



Dr. Shyam S. Kamath

Curriculum Vitae

PERSONAL DETAILS

Name in full: SHYAM SREENIVASA KAMATH
Date of Birth: May 15, 1964
Address (Office): Department of Mathematical and Computational Sciences,
National Institute of Technology Karnataka, Surathkal, Srinivasnagar,
MANGALORE - 575 025, INDIA
Address (Home): No.2-49/23, "SUMASHREE", Near Navagiri Kalyana Mantapa,
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EDUCATION

Ph.D 1991
Karnatak University, Dharwad, INDIA
Title of the Doctoral Thesis: Some Studies in Graph Theory (Domination Parameters)
Research Guide: Professor E. Sampathkumar
Department: Mathematics
Research Fellowship: UGC Research Fellowship

P.G. Diploma in Computer Applications: 1987
Karnatak University, Dharwad, INDIA
First ever Part Time education programme started with the objective of training the students with Computer Programming skills, System Analysis and Hands-on training on DOS and UNIX operating systems.
Programming Languages: BASIC, FORTRAN, COBOL and Pascal
Department: Mathematics
Aggregate Score: 73.75%

M.Sc. (Mathematics): 1986
Karnatak University, Dharwad, INDIA
Specialization: Differential Geometry and Graph Theory
Department: Mathematics
Achievements/ Awards: 3rd Rank to the University
Aggregate Score: 73.1%

B.Sc.: 1984
Karnatak University, Dharwad, INDIA
Specialization: Major: Mathematics; Minors: Physics and Mathematical Statistics
Institution: Karnatak Science College, Dharwad
Aggregate Score: 72%

P.U.C.: 1981
Board of Pre-University Education, Karnataka, INDIA
Specialization: Science (Physics, Chemistry, Mathematics and Statistics)
Institution: Karnatak Science College, Dharwad
Aggregate Score: 71.17%

S.S.L.C.:

1979

Karnataka State Education Examination Board, INDIA

Institution: Karnatak High School, Dharwad

Aggregate Score: 71.5%

SPECIAL ACHIEVEMENTS

UGC-NET:

1986

University Grants Commission, New Delhi, INDIA

Qualified the examination held in August, 1986 and was awarded the Research Fellowship for the Ph.D programme at Karnatak University, Dharwad from 02/12/1986 to 01/12/1991.

Rank in M.Sc.:

1986

Karnatak University, Dharwad

Obtained 3rd Rank to the M.Sc. in Mathematics in 1986 from Karnatak University, Dharwad.

POSITIONS HELD

Associate Professor¹20/10/2009-
present*National Institute of Technology Karnataka, Surathkal, Mangalore - (Redesignation)*

Teaching UG/ PG programmes, Guiding M.C.A. and M.Tech.(SACA) projects, Guiding Ph.D. Students, Research, Administrative Works

Assistant Professor20/10/2006-
19/10/2009*National Institute of Technology Karnataka, Surathkal, Mangalore - (CAS Promotion)*

Teaching UG/ PG programmes, Guiding M.C.A. and M.Tech.(SACA) projects, Guiding Ph.D. Students, Research, Administrative Works

Lecturer - Senior Scale11/01/1998-
19/10/2006*National Institute of Technology Karnataka, Surathkal, Mangalore - (CAS Promotion)*

Teaching UG/ PG programmes, Guiding M.C.A. and M.Tech.(SACA) projects, Guiding Ph.D. Students, Research, Administrative Assistance

Lecturer10/09/1992-
10/01/1998*National Institute of Technology Karnataka, Surathkal, Mangalore - (Regular Appointment)*

Teaching UG/ PG programmes, Research, Administrative Assistance

¹This redesignation was done in the light of the implementation of the Sixth Pay Commission recommendations.

PEDAGOGY

• **Experience as a Teacher**

– **Courses taught:**

- * **For UG:** Engg. Mathematics, Probability Theory & Statistics, Discrete Mathematics, Combinatorics, Graph Theory, Numerical Analysis, Principles of Artificial Intelligence, Programming Languages: BASIC, FORTRAN, COBOL, Pascal, C++ , and Computer Labs.
- * **For PG:** Combinatorics, Graph Theory, Linear Programming, Systems Analysis & Design, Programming Concepts Linear Programming, Theory of Matrices and Operators, Integral Transforms, Z-Transforms, Numerical Methods: Interpolation, Difference Equations, Solutions simultaneous equations, Solution of Ordinary and Partial Differential Equations and Computer Labs.
- * **As Guest Faculty in Mangalore University for M.Sc.(Computer Science):** Discrete Mathematics & Graph Theory

– **Student enrolment:** On an average of 90 students at UG Level and an average of 30 students at PG Level.

– **Average Grades:** At the UG level, the average grade is BB and at the PG level, it is about AB.

• **Evaluation of Teaching**

– **Summary of student teaching evaluations:**

- * At the UG level, the overall response is satisfactory. The students' opinion about teaching is very good. They, however, suggest that more problems must be discussed in the class. Assignments are very good and are worth a good exposure. About evaluation, however, many students (not all) feel that it is very strict and disciplined. They also feel that the examinations are lengthy.
- * At the PG level, the overall response is very good. They are very happy about the teaching methods. Assignments are good; but not sufficient. They prefer to have tutorials/ seminars in addition to the regular classes. About evaluation, the students feel that it is quite fair and justified.

• **Pedagogical Development**

– **Curriculum Development:**

- * Initiated the introduction of the courses such as Graph Theory, Advanced Graph Theory and Network Optimization.
- * Involved in the revision and upgrading of the courses such as Discrete Mathematical Structures, Mathematical Foundations of Computer Science, Mathematical Foundations of Information Technology, Probability Theory
- * Involved in the restructuring of M.C.A. and M.Tech.(SACA) programmes.
- * Participated in several workshops on teachers' training, curriculum revision, research & development and specialized topics in Graph Theory and its applications.

- * Coordinated in 2013-14, the restructuring, renaming and curriculum revision of the M.Tech. programme of the Dept. of M.A.C.S., N.I.T.K., Surathkal. The new programme is named as **M.Tech. in Computational Mathematics (CMA)** and is introduced with effect from 2014-15 in place of the earlier M.Tech. in Systems Analysis and Computer Applications.

STUDENT RESEARCH SUPERVISION

• Theses Supervised

– Doctoral Theses:

1. Ravishankar Bhat S. (2006)
2. Saroja R. Hebbar (2008)
3. Udaya Kumar K. Shenoy (2009)
4. Prameela Kolake (Ongoing)

– **M.Tech. Dissertations:** On an average, two dissertations every year since 1998. Approximately about 40 Nos.

– **M.C.A. Dissertations:** On an average, five dissertations every year since 1998. Approximately about 65 Nos.

– Doctoral Students

1. Dr. Ravishankar Bhat S.

* **Title of the Dissertation:** A study of Strong (Weak) Domination and related concepts in Graphs

* **Resulting No. of Publications:** 5

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* Years to graduation: 3 years.

2. Dr. Saroja R. Hebbar

* **Title of the Dissertation:** New aspects of Domination and related topics in Graphs and Semigraphs

* **Resulting No. of Publications:** 5

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* Years to graduation: 3.5 years

3. Dr. Udaya Kumar K. Shenoy

* **Title of the Dissertation:** Some advances in Domination and Colorings of Graphs

* **Resulting No. of Publications:** 2

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* Years to graduation: 4.5 years

LIST OF PUBLICATIONS

• **Journals:**

– **International Journals:**

1. Mixed Domination in Graphs, E. Sampathkumar and S. S. Kamath, **Sankhyā**, (Special Volume) **54** (1992), 399-402.
2. Domination in Semigraphs, S. S. Kamath and R. S. Bhat, **Electronic Notes in Discrete Mathematics**, Vol. **15**, May **2003**, 106-111.
3. Strong and Weak Domination, Full Sets and Domination Balance in Semigraphs, S. S. Kamath and Saroja R. Hebbar, **Electronic Notes in Discrete Mathematics**, Vol. **15**, May **2003**, 112.
4. Domination Critical Semigraphs, S. S. Kamath and Saroja R. Hebbar, **Electronic Notes in Discrete Mathematics**, Vol. **15**, May **2003**, 113.
5. On Strong/ Weak Independent Sets and Vertex Coverings of a graph, S. S. Kamath and R. S. Bhat, **Discrete Mathematics (Elsevier)**, **307** (9-10), (2007), 1136-1145.
6. Maximin Domination Number in Graphs and its critical aspects, S. S. Kamath and Prameela Kolake, **International Electronic Journal of Pure and Applied Mathematics (Academic Publications)**, <http://www.acadpubl.eu>, Vol.6, No.3, 2013, 139-158.
Link to the Paper: <http://www.e.ijpam.eu/contents/201300603.html>
7. Performance Analysis of a Cooperative MAC Protocol of Wireless Ad hoc Networks, Suresh Chavhan, P. Venkataram, Chetan Kumar S. and S. S. Kamath, **IETE Journal of Research**, [Accepted (ID: 901532 DOI:10.1080.03772063.2014.901532)]

– **National Journals:**

1. On Generalization of Dominating Sets, S. S. Kamath and Saroja R. Hebbar, **Journal of Analysis and Computation**, Vol.4, No.2 (2008), 125-131.
2. Some new approaches in Edge Domination, S. S. Kamath and Saroja R. Hebbar, **Bulletin of Allahabad Mathematical Society, Golden Jubilee Year Volume**, Vol 23, Part 1 (2008), 41-56.
3. Domatic Partitions: Critical, Fixed, Free and Totally Free Vertices in a graph, S. S. Kamath and Udaya Kumar K. Shenoy, **Journal of Intelligent System Research**, Vol.3.1 (2009), 111-117.
4. A bound on Weak Domination Number using Strong (Weak) Degree Concepts in Graphs, R.S. Bhat, S. S. Kamath and Surekha, **Journal of International Academy of Physical Sciences**, Vol. 15, No.3, 2011, 303-317.
5. Strong (Weak) Edge-Edge Domination Number of a Graph, R.S. Bhat, S. S. Kamath and Surekha R. Bhat, **Applied Mathematical Sciences**, Vol. 6 (2012), No.111, 5525-5531.
6. Maximin Degree Domination Number in Graphs, S. S. Kamath and Prameela Kolake, **Journal of International Academy of Physical Sciences**, Vol. 16, No.2, 2012, 171-179.

7. Strong/ Weak Edge Vertex Mixed Domination Number of a graph, R. S. Bhat, S. S. Kamath and Surekha R. Bhat, IJMS, Vol. 11, Nos.3-4, 2012, 433-444.
8. Strong (Weak) Matchings & Edge Coverings of a Graph, R. S. Bhat, S. S. Kamath and Surekha Bhat, International Journal of Mathematics and Computer Applications Research, Vol. 2, No.3, 2012, 85-91.
9. Induced Complementation in Graphs, S. S. Kamath and Prameela Kolake, National Academy Science Letters (Publisher: Springer) [Accepted for publication 02/April/2014]

• Conference Proceedings:

– International:

1. Strong/ Weak Neighbourhood Number (K_3 -coverings) of a graph, S. S. Kamath and R. S. Bhat, Proceedings of the International Conference on Discrete Mathematics, Narosa Pub., New Delhi, India, (2004), 142-150.
2. Some New Degree Concepts in Graphs, S. S. Kamath and R. S. Bhat, Proceedings of the International Conference on Discrete Mathematics, (2006), I.I.Sc., Bangalore, India, Ramanujan Mathematical Society Lecture Notes Series No. 7, (2008), 237-243.
3. On some results in Maximin Degree Dominations in Graphs, S. S. Kamath and Prameela Kolake, 2nd International Engineering Symposium, Kumamoto University, Japan (March 5-7, 2012).
4. Some generalizations of Vertex covering and independence numbers of a graph, S. S. Kamath and Sudhanva S. Kamath, International Engineering Symposium, Kumamoto University, Japan (March 4-6, 2013).
5. An improved bound on Weak Independence Number of a graph, R. S. Bhat, S.S. Kamath and Surekha, Proceedings of the World Congress on Engineering, July 3-5, 2013, London, U.K.

– National:

1. Suspended Sediment Profiles derived from Spectral Attenuation Coefficients Measurements using Neural Network Method, Geeta Varkey, T. Suresh, S. G. Prabhu Matondkar, Elgar Desa, S. S. Kamath, Proceedings of Indian National Conference on Harbour & Ocean Engineering - (2004), NIO, Goa, India, 770-776.
2. Performance Analysis of Ad hoc Routing Protocols, Vijay Kumar Ghode and S. S. Kamath, Proceedings of the National Conference on Ubiquitous Computing-2006, NMAMIT, Nitte, Udipi (D.K.), India (2006), 132-136.
3. Domination Critical Semigraphs, S. S. Kamath and Saroja R. Hebbar, Proceedings of the National Conference on Discrete Mathematics and its Applications, (2007), Thiagarajar College of Engineering, Madurai, 58-66.
4. k -dom Coloring of a graph, E. Sampathkumar, S. S. Kamath and Udaya Kumar K. Shenoy, Proceedings of the National Conference on Discrete Mathematics and its Applications, (2007), Thiagarajar College of Engineering, Madurai, 88-91.

SKILLS

<i>Languages</i>	Konkani (mother tongue) English (fluent) Kannada (fluent) Hindi (fluent) Marathi, Urdu (can understand; but not so fluent)
<i>Software</i>	MATLAB, L ^A T _E X, C & C++