fixed point and Best proximity point results for Generalized cyclic coupled mappings,
Thai Journal of Mathematics 2015.

17. Tamilselvan A, Parameter uniform numerical method for fourth order singularly perturbed turning point problems exhibiting boundary layers, Ain Shams Engineering Journal 2016.

18. Tamilselvan A, Numerical method for singularly perturbed fourth order equations, Journal of Mathematical Modeling 2016.

19. Tamilselvan A, Numerical method for system of second order singularly perturbed Turning point problems exhibiting boundary layers, Journal of Mathematical Modeling 2016.

20. Marudai M, Fixed point theorems on multi valued mappings In b-metric spaces, SpringerPlus 2016.

21. Marudai M, On the C-class functions of fixed point and best proximity point results for generalised cyclic-coupled Mappings, Cogent Mathematics 2016.

22. Marudai M, Common fixed point theorems for mappings satisfying a contractive condition of rational expression on a Ordered complex partial metric space, Cogent Mathematics 2017.

23. Srinivasan P.S, Fixed point theorem for k-quasi contraction map, International Journal of Pure and
Applied Mathematics 2017.

24. Durairajan C,Quaternary Linear Intersecting Codes, International Journal of Computer And Mathematical Sciences 2017.

25. Tamilselvan A, Variable mesh spline approximation method for solving second order singularly perturbed turning point problems, International Journal of Applied and Computational Mathematics 2017.

26. Tamilselvan A, Numerical solution of the stiff system by fourth order backward difference formula, International journal of computer and Mathematical sciences 2017.

27. Marudai M, Common Fixed Point of Three Contractive Type Mappings, International Journal of Mathematics and its Applications 2017.

28.C Durairajan On covering radius of codes over Z^2p, Asian-European Journal of Mathematics,2018

29 A. Tamilselvan, Fitted finite difference method for third order singularly perturbed convection diffusion equations with integral boundary condition, Arab Journal of Mathematical Sciences 2018

30. A. Tamilselvan, An □-uniform method for a class of singularly perturbed parabolic problems with Robin boundary conditions having boundary turning point, Asian-European Journal of Mathematics 2018.

31 A. Tamilselvan, FINITE DIFFERENCE SCHEME FOR SINGULARLY PERTURBED SYSTEM OF DELAY DIFFERENTIAL EQUATIONS WITH INTEGRAL BOUNDARY CONDITIONS , JOURNAL OF THE KOREAN SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS 2018.

32. A. Tamilselvan,SCHWARZ METHOD FOR SINGULARLY PERTURBED SECOND ORDER CONVECTION-DIFFUSION EQUATIONS, JOURNAL OF APPLIED MATHEMATICS & INFORMATICS,2018.

33. A. Tamilselvan,AN OVERLAPPING SCHWARZ METHOD FOR SINGULARLY PERTURBED THIRD ORDER CONVECTION-DIFFUSION TYPE, JOURNAL OF APPLIED MATHEMATICS & INFORMATICS 2018.

33. M. Marudai, New α-coupled fixed point theorem for □-contraction and its application to a class of systems of functional equations arising in dynamic programming
Asian-European Journal of Mathematics, 2018

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Appendix III

Programme Structure

IV (b) M.Sc. Mathematics

Semester	Courses
I	5 Core Courses
II	4 Core Courses 1 Department Elective Course
III	3 Core Courses 1 Department Elective Course 1 University Elective Course
IV	2 Core Courses 2 Department Elective Courses 1 Project

Core Courses

Code	Title of the Course	Lecture Hours	Tutorial Hours	Practical Hours	Credits	Prerequisite (Exposure)
16M01CC	Linear Algebra	4	2	0	5	Nil
16M02CC	Real Analysis I	4	2	0	5	Nil
16M03CC	Ordinary Differential Equations	4	2	0	5	Nil
16M04CC	Theory of Numbers	4	2	0	5	Nil
16M05CC	Discrete Mathematics	4	2	0	5	Nil

16M06CC	Algebra I	4	2	0	5	Nil
16M07CC	Real Analysis II	4	2	0	5	16M02CC
16M08CC	Partial Differential Equations	4	2	0	5	16M03CC
16M09CC	Topology	4	2	0	5	16M02CC
16M10CC	Algebra II	4	2	0	5	16M01CC 16M06CC
16M11CC	Complex Analysis	4	2	0	5	16M02CC 16M07CC
16M12CC	Measure Theory and Integration	4	2	0	5	16M02CC 16M07CC
16M13CC	Functional Analysis	4	2	0	5	16M02CC 16M09CC 16M12CC
16M14CC	Differential Geometry	4	2	0	5	16M12CC
16M15CC	Probability Theory	4	2	0	5	Nil
16M16CC	Numerical Analysis	4	2	0	5	16M01CC 16M03CC

ELECTIVE COURSES

Code	Title of the Course	Lecture Hours	Tutorial Hours	Practical Hours	Credits	Prerequisite (Exposure)
16M01DEC	Stochastic Processes	3	2	1	4	16M14CC
16M02DEC	Integral Equations and Calculus of variations	3	2	0	4	16M03CC 16M08CC
16M03DEC	Fluid Dynamics	3	2	0	4	16M03CC 16M08CC
16M04DEC	Mathematical Statistics	3	2	0	4	16M07CC
16M05DEC	Classical Dynamics	3	2	0	4	16M03CC 16M08CC
16M06DEC	Optimization Techniques	3	2	0	4	Nil
16M07DEC	Operator Theory	3	2	0	4	16M13CC

UNIVERSITY ELECTIVE COURSES FOR OTHER DEPARTMENTS

Code	Title of the Course	Lecture Hours	Tutorial Hours	Practical Hours	Credits	Prerequisite
16M01UEC	Object Oriented Programming using C++	2	0	1	2	+2 level Mathematics
16M02UEC	Resource Management Techniques	2	1	0	2	Nil
16M03UEC	Mathematical Modeling	2	1	0	2	NIl
16M04UEC	Statistics	2	1	0	2	Nil
16M05UEC	General Intelligence	2	1	0	2	NIl

VALUE ADDED COURSES

Code	Title of the Course	Lecture Hours	Tutorial Hours	Practical Hours	Credits	Prerequisite
16M01VAC	Introduction to Latex	1	0	1	2	NIl
16M02VAC	Introduction to Sagemath	1	0	1	2	NIl

For each Course other than the Project

Continuous Internal Assessment (CIA) – 25 Marks

End Semester Examination (ESE) – 75 Marks

Total – 100 Marks

ESE Duration – 3 Hours.

For Project

2 Reviews – 40 Marks (2 x 20)

Evaluation (Average of Internal and external examiners marks) – 40 Marks

Viva Voce – 20 Marks

Total – 100 Marks