

Resume

1. **Full Name:** Dr. ANITA MILIND LANDE (WATEKAR).

2. **Designation:** Associate Professor.

3. **Address for correspondance:**

- **Office:** Department of Mathematics,
MES Abasaheb Garware College (Autonomous), Karve Road, Pune-411004.
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4. **Educational Qualification:** M.Sc., Ph.D., SET, NET.

- **B.Sc.(Mathematics):** In 2003, First class with Distinction from Modern College, Shivajinagar, Pune, affiliated to Savitribai Phule Pune University.
- **M.Sc.(Mathematics):** In 2005, First class with Distinction from the Department of Mathematics Savitribai Phule Pune University.
- **Qualified Examinations:** NET (CSIR-UGC), SET.
- **Ph.D. Mathematics (2025)**
Title of thesis: **Zero Divisor Graphs of Rings with Involution**
Name of Guide: Prof. (Dr.) Anil S. Khairnar
Research Centre: MES Abasaheb Garware College (Autonomous), Pune.

5. **Achievements/Selections:**

- **First rank in B.Sc.** in Savitribai Phule Pune University.
- **First rank** in the Department of Mathematics, Savitribai Phule Pune University, Pune.
- Selected for **monthly scholarship** given by National Board for Higher Mathematics (NBHM) while pursuing M.Sc. (2024-25).

6. **Teaching Experience:**

Teaching: 20 years (under graduate).

Taught more than 15 different courses for under graduate students in Mathematics, Computer Science and Biotechnology.

Visiting e-Tutor in the online teaching at Tech Knit (Center for e-Learning and Training), Pune (2006-2007).

7. Member:

- Life Member of the Indian Mathematical Society [IMS].
- Life Member of the Indian Science Congress Association [ISCA].

8. Research:

• International collaborations:

Prof. Ivan Gutman, a prominent Mathematician/chemist, Emeritus Professor, University of Kragujevac (Serbia). Prof. Gutman is widely recognised as one of the founding figures of Chemical Graph Theory - the mathematical discipline combining ideas from graph theory, discrete mathematics, and theoretical chemistry. One of his most influential contributions was introducing the concept of “graph energy”. His research spans combinatorics, spectral graph theory, discrete mathematics, molecular graphs, topological indices (e.g. Wiener index), and mathematical chemistry - bridging chemistry and mathematics in novel ways.

• Research Publications:

1. Anil Khairnar, Anita Lande, Geetali Bhavar and Nanasahab Phatangare, *Wiener and Harary indices of the generalized zero-divisor graph*, TWMS J. App. Eng. Maths. (Accepted).
2. Krishnat Masalkar, Anil Khairnar, Anita Lande, and Lata Kadam, *On Spectrum of the Zero-divisor Graph of Matrix Ring*, Southeast Asian Bull. Math. (Accepted).
3. Anita Lande and Anil Khairnar, *Generalized zero-divisor graphs of rings with involution*, Asian European J. Math. (2026) # 2650030 (Published Online).
4. Anil Khairnar and Anita Lande, *On the spectrum of generalized zero-divisor graph of the ring $\mathbb{Z}_{p^{k_1}q^{k_2}r^{k_3}}$* , Malaysian Journal of Mathematical Sciences **20**(1) (2026), 229-251.
5. Anita Lande and Anil Khairnar, *On the generalized zero-divisor graph of Rickart *-rings and generalized Rickart *-rings*, Journal of the Indian Math. Soc. **93**(1) (2026), 97-117.

6. Anil Khairnar and Anita Lande, *Generalized strong zero-divisor graph of rings with involution*, Gulf J. Math. **21**(2) (2025), 222-240.
7. Krishnat Masalkar, Anita Lande and Anil Khairnar, *Spectrum of the Generalized Zero-Divisor Graphs*, South East Asian J. of Mathematics and Mathematical Sciences **21**(2) (2025), 25-42.
8. Anita Lande, Anil Khairnar and Ivan Gutman, *The Zero-divisor graph of 2×2 matrix ring and its energies*, Filomat **39**(22) (2025), 7559-7570.
9. Anita Lande and Anil Khairnar, *Idempotent graph of 2×2 matrix ring with involution*, Gulf Journal of Mathematics **19**(2) (2025), 168-180.
10. Anita Lande and Anil Khairnar, *On the spectrum of generalized zero-divisor graph of the ring $\mathbb{Z}_{p^\alpha q^\beta}$* , Communications in Mathematics and Applications **15**(3) (2024), 1031-1044.

• **Google Scholar link:**

<https://scholar.google.com/citations?user=&user=u9WocDwAAAAJ>.

• **Papers presented:**

1. Presented a research paper entitled “On Cut Vertices in the Generalized Strong zero-divisor graph of rings with involution” in *the International Conference on Analysis, Discrete Mathematics and Applications (ICADMA 2025)*, jointly organized by NACS College, SPPU, IMS, and NMAA during 11-13 November 2025.
2. Presented a research paper entitled “On the Cut Vertices and Complement of GZDG of Rings with Involution” in the two days *national conference on Recent Advances in Pure, Industrial and Applied Mathematics driven by AI and ML (RAPIAM-2025)* organized by JSPM University Pune in collaboration with Indian Mathematical Society on June 5-6, 2025.
3. Presented a research paper entitled “Generalized zero-divisor graph of rings with involution” in *90th Annual Conference of Indian Mathematical Society: An International Meet* organized by Department of Mathematics and Statistics, Dr. Vishwanath Karad MIT World Peace University, Pune, during December 23 – 26, 2024.
4. Presented a research paper entitled “Properties of the generalized zero-divisor graph of the ring $\mathbb{Z}_{p^2q^2}$ ” in *2nd International Conference on Evolution in Pure and*

Applied Mathematics (ICEPAM-2024) organized by Department of Mathematics, Akal University, Talwandi Sabo, Punjab, during 20 – 22 November 2024.

5. Presented a research paper entitled “Generalized zero-divisor graph of commutative rings” in *the International Conference on Graph Theory (ICGT 2024)* organized by the postgraduate department of Mathematics, Christ College (Autonomous), Irinjalakuda, Kerala during 8 – 10 February 2024.
6. Presented a research paper entitled “ Generalized zero-divisor graph of *-rings” in *the International Conference on Graph Theory and its Applications (ICGTA 2023)* organized by the Department of Mathematics, CHRIST (Deemed to be University), Bangalore during 30 November- 02 December, 2023.
7. Presented a research paper on “Adjacency Spectrum of zero divisor graph of 2×2 matrix ring over a finite field” in *the International Conference On Algebra and Discrete Mathematics* held at Department of Mathematics, Savitribai Phule Pune University, during May 26 – 28, 2022.
8. Presented a research paper on “Job Sequencing problem using new technique Mean Time Method” in *6th International Science Congress ISC 2016* held at HRM Rajgurunagar, Pune, during Dec 8 – 9, 2016.

9. Orientation/Refresher/FDP:

1. Successfully completed “92nd Online refresher course: Basic Sciences” conducted by UGC MMTTC, Sardar patel University, Vallabh Vidyanagar, Gujarat during 21 July to 3 August 2025.
2. Successfully completed “Online Faculty Development Programme” during May 25-30, 2020 organized by KTHM college, Nashik.
3. Successfully completed “Refresher Course in Mathematics and Statistics” during Sep 5-25, 2018 held at ASC, Pondicherry university.
4. Successfully completed “Refresher Course in Mathematics” during Nov 3-23, 2014 held at Department of Mathematics, Savitribai Phule Pune University.
5. Successfully completed “Orientation Programme” during Oct 3-30, 2013 held at ASC Savitribai Phule Pune University.

10. **Computer Related Skills:** C Programming, Scilab, Python, SageMath, L^AT_EX, Maple.