BIO-DATA

Name : Dr.G.SUMATHI

Address : Assistant Professor

Department of Mathematics,

Shrimati Indira Gandhi College,Trichirappalli-2

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Qualifications:

- Ph.D : Shrimati Indira Gandhi College,2016
- SET: Passed in 2017,Mother Teresa University
- M.Phil:Bharathidasan University,2001,First class
- M.Sc: .A.G.Arts and Science College,Musiri,13th Rank holder, (Bharathidasan University) ,1999
- B.Ed:Tamilnadu University,2011,First class
- B.Sc: N.K.R Arts and Science College,Namakkal, (University of Madras) ,1997,First Class

Teaching Experience:

- Working as Assistant Professor, Department of Mathematics, Shrimathi Indira Gandhi College, Tiruchirappalli since 16.7.2003

Courses Taught:

Graph Theory, Real Analysis, Complex Analysis,Functional Analysis, Operations Research,Numerical Analysis, Vector Calculus and Fourier

series, Complex Analysis, Odinary Differential Equations,Measure theory and Integration and Partial Differential Equations

Research Interest:

Diophantine Equations in Number Theory

Guideship

- Ph.D Guideship at Bharathidasan University in the year 2018
- M.Phil Guideship at Bharathidasan University in the year 2016

No.of Scholars who obtained their M.Phil under my guidance:3

No.of Scholars who are doing their M.Phil under my guidance:3

No.of Scholars who are doing their Ph.D under my guidance:2

Book Published:

Published "Special Higher Degree Diophantine Problems with Solutions" in LAP LAMBERT ,Academic Publishing

Papers Published:

1. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi.S., *Observations on* $y^2 = 26x^2 + 1$,Bessel J.Math,Vol 4,Issue 1,21-25,2014.
2. Gopalan.M.A.,Vidhyalakshmi.S., and Sumathi.G., *Integral points on the hyperbola* $x^2 + 6xy + y^2 + 40x + 80y + 40 = 0$,Bessel J.Math,Vol 2(3),159-164,2012.
3. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi.S., *Observations on the hyperbola* $x^2 = 19y^2 - 3^t$,Scholar Journal of Engineering and Technology,Vol 2 (2A),152-155,2014.
4. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi,S., *On Special families of hyperbola* $x^2 = (4k^2 \pm k)y^2 + \alpha^{2t}, \alpha > 1$,The International Journal of Science and Technology,Vol 2,Issue 3,94-97,March 2014.

5. Gopalan.M.A.,Vidhyalakshmi .S., and Sumathi.G., *Lattice points on the hyperboloid of one sheet* $4z^2 = 2x^2 + 3y^2 - 4$,Diophantus J. Math, Vol1, No.2,109-115,2012.

6. Gopalan.M.A,Vidhyalakshmi.S., and Sumathi.G., *Lattice points on the elliptic paraboloid* $9x^2 + 4y^2 = z$,Advanced in theoretical and Applied Mathematics,Vol7,No.4,379-385,2012.

7. Gopalan.M.A.,Vidhyalakshmi.S., and Sumathi.G., *Lattice points on the elliptic paraboloid* $3x^2 + 2y^2 = 3z$,Impact J.Sci.Tech,Vol 7,No.2,41-46,2013.

8. Gopalan.M.A.,Vidhyalakshmi.S.,and Sumathi.G., *On the ternary non-homogeneous cubic equation* $x^3 + y^3 + z(x^2 + y^2 - 20) = 4(x + y)^2 z$,Impact J.Sci.Tech,Vol7,No.2,1-6,2013.

9. Gopalan,M.A,Vidhyalakshmi.S.,Sumathi.G., *On the homogeneous cubic equation with three unknowns* $x^3 + y^3 = 14z^3 + 3(x + y)$,Discovery Science,Vol.2, No.4. 37-39,2012.

10. Gopalan.M.A.,Vidhyalakshmi.S., and Sumathi.G., On the homogeneous cubic equation with four unknowns $x^3 + y^3 = 14z^3 - 3w^2(x + y)$, Discovery Science, Vol 2,No.4,.17-19, 2012.

11. Gopalan.M.A.,Sumathi.G.,andVidhyalakshmi.S., *On the homogeneous cubic equation with four unknowns* $x^3 + y^3 = z^3 + w^2(x + y)$, Diophantus J.Math,2(2),99-103,2013.

12. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi.S., *On the cubic equation with eight unknowns* $x^3 + y^3 + z^3 + w^3 = U^3 + V^3 + P^3 + Q^3$,
Bulletin of Mathematics and statistic research, Vol 1,Isssue 1,23-29,2013.

13. Gopalan.M.A.,Sumathi.G.,and Vidhyalakshmi.S., *Integral solutions*

of ternary biquadratic non-homogeneous equation $(k+1)(x^2+y^2)-(2k+1)xy=z^4$, Archimedes J.Math, 3(1), 67-71, 2013.

14. Gopalan.M.A,Vidhyalakshmi.S., and Sumathi.G., *Integral solutions of ternary biquadratic non-homogeneous equation* $(\alpha+1)(x^2+y^2)+(2\alpha+1)xy=z^4$, JARCE Vol (6),No.2,97-98,July-Dec 2012.
15. Gopalan.M.A.,Vidhyalakshmi.S., and Sumathi.G., *Integral solutions of ternary biquadratic non-homogeneous equation* $(2k+1)(x^2+y^2+xy)=z^4$, Indian Journal of Engineering, Vol1, No1, 37-40, 2012.
16. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *On the ternary biquadratic non-homogeneous equation* $x^2+ny^3=z^4$,Cayley J.math, Vol 2,Issue 2,169-174,2013.
17. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Integral solution non-homogeneous biquadratic equation with four unknowns* $(x^3+y^3)=(k^2+3)^n z^3 w$,International Journal of Computational Engineering Research, Vol 3,Issue 4,51-56,2013.
18. Gopalan,M.A., Sumathi.G., and Vidhyalakshmi.S., *Lattice points of non-homogeneous biquadratic equation with four unknowns* $(x^4-y^4)=3z(x^3+y^3)+w$, International Journal of Latest Research in Science&Technology,Vol 2,Issue1,502-504,2012.
19. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Integral solutions of homogeneous biquadratic equation with four unknowns* $(x^4-y^4)=2^{2n}z^3w$, International Journal of pure and Applied Mathematical Sciences,Vol 6,No 3,219-224,2013.
20. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Integral solutions of non-homogeneous quintic equation with three unknowns* $x^2+y^2-xy+x+y+1=(k^2+3)^n z^5$,International Journal of Innovative

Research in Science, Engineering and Technology,Vol 2,Issue 4,920-925,April 2013.

21. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Integral solutions of the non- homogeneous ternary quintic equation in terms of pell sequence equation* $x^3+y^3+xy(x+y)=2z^5$,International Journal of Applied Mathematical Sciences,Vol6,No.1,59-62,2013.
22. Gopalan.M.A.,Vidhyalakshmi.S., and Sumathi.G., *Integral solutions of the non-homogeneous quintic equation with four unknowns* $x^5-y^5+(x^4+y^4)z+52w^4z=4z(1+7w^2)$, Bessel J.Math,Vol 3(1),175-180,2013.
23. Gopalan.M.A,Sumathi,.G. and Vidhyalakshmi.S., *On the non-homogeneous quintic equation with five unknowns* $x^3+y^3=z^3+w^3+6T^5$,International Journal of Management, IT and Engineering, Vol 3,Issue 4,501-506,2013.
24. Gopalan.M.A.,Sumathi.G.,and Vidhyalakshmi.S., *Integral Solutions of non homogeneous sextic equation with four unknowns* $x^4+y^4+16z^4=32w^6$,Antarctica J.Math,10(6), 623-629,2013.
25. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi.S., *Integral Solutions of* $x^6-y^6=4z\left(x^4+y^4+4(w^2+2)^2\right)$ *in terms of Generalized Fibonacci and Lucas Sequences*,Diophantous J.Math,2(2),71-75,2013.
26. Gopalan.M.A.,Sumathi. G., and Vidhyalakshmi. S., *Integral solutions of sextic non homogeneous equation with five unknowns* $x^3+y^3=z^3+w^3+6(x+y)t^5$,Vol1,Issue2,146-150,2013.
27. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi.S., *On the heptic non-homogeneous equation with four unknowns* $xy(x+y)+2zw^6=0$,

International Journal of Engineering Sciences and Research technology ,2(5),1113-1117 ,May 2013.

28. Gopalan.M.A.,Sumathi,.G. and Vidhyalakshmi.S., *On the non-homogeneous octic equations with five unknowns* $(x^2+y^2)(x+y)^4=z^4w^3$,International Journal of Engineering Research Online ,Vol 1,Issue 2,252-255,2013.
29. Gopalan.M.A,Sumathi.G., and Vidhyalakshmi.S., *On the non-homogeneous octic equations with five unknowns* $(x^4-y^4)=T^6(z^2-w^2)$, Scholar Journal of Physics,mathematics and Staistics,Vol 1,Issue 2,84-87,2014.
30. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Gaussian Integer solutions of homogeneous quadratic equation with four unknowns* $x^2+y^2=3z^2+w^2$,International Archieve of Applied Science and Technology,Vol 4(3),58-61,2013.
31. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Gaussian integer solutions sextic equation with four unknowns* $x^6-y^6=4z(x^4+y^4+w^4)$,Archimedes J.Math,3(3),263-266,2013.
32. Gopalan.M.A.,Sumathi.G., and Vidhyalakshmi.S., *On the transcendental equation with five unknowns* $3\sqrt[3]{x^2+y^2}-2\sqrt[4]{X^2+Y^2}=(r^2+s^2)z^6$,Global Journal of Mathematics and Mathematical Sciences,Vol 3,No 2,63-66,2013.
33. Gopalan.M.A., Vidhyalakshmi.S., and Sumathi.G., *On the surd-transcendental equation with five unknowns* $\sqrt[4]{x^2+y^2}+\sqrt[2]{z^2+w^2}=(k^2+1)^{2n}R^5$, International Organization of Scientific Research, Vol 7, Issue 4, 78-81,2013.

34. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *On the transcendental equation with six unknowns* $2\sqrt[2]{x^2+y^2-xy}-\sqrt[3]{X^2+Y^2}=\sqrt[2]{z^2+2w^2}$, Cayley Journal of Mathematics, 2(2),119-130,2013.

35. Gopalan.M.A.,Vidhyalakshmi.S., and Sumathi.G., *On the exponential diophantine equations* $x^x y^{y^n}=z^{z^n}, x^{x^n} y^{y^m}=z^{z^n}$,International Journal of Modern Engineering Research ,Vol 3,Issue 6,3466-3468,2013.

36. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Diophantine Quadruple involving Jacobsthal lucas number and Thabit-ibn-kurrah number with the Property* $D(1)$,International Journal of Innovative Research and Review,Vol 2(2),47-50,2014.

37. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Special* $D(k^2+1)$ *Dio-Quadruple Involving Jacobsthal Lucas and Thabit-ibn- kurrah numbers*,International Journal of Mathematics Trends and Technology,Vol 11,No.2,77-80,July 2014.

38. Gopalan.M.A., Sumathi.G., and Vidhyalakshmi.S., *Special Dio-quadruple involving jacobsthal and Jacobsthal lucas number with the Property* $D(k^2+1)$,International J.of .Math.Sci and Engg.Appls Vol 8 NoIII, 221-225,2014.

39. G.Sumathi'Integral Solutions of Homogeneous Biquadratic Equations with Five Unknowns $2(x^4-y^4)=(z^2-w^2)P^2$,*Journal of mathematics and Informatics,Vol 11,39-45,2017*

40. G.Sumathi "On the homogeneous Cubic Equation With Four Unknowns $(x^3+y^3)=7zw^2$, *Journal of mathematics and Informatics,Vol 11,29-37,201.*

41. G.Sumathi "Integral Points on the cone" $7x^2-3y^2=16z^2$, *Journal of mathematics and Informatics,Vol 11,47-54,2017*

42. G.Sumathi "Observations on the hyberbola" $y^2 = 182x^2 + 14$, *Journal of mathematics and Informatics,Vol 11,73-81,2017*

43. *Dr.G.Sumathi*"Observations on the Pell Equation $y^2 = 14x^2 + 4$ " *International Journal Of Creative Research Thoughts,Vol 6,Issue 1, Pp1074-1084,March 2018*

44. *Dr.G.Sumathi*"Observations on the Equation $y^2 = 312x^2 + 1$" *International Journal Of Mathematics Trends and Technology,Vol50,,Issue4, 31-34,Oct 2017*

45. *Dr.G.Sumathi*"On the Non-Homogeneous quintic Equation With Three Unknowns $5(x^2 + y^2) - 9xy + 2(x + y) + 4 = (k^2 + 19s^2)^n z^5$" *International Journal OfEmerging Technologies and Innovative Research,Vol 5,Issue 3,Pp 1101-1104,March 2018*

46. *Dr.G.Sumathi*"Observations on the hyberbola $y^2 = 150x^2 + 16$" *Intenational Journal Of recent Trends in Engineering and Research,Vol 3,Issue 9,Pp198-206,sep 2017*

47. Sumathi.G., and Vidhyalakshmi.S., *On the homogeneous equation of eighth degree with five unknowns* $(x + y + z)^8 = (x + y)^4 (w^2 - wT + T^2)^2$, accepted in UNIETS

48. *Dr.G.Sumathi*"Integral Points on the Ternary Quadratic Diophantine Equation $y^2 = 33x^2 + 4^t$" *Intenational Journal for research in Applied Sciences and Engineering Technology ,vol 7,Issue III,Pg No . 305-313,March 2019*

49. *Dr.G.Sumathi*"Observations on the hyberbola $y^2 = 14x^2 + 16^t$" *Intenational Journal for research in Applied Sciences and Engineering Technology ,vol 7,Issue III,Pg No 314-321,March 2019*

50. *Dr.G.Sumathi*"Integral Solutions of the Diophantine Equation $y^2 = 20x^2 + 4$" *Intenational Research Journal of Engineering and Technology,Vol 6,Issue 3,Pg no 1566-1571,March 2019*
51. *Dr.G.Sumathi*"On the Binary Quadratic Diophantine Equation $y^2 = 272x^2 + 16$" *Intenational Research Journal of Engineering and Technology,Vol 6,Issue 3,Pg no 1587-1593,March 2019*
52. *Dr.G.Sumathi*"Observations on the Binary Quadratic Diophantine Equation $y^2 = 105x^2 + 4^t, t \geq 0$" *Intenational Journal for research in Applied Sciences and Engineering Technology ,vol 7,Issue III,Pg No951-959,March 2019*

WORKSHOPS, CONFERENCES AND SEMINARS ATTENDED

1. Participated in the Two Day National Level Workshop on "NAAC Awareness Programme" conducted on 27th and 28th July 2019 at Primax Seminar Hall, Nagadevanahalli, Bengaluru-56, Karnataka, Jointly organized by Primax Foundation ,In association with Shrimati Indira Gandhi College-Trichy, INIMS Degree College,Bengaluru, and Arunodaya College, Bengaluru.
2. Attended the Scilab Workshop on 4 th May 2019, organized by National Institute Of Technology, Trichy.
3. Presented a Paper " *On the non-homogeneous quintic equation with five unknowns* $3(x^2 + y^2) - 5xy + x + y + 1 + w^2 - z^2 = (k^2 + 11s^2)^{2n} t^5$" in International Conference on Mathematical Methods and Computation,Jamal Mohamed College, Trichy-24, Jamal Academic Research Journal,302-305,Jan 2015.
4. Presented a Paper "*On the non-homogeneous sextic equation with five unknowns* $y^4 - x^4 + w(x^3 + y^3) = (k^2 + 11s^2)^n z^5 t$" in International

Conference on Mathematical Methods and Computation,Jamal Mohamed College, Trichy-24, Jamal Academic Research Journal,227-230,Feb 2014.

5. Attended UGC Sponsored Orientation Course from 09-11-2005 to 06-12-2005 at UGC– Academic Staff College, Bharathidasan University, Trichy-23.