

PG & RESEARCH DEPARTMENT OF MATHEMATICS,
CATHOLICATE COLLEGE
PATHANAMTHITTA

Faculty Member : Dr. SUSHA D.

Personal Details

Name:	Dr.SUSHA D.
Date of Birth	31-05-1970
Permanent Address	Sivasailam Kannamcode Adoor (PO) Pathanamthitta-691523 Kerala.
Phone Nos	04734-227639, 9495435558
E-mail Address	sushahari@gmail.com sushasivam@yahoo.com
Office Address	Associate Professor & Research Guide P.G & Research Department of Mathematics Catholicate college pathanamthitta
Date of Entry in to Service	03-06-1996

Academic Details

Educational Qualifications

Sl.No	Course	Year	University/ Board	class
1	S.S.L.C	1985	Board of public examinations	First
2	P.D.C	1987	Kerala University	First
3	B.Sc	1990	Kerala University	First
4	M.Sc	1992	Cochin University	First class with distinction
5	B.Ed	1993	M.G. University	First
6	M.Phil	1994	Cochin University	First
7.	Ph.D	2007	Cochin University	Awarded on 15 September 2007
Awarded UGC-CSIR Fellowship & Lectureship				

UGC- Sponsored Orientation/ Refresher/Short term Course Attended

Sl.No	Course	Institution	Date of attending
1.	Orientation	UGC-ASC, University of Kerala	04-05-1999 to 31-05-1999
2.	Refresher	UGC-ASC- University of Kerala	08-11-2001 to 29-11- 2001
3.	Refresher	UGC-ASC- University of Kerala	01-07-2003 to 22-07 -2003
4.	Refresher	UGC-ASC- University of Kerala	09-08-2005 to 30-08-2005

5.	Short term course for Research guides	UGC-ASC- University of Kerala	17-102011 to 21-102011
6.	Refresher course in research Methodology	UGC-ASC Kannur University	04-01-2012 to 24-01-2012
7	Orientation Programme on women empowerment	MG University, Department of Student Services in association with catholicate College	19-09-2012 to 20-09-2012.

Minor/ Major/ Interdisciplinary projects

- (1) UCC has sanctioned a minor project for two years (2008-2010) on the topic “categorical approach in uniform spaces and its applications “ for an amount of Rs. 40000/-.
- (2) UCC has sanctioned another minor project for two years (2012--2014) on the topic “Application of Mathematics in Industry to solve real life problems” for an amount of Rs. 149000/-.
- (3) An interdisciplinary Project on the topic “Application of Mathematical Graph Theory to explain the physical properties of various bicyclic Alkenes” was done by department of Mathematics and department of chemistry under the leadership of Dr.Susha D and Dr. Sindhu Mathai

Publications in national and international [] journals

Sl.No	Title	Name of the Journal	Volume
1.	“On fuzzy box products “	Journal of Tripura Mathematical Society	Vol6 (2004) 35-40.
[2]	“Fuzzy uniformities in fuzzy box products”	International Journal of Fuzzy	Vol.13,No.3, 2005,pp-

		Mathematics	707-712.
[3]	“Fuzzy α-paracompactness in fuzzy box products”	The International Journal of Fuzzy Mathematics	Vol No 14 ,No.1,2006,pp-223-229
4.	“Role of VAT in Preventing Unfair Trade Practices”	Southern Economist	Vol.42, No.23&24 (2004)pp- 19-20.
5.	Cheque Truncation System- a Substitute for the Paper Based Processing	The Management Accountant	Vol. 42 No.1, January 2007, pp.32-34.
6.	Forensic Accounting- a New Method for Preventing Fraud	Southern Economist	Vol. 46 No. 5, July 15, pp.38-40.
7.	Role of Ayurveda Centres in Promoting Backwater Tourism In Kerala.	Southern Economist	Vol.46 No.9, September 1, 2007,pp.21-24.
8.	Effect of Advertisement on the Sale of Marble Products – A Micro Study.	Southern Economist	Vol.46, No.12, December 1, 2007, pp- 41-42.
9.	Kudumbashree- Key to achieve Economic self-sufficiency	Southern Economist	Vol.47, No2, MAY 2008,pp-23-25.
10	Leadership Styles of Managers in New Generation Banks in Kerala.	Southern Economist	Vol.47,No.11,October 2008,pp39-42.
[11].	Fuzzy Nabla Products in connection with fuzzy box products.	International Journal of Fuzzy Mathematics	Vol.16,No.3,2008,pp-665-670..
12.	Knowledge Process Out Sourcing (KPO) - A Big Game.	The Management Accountant	Vol. 8, No. 8, August, 2009, pp 125-128.
13	Need for Talent management in the Banking sector	Southern Economist	Vol. 48 No.16, December 15, 2009, pp 5-7.
14	Nabla products in fuzzy topological space	Journal of the Tripura Mathematical Society	Vol.10, September 2008, pp-91-96

15	Some Properties of fuzzy nearly paracompact spaces	Catholicate journal of studies and research	Vol.1 January 2011
16	E-products of Banking Business in India	Journal of Cosmos	Vol.11,No.2, July 2011,pp 88-97
17	Accounting for lean success	Research Lines	Vol.4, No.1 January,2011,pp 223-227
18	A study on the effectiveness of the implementation of kaizen in MRF Ltd	Journal of Cosmos	January 2012,pp 63-75
[19]	On Fuzzy Topological l-Groups	Internatinal journal of Bulletin of Kerala Mathematical Association	June, 2012 Vol 9 No.1 pp 111-119
20	Employees participation in the implementation of Kaizen in MRF-An application of Multiple discriminant analysis	DECEE school, Journal	Sep, 2011
21.	Problems of medium and small enterprises in Kerala	mirror	March, 2012
22.	Factors affecting the involvement of child labour in India-An application of Multiple Regression Models	Managing the future	January, 2012
[23]	Nearly α- Para compact fuzzy topological spaces	International Journal of Fuzzy Mathematics	Accepted
24	Leadership styles of women managers in Nationalised banks in kerala	Poseidon, the journal of Commerce and management	Vol.No.2,December 2012
25	Employer Branding of New generation Banks in Kerala- an application of dummy variable regression	Cosmos	Vol.1, January 2013

26	Box product of fuzzy topological groups	Journal of Science, Technology and management	Vol.05, No.3&4 Jan-March 2013, pp 57-66
27	Solution of games using fuzzy Mathematics	Catholicate J. of studies and research	Vol.1, issue 1. Dec 2013.

Publications of seminar proceedings

1.	Some separation properties of fuzzy box products	Proceedings on the KMA National Seminar on Graph theory and Fuzzy Mathematics	2003 pp111-115
2	Fuzzy Uniform f-box products	Proceedings of the annual conference of Kerala Mathematical Association and National Seminar on Fuzzy Mathematics and Applications	2004,pp199-204
3	Problems of women Entrepreneurs in India	Proceedings of the UGC sponsored National seminar on Emerging Entrepreneurial Strategies for Self Employment and Skill Development	2009 December pp-22-28
4.	Problems of women entrepreneurs in India	Proceedings of the UGC sponsored National seminar	2009,
5	Factors affecting the Green purchasing behaviour of the customers of automobile industry in Kerala	Proceedings of the UGC sponsored National seminar	2011
6.	On nearly compact, nearly para compact and almost para compact fuzzy topological space	Ministry of statistics and programme implementation , BMC&KMA	31-01-2011 to 02-02-2011

7.	Factors affecting the Green purchasing behavior of Customers of Automobile industry in Kerala-an application of multiple Discriminant analysis	UGC. Sponsored National Seminar,K.G. College	10 th and 11 th January, 2011
8.	Some properties of fuzzy topological l- groups	Proceedings of the National seminar conducted by Department of Mathematics together with KMA	8th to 9th Dec, 2011
9.	Solutions to problems in Industry by using mathematical models	Proceedings of the UGC sponsored National seminar	March 23-26, 2012
10	Innovative educational practices for solving real life problems in industry	Proceedings of the International conference held at Skyline University, Dubai	Feb 5 to 8, 2013.
11	Box product of fuzzy topological groups	Proceedings of the international conference on Mathematical modeling in computer, management and medical science conducted by MACFAST Sponsored by DST. AICTE, CSIR & ICSSR	June 13-15, 2013
12	Problems of MSME'S in Kerala- An application of Friedman test	Proceedings of the National conference conducted by dept. of Management Studies, Punjabi University, Patiala	March 27-28, 2014.

International Seminars Attended

Sl.No	Topic	Institution	Sponsoring Agency	Date
1.	“Aryabhateeyam”	Techno Park,.Trivandrum	General education Department Govt. of Kerala, SCERT	12-01-2000 to16-01-2000
2.	Algebra and topology	Department of mathematics, Catholocate college	KMA &- College	29-30 Nov, 2007.
3.	New trends in applications of Mathematics	Bharat mata college, Thrikkakara	Ministry of statistics and programme implementation	31-01-2011 to 02-02-2011
4.	Innovative educational practices for solving real life problems in Industry	Skyline University, Dubai	Skyline University, University of Sharjah(U.A.E) in association with CMAI	Feb 5 to 7, 2013
5	Application of higher mathematics in Biology and Management	Department of Mathematics, Catholocate college	KMA & College	June 13, 2013
6.	Mathematical Modelling in Computer, Management and Medical Science	Dept. of Computer applications, MACFAST, Thiruvalla & Pushpagiri Institute of Medical Sciences & Research in association with Computer Society of India & KMA	DST, AICTE, CSIR & ICSSR	June 14-15 2013.

National Seminars /National workshop/Regional seminars Attended

Sl.No	Topic	Institution	Sponsoring Agency	Date
1.	Fuzzy Mathematics and Applications	Department of Mathematics, Payyannur College	CSIR & Kerala Mathematical Association	8 to 10 January 2004
2.	Graph Theory and Fuzzy Mathematics.	Department of Mathematics, Catholicate College Pathanamthitta.	Kerala Mathematical Association and Catholicate College	28-30 august 2003
3	Discrete Mathematics	Department of Mathematics, Marthoma College , Thiruvalla	UGC & Kerala Mathematical Association	23-25 ,2009
4	Graph Theory , Operations Research and Applications	Department of Mathematics ,St. Gregorios College, Kottarakara	UGC	18-19 September 2008
5.	Women and gender issues	Women studies centre Catholicate college	UGC	15 TH December, 2010
6.	Applications of Statistical techniques in research	Department of Commerce, K.G.College, Pampady	UGC	10 th & 11 th January 2011.
7.	Discrete Mathematics & Computational Statistics	Department of Mathematics, B.K.College, Amalagiri, Kottayam	UGC	23-24 June 2011
8.	Data Analysis in Social Science Research	Department of Commerce, Catholicate College	UGC	1 st & 2 nd july 2011.
9.	Recent Trends in Discrete Mathematics and its Applications	Department of Mathematics, St. Thomas College, Kozhencherry	UGC	August 11-13,2011.
10	Analysis and its applications	P.G & Research Department of Mathematics , Catholicate College	UGC	December 8 th to 9 th 2011

11	Emerging trends in Consumerism	Department of commerce and Management studies, Sree Neelakanta Govt. Sanskrit college, pattambi	UGC	19 th and 20 th December 2011
12.	History and Studies in Popular Culture	P.G. Department of History, Catholicate College	UGC	14-03-2012 to 16-03-2012
13	Modern Analysis and its Applications	P.G. Department of Mathematics N.S.S. Hindu College, Changanacherry	UGC	23-03-2012 to 26-03-2012
14.	Higher Education in the 21 st Century: Engendering Creative Approaches for Quality Enhancement	Kerala Higher Education Council, TVM & Catholicate College, PTA	UGC	07-12-2012 to 8-12-2012
15	Application of Mathematics in Computer Science	Department of Mathematics, Baselius College	Regional seminar by KMA & MACFAST	02-08-2013
15	Differential Geometry	P.G Dept. of Mathematics, D.B College, Thalayolaparambu	UGC state level seminar	27-09-2013
16	Heteroglossia in Postmodern Malayalam Poetry	P.G & Research Dept. of Malayalam	UGC	19, 20 and 21 st Feb. 2014.
17	Problems and Challenges of Micro, Small & Medium Enterprises	Dept. of Management Studies, Punjabi University, Patiala	UGC	27-03-2014 to 28-03-2014.

Programmes co-ordinated

1. An **international seminar** on “Algebra and Topology” conducted by Department of Mathematics, Catholicate College, Pathnamthitta in association with Kerala Mathematical association on 29- 30 Nov 2007.
2. Organized a **national seminar** on “Graph theory and Fuzzy mathematics” held at Catholicate college, Pathanamthitta on 28-30 Aug. 2003 in association with Kerala Mathematical

Association.

3. A **regional seminar** on "Fuzzy mathematics and its application on computer science" on 9th Nov.2010, conducted by Dept. of Maths, Catholicate College, Pathanamthitta.
4. "**All Kerala Mathematics Talent Search Quiz Competition**" an extension programme of our dept, for plus one and plus two students on 15th Nov.2010, conducted by Dept. of Maths, Catholicate College Pathanamthitta.
5. Organized a **national seminar** on "Analysis and its Applications" held at catholicate college, Pathanamthitta on 8th and 9th December 2011 in association with Kerala Mathematical Association.
6. Organized an International seminar on "**Application of higher Mathematics in Biology and Management**" held at catholicate college, Pathanamthitta on 13th June 2013 in association with MACFAST, Thiruvalla and Kerala Mathematical Association.

As a Resource person in the seminar

1. Delivered a **talk on 'Applications of Operations Research'** conducted by BAM College, Thuruthikad on 6th July 2010.
2. Delivered a **talk on "Linear programming"** for plus one and plus two students of Marthoma School, Pathanamthitta on 14-12-2010.
3. Delivered a **lecture on Topology** and inaugurated the activities of Mathematics Association of Department of Maths, St. Thomas College, Kozhencherry on 19-07-2011.
4. Delivered a **lecture on Application of Mathematics** and inaugurated the Mathematics Association ASMATAS 2012 at Assumption College, Chanaganacherry on 11th July 2012.
5. Delivered one session of **UGC sponsored State level seminar on Differential Geometry** held at D.B College, Thalayoalaparambu on 27-09-2013.

SUBJECT EXPERT in Various bodies

1. As a **Subject expert** in the selection committee for recruitment of teaching staff in Department of Mathematics, Assumption College, Chanaganacherry held on 10th March 2012.
2. **Subject Expert for Higher Secondary Teachers** in Mathematics Held at Amrita School, Pathanamthitta on 19-5-2013
3. **Subject expert for HAS Mathematics** in Education held at **KPSC office Pathanamthitta** on 13-02-2014.

Book Published

Edited one ISBN book on **Ramanujan 125** in the year 2013.

Work shop/ Seminars /Courses attended

1. An **Orientation course** in multidiscipline conducted by Academic Staff College, University of Kerala, Trivandrum sponsored by U.G.C from 04-05-1999 to 31-05-1999.
2. A **Refresher course** in Mathematics conducted by Academic Staff College, University of Kerala sponsored by U.G.C from 8-11-2001 to 29-11-2001.
3. A **Refresher Course** in Mathematics conducted by Academic Staff College, University of Kerala sponsored by U.G.C from 1-7-2003 to 22-7-2003.
4. A **Refresher Course in Mathematics** conducted by Academic Staff College, University of Kerala sponsored by U.G.C. from 09-08-2005 to 30-08-2005.
5. Two days **educational leadership programme** conducted by the Institute of Management in Government, Trivandrum in collaboration with All India Association for Christian Higher Education from 1-10- 1999 to 2-10-1999 at Catholicate college conducted by Kerala Mathematical Association.
6. A **summer school on Descriptive Set theory and Applications** held at the Indian Statistical Institute, Calcutta during 29-5-1995 to 17-6-1995.
7. A regional seminar on **Mathematical Modeling** on 17-9-1999 held at Catholicate College conducted by Kerala Mathematical Association.
8. A seminar on **Topology and Functional Analysis** organized by OSADMS of Cochin University of Science and Technology and Catholicate College, Pathanamthitta held at Department of Mathematics on 11-2-1999.
9. Attended a seminar on **Topology for Computer Science and Option pricing** organized by OSADMS of CUSAT and Catholicate College held on 3-8-2002.
10. Participated in a **five day work shop on restructuring of under graduate education in Mathematics** on 14th,15th,20th,21st and 22nd May 2009 conducted by **M.G.University Kottayam**.
11. Attended a regional seminar on Law of Large deviation and Machine learning conducted **by U.C. College ,Aluva and KMA on 20th June 2009**.
12. Participated in two day **workshop on Latex and Python** from 14-12- 2009 to 15-12-2009 conducted by Department of **Mathematics, Govt College, Chittur sponsored by Government of Kerala**.

13. Attended an **educational conference** of M.O.C. Colleges held at K.G.College Pampady on 16th January 2010.
14. Attended a **faculty development programme** on Teaching Operations Resaearch and its Applications from 26-05- 2010 to 28-05-2010 at **Indian Institute of Management, Kozhikode**.
15. Attended a **two day workshop on Research Methodology** on 10th and 11th March 2011 organized by the promotion council of MOC Colleges held at K.G. College Pampady.
16. Participated in a **two day curriculam workshop of UG Mathematics Programme** conducted by M.G.university held at C.M.S. College from 28th to 29th July 2011.
17. Attended a **12 day workshop on Research Methodology** and Data analysis conducted by Department of Commerce, K.G. College, Pampady in the year 2010-11.
18. Participated in a **Short term course for Research Guides in Science** organized by UGC- Academic Staff College, Kariyavattom, TVM from 17-10-2011 to 21-10-2011.
19. Participated in a **three day curriculam workshop of PG Mathematics Programme** conducted by M.G.university held at C.M.S. College from 15th to 17th December 2011.
20. Attended **Refresher course in Research Methodology** conducted by UGC-ASC Kannur University from 04-01-2012 to 24-01-2012.
21. Attended a **Faculty Development Programme on Research Methodology (12 days workshop on Data Analysis in Research)** organized by Research and P.G Department of Commerce, K.G. College, Pampady during the year 2011- 12.
22. Attended a **Faculty Development Programme on Multivariate Data Analysis** organized by Research and P.G Department of Commerce, K.G. College, Pampady on 25th January 2012.
22. Participated in two day **Orientation Programme organized by Department of Student Services**, M.G. University in association with Catholicate College from 19-09-2012 to 20- 09-2012.
- 23) Attended a **Faculty Development Programme on Research Methods and Data Analysis using spss** organized by Musaliar Institute of Management, Pathanamthitta on 16th and 17th August 2012.
- 24) Attended a two-day seminar on **E- Governance: Prospects in Indian Administration**, organized by the Institute of Parliamentary Affairs, Government of Kerala, Thiruvananthapuram in association with P.G. Department of History, Catholicate College, PTA held on 25-26 February 2013.

- 25) Attended **Faculty Development Programme on Research Methodology & Multivariate Panel Data Analysis and Modelling** organized by Research and P.G Department of Commerce, K.G. College, Pampady on 16th & 17th May 2013.

As a Research Guide

Approved Research Guide in Mathematics of M.G. University. Approved centre is Department of Mathematics, Catholice College, Pathanamthitta .

M.Phil -Students Guided

Sl. No	Name of the Candidate	Topic of Dessertation
1	Nisha Roy	Inter connection Networks and its applications
2	Tharamma George T	Two Structures in Graphs
3	Miji Philip	Crossing Number and Rectilinear graphsits applications

Research Highlights

Four research scholars are registered under my guidance in the M.G. University Their details are given below.

- 1) **ABOUBAKER P.**
Assistant Professor
Department of Mathematics
PTM Govt. College
Perintalmanna
Malappuram (Dt)

Topic :- Some Problems in Topology and Analysis

- 2) **BRIDGIT JEEJI C. J.**
Assistant Professor
Department of Mathematics
Aquinas College
Edakochi, Kochi-682010

Topic:- Some Problems in Topology, Analysis and algebra

- 3) **Tresa Mary Chacko**

Assistant Professor
Department of Mathematics
Christian College,
Chenganoor

Topic:- Some Problems in Topology and Lattice theory

4) **Shylaja R.**

Associate Professor
Department of Mathematics
N.S.S College
Changanacherry.

Topic:- Some Problems in Automata theory and Category theory

5) Anu Joy

Assistant Professor
Department of Mathematics
St. Dominic's college
Kanjirappally

Topic: - Study of soft sets and its applications

6) Manju John

Assistant Professor
Department of Mathematics
Catholicate College
Pathanamthitta

Topic:- Some Problems in algebraic and topological properties of soft sets.

Important positions held

- As a **subject expert** in the Selection Committee for recruitment of teaching staff in various colleges of M.G. University.
- As an **Observer** in conducting State entrance examination of M.B.B.S and Engineering 2010, 2011, 2012,2013, 2014.
- Question paper setter for K PSC examination of higher secondary teachers on 2014.
- As a judge in the Annual athletics meet held at Catholicate college on 07-03-2014

- Member of the Expert Committee of M.G. University for revaluation of the paper Measure and Integration on 11-10-2013.
 - .Worked as a **presiding officer** in the Nannuvacadu ward of 8- Pathanamthitta Municipal Council held on 25-09-2005.
 - Life Member of Kerala Mathematical association.
 - Worked as a presiding officer in the Lok sabha election conducted on April 16th 2009 in Paathanamthitta constituency.
 - Member of Internal examination cell during the year 2009-10.
 - Member of the publication committee of the research journal of Catholicate college,PTA.
 - Member of Research Development committee of Catholicate College.
 - Member of Vanitha cell.
 - Programme convener of UGC sponsored National seminar on Analysis and its Applications conducted by catholicate College in association with Kerala Mathematical Association.
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- As a subject expert in the commission of sanctioning new courses in M.G. University.