NILESH KHANDEKAR

Qualification: M. Sc., SET, NET, GATE (Mathematics)

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Postal Address: A/P- Khilarwadi, Tal- Sangola, Dist- Solapur, Pin- 413306 (Maharashtra, India)

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CURRENT POSITION

Assistant Professor

Department of Basic Sciences, Humanities and Management, Shri Guru Gobind Singhji Institute of Engineering and Technology, Vishnupuri, Nanded

Duration: September 2023 – Ongoing Place: Nanded, Maharashtra, India

EXPERIENCE

Adjunct Faculty

Department of Mathematics, COEP Technological University

Duration: August 2023 – Sept. 2023   Place: Pune, Maharashtra, India

Senior Research Fellow (CSIR)

Department of Mathematics, Savitribai Phule Pune University

Duration: Feb. 2020 – August 2023   Place: Pune, Maharashtra, India

Junior Research Fellow (DST-SERB Project)

Department of Mathematics, Savitribai Phule Pune University

Duration: July 2018 – January 2020   Place: Pune, Maharashtra, India

EDUCATION

Ph. D. in Mathematics (Thesis submitted)

Savitribai Phule Pune University (formerly University of Pune)

Duration: January 2020 – ongoing   Place: Pune, Maharashtra, India

Research Center- Department of Mathematics, Savitribai Phule Pune University, Pune

Thesis Title : A study of graphs associated with algebraic structures and ordered structures.

M. Sc. in Mathematics

Savitribai Phule Pune University (formerly University of Pune)

Duration: July 2016 – June 2018   Place: Pune, Maharashtra, India

College Name- Department of Mathematics, Savitribai Phule Pune University, Pune

Percentage- **76**   Grade- **O**

B. Sc. in Mathematics

Punyashlok Ahilyadevi Holkar Solapur University (formerly Solapur University)

Duration: July 2013 – June 2016   Place: Akluj (Solapur), Maharashtra, India

College Name- Shankarao Mohite Mahavidyalaya, Akluj

Percentage- **92.72**   Class- **First Class with Distinction**

ACHIEVEMENTS/ AWARDS

1. **My Erdős number is 2.**

2. **CSIR-UGC NET June 2017 qualified with all India rank (AIR) 12.**

3. **CSIR-UGC NET June-2018 qualified with CSIR-JRF and Dec-2018 qualified with UGC-JRF.**

4. **SET April 2017 qualified with score 246.**

5. **Worked as a reviewer/referee for 9th Annual International Conference on Algorithms and Discrete Applied Mathematics (CALDAM2023).**

6. **Awarded Marathi Vidnyan Parishad Postgraduate Scholarship 2016-18 for Science faculty.**

7. **GATE 2018 qualified.**

8. **IIT JAM 2016 qualified.**

9. **B. Sc. Punyashlok Ahilyadevi Holkar Solapur University (formerly Solapur University), Rank 3.**

AREAS OF INTEREST

Algebra, Graph Theory, Lattice Theory.

Research Area: Algebraic Graph Theory

PUBLICATIONS (07)

Publications (SCI Indexed Journals) (06)

1. **Nilesh Khandekar** and Vinayak Joshi, *Zero-divisor graphs and total coloring conjecture*, Soft Computing, 24 (2020), 18273-18285.

2. Chetan Patil, **Nilesh Khandekar** and Vinayak Joshi, *On graphs with equal coprime index and clique number*, AKCE International Journal of Graphs and Combinatorics, (2023), https://doi.org/10.1080/09728600.2023.2218442.

3. **Nilesh Khandekar** and Vinayak Joshi, *Chordal and perfect zero-divisor graphs of posets and applications to graphs associated with algebraic structures*, Mathematica Slovaca, 73(5) (2023), 1099-1118.

4. **Nilesh Khandekar** and Vinayak Joshi, *Total coloring of graphs associated with algebraic structures and ordered structures*, Indian Journal of Pure and Applied Mathematics, (2023), https://doi.org/10.1007/s13226-023-00500-4.

5. **Nilesh Khandekar** and Vinayak Joshi, *Eulerian and pancyclic zero-divisor graphs of ordered sets*, AKCE International Journal of Graphs and Combinatorics, (2024), https://doi.org/10.1080/09728600.2023.2287225.

6. Pravin Gadge, **Nilesh Khandekar** and Vinayak Joshi, *On the comaximal graph of a ring*, AKCE International Journal of Graphs and Combinatorics, (2024), https://doi.org/10.1080/09728600.2024.2302184.

Communicated (01)

1. **Nilesh Khandekar**, Peter J. Cameron and Vinayak Joshi, *Component graphs of vector spaces and zero-divisor graphs of ordered sets*, arXiv:2210.04281 [math.CO].

ONGOING PROJECTS/ PAPERS UNDER PREPARATION (04)

1. **Unification of graphs associated with ordered structures and algebraic structures** (with **Professor Vinayak Joshi** and **Peter J. Cameron**, Professor, School of Mathematics and Statistics, University of St Andrews, North Haugh, St Andrews, Fife KY16 9SS, UK).

2. **Infinite Eulerian and Hamiltonian zero-divisor graphs** (with **Professor Vinayak Joshi** and **John D. LaGrange**, Professor and Head, Division of Science, Lindsey Wilson College, Columbia, KY 42728, U. S. A.).

3. **Genus of zero-divisor graphs and its applications** (with **Professor Vinayak Joshi** and **Professor Tamiz Chelvam**, Department of Mathematics, Manonmaniam Sundaranar University, Tirunelveli 627012, Tamil Nadu, India).

4. **Automorphism of zero-divisor graphs** (with **Professor Vinayak Joshi** and **Dr. Ganesh Kadu**, Department of Mathematics, Savitribai Phule Pune University, Pune- 411007, Maharashtra, India).

TALKS

Paper presented

1. Presented a paper titled *"Eulerian and pancyclic zero-divisor graphs of ordered sets"* in the International Conference on Algebra and Discrete Mathematics (ICADM2023) which was held at the Department of Mathematics, Savitribai Phule Pune University, Pune during May 26-28, 2022.

2. Presented a paper titled *"Component graphs of vector spaces and zero-divisor graphs of ordered sets"* in the 88th Annual Conference of The Indian Mathematical Society An International Meet (IMS 2022) which was held at the Department of Mathematics, Birla Institute of Technology, Mesra, Ranchi, Jharkhand during December 27-30, 2022.

Talks

1. Delivered a talk on *"Metric Spaces"* in the Workshop on Competitive Exams in Mathematics which was held at the Department of Mathematics, Savitribai Phule Pune University, Pune during July 02-09, 2022.

2. Delivered a talk on *"Chordal perfect zero-divisor graphs of posets and applications to graphs associated with algebraic structures"* in the Student Seminar Series at the Department of Mathematics, Savitribai Phule Pune University, Pune on December 02, 2022.

CONFERENCES / WORKSHOPS

1. Annual Foundation School-I (AFS-I)
Bhaskaracharya Pratishtan, Pune

Duration: December 3-29, 2018   Place: Pune, Maharashtra, India

2. Thematic Lecture Series (On Graphs Associated with Algebraic Structures and Ordered Structures)
Department of Mathematics, Savitribai Phule Pune University

Duration: January 7-12, 2019   Place: Pune, Maharashtra, India

3. Annual Foundation School-II (AFS-II)
Bhaskaracharya Pratishtan, Pune

Duration: May 27 - June 22, 2019   Place: Pune, Maharashtra, India

4. National Webinar on Coding Theory
Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Duration: September 21-23, 2021   Place: Online mode

5. International Workshop On Graphs from Algebraic Structures (IWGAS 2021)
Department of Mathematics, Manonmaniam Sundaranar University

Duration: October 7-9, 2021   Place: Online mode

6. International Conference On Discrete Mathematics (ICDM2021)

Department of Mathematics, Manonmaniam Sundaranar University

Duration: October 11-13, 2021   Place: Online mode

7. Annual Foundation School-II (AFS-II)

Department of Mathematics, Savitribai Phule Pune University

Duration: Nov 28, 2021- Jan 09, 2022 Place: Online Mode

8. International Conference on Algebra and Discrete Mathematics (ICADM2022)

Department of Mathematics, Savitribai Phule Pune University

Duration: May 26-28, 2022   Place: Pune, Maharashtra, India

9. 88th Annual Conference of The Indian Mathematical Society An International Meet (IMS 2022)

Department of Mathematics, Birla Institute of Technology, Mesra

Duration: December 27-30, 2022   Place: Ranchi, Jharkhand, India

10. Advanced Instructional Schools (AIS)- Combinatorics and Graph Theory (2023)

University of Kashmir

Duration: May 01-13, 2023   Place: Srinagar, Jammu and Kashmir, India

EXTRACURRICULAR ACTIVITIES

1. Worked as **Mentor/Facilitator** at the **Refresher Course** (Online mode) in Mathematics and Computational Sciences organized by the Department of Mathematics and UGC-Human Resource Development Centre, Savitribai Phule Pune University, Pune during the period October 16-29, 2021.

2. Worked as **Mentor/Facilitator** at the **Refresher Course** in Mathematics (Online mode) organized by the Department of Mathematics, Savitribai Phule Pune University, Pune and Department of Higher Education, Government of Odisha during the period November 16-29, 2021.

LANGUAGES

English,   Hindi,   Marathi.

COMPUTER PROFICIENCIES

LaTeX,   C language,   MS-CIT course.

INTERNATIONAL COLLABORATIONS

Peter J. Cameron
Professor,
School of Mathematics and Statistics,
University of St Andrews,
North Haugh, St Andrews, Fife KY16 9SS, UK

Email Address: pjc20@st-andrews.ac.uk

PH. D. GUIDE

Vinayak Joshi
Professor and Head,
Department of Mathematics,
Savitribai Phule Pune University,
Ganeshkhind, Pune- 411007

Email Address: vinayakjoshi111@yahoo.com,
vinayakjoshi111@gmail.com

Date : February 10, 2024   Mr. Nilesh Vijay Khandekar