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| Name: Nandini Ajay Rai | | E-mail: nandinirai@somaiya.edu | | | |
| Contact No: 9833142674 | | | | | |
| Department/Section: Science And Humanities | | | | | |
| College: K J Somaiya School of Engineering | | | | | |
| DOJ Somaiya: 12/12/2005 | Career Experience: 20 Yrs | Industry Experience: 0Yrs | Teaching Experience: 20 Yrs | | |
| Present Academic Designation: Assistant Professor | Present Administrative Designation: | | | | |

| Area of research/specialization and Courses Delivered |
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| Research domain/interests/areas |
| <ol style="list-style-type: none"> 1. Linear Algebra 2. Mathematics Education |
| Courses Delivered |
| <ol style="list-style-type: none"> 1. Applied Mathematics-I 2. Applied Mathematics-II 3. Applied Mathematics-III 4. Applied Mathematics-IV 5. Computational Mathematics 6. Mathematics for Communication Engineering -I 7. Mathematics for Communication Engineering -II 8. Audit Course: Basics of Mathematics 9. Integral Transforms and Vector Calculus 10. Probability, Statistics and Optimization Techniques 11. Discrete and Applied Mathematics 12. Complex Analysis, Statistics and Optimization Techniques 13. Mathematics for Electronics Engineering-I |

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| Recognition as a teacher by any University | UG: Yes | PG: No | Ph.D : No |
| Details of Recognitions | | | |
| <ol style="list-style-type: none"> 1. University of Mumbai approved UG teacher 2. Somaiya Vidyavihar University approved UG teacher | | | |
| Education | | | |

| Examination | Name of the Degree | University/Board | Institute/College | Year | CPI/SPI/ % Marks |
|---------------|--------------------|----------------------|----------------------------------|------|------------------|
| Ph.D | | | | | |
| PG | M.Sc. | University of Mumbai | University of Mumbai | 2005 | 84.5% |
| UG | B.Sc. | University of Mumbai | Ramniranjan Jhunjhunwala College | 2003 | 87.37% |
| NET/SET/Other | NET | UGC CSIR | | 2010 | 121 rank |

| Research Accomplishments and Projects | | |
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| Publications Total: 04 | Number of Peer review Journal papers: 04 | Number of Conference papers: |
| Details of Publications: | | |
| International Journals | | |
| <ol style="list-style-type: none"> 1. Published a research paper titled “ A Pilot Study: Introduction of Audit course to support Learning Engineering Mathematics” in Journal of Engineering Education Transformations, Issue no. 119, volume 30, ISSN 2349-2473, eISSN 2394-1707, 187-191, 2017 | | |

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2. Published a research paper titled “**Poster Presentation: a novel online assessment tool for motivation, relevance and foundation for research in mathematics**” in Journal of Engineering Education Transformations, Special issue 35: 168-174 , 2022
3. Published a research paper titled “**Optimum Use of LMS for Dynamic Mathematics Classrooms in Blended Mode**” in Journal of Engineering Education Transformations, volume 36, special issue 2: 492-499 , 2023
4. Published a research paper titled “**Effect of Diverse Assessment Methods on Undergraduate Engineering Students’ Performance in Mathematics Courses**” in Journal of Research in Mathematics, Science, And Technology Education, volume 3, No 1: 24 - 36 , Jan 2026

FDPs/Seminars/Workshops/Training Programs Attended/ Organized/ Delivered

Attended

1. Attended Teachers Training Program on '**Probability & Random Variables**', organized by 'K.J. Somaiya College of Engineering', Mumbai , Jan- April 2006
2. Attended Workshop on '**Magic Maths**' Organized by RAIT on 8th April 2006
3. Attended mega workshop on '**Research methodology**' conducted by IITB from 25th June 2012 to 4th July 2012 at KJSCE, Vidyavihar.
4. Attended STTP on '**Tools & Techniques Of Effective Technical Writing**' from 12th May - 17th May 2013 at KJSCE, Vidyavihar.
5. Attended one day training on " **Google Apps**" on 10 th July 2013 at KJSCE, Vidyavihar.
6. Attended Seminar on Applied Mathematics – III (EXTC / ETRX) organized by RGIT, Andheri, 9th July 2013.
7. Attended Seminar on Applied Mathematics – III (COMP / IT) organized by KJSCE, 27th July 2013.
8. Attended STTP on “**Applications of Mathematics in science and Engineering**” from 16th Dec to 20th Dec 2013 at SCOE, Kharghar, Navi Mumbai
9. Attended Orientation Programme on revised syllabus of “Applied Mathematics – IV (EXTC/ ETRX) “on 30th Dec 2013 at KJSCE , Vidyavihar.
10. Attended a four day orientation Programme on “**Advanced Optimization Techniques**” Held on 6th , 7th , 13th & 14th February 2014 at KJSCE
11. Attended **NBA – Master trainer Workshop** on 7th June 2014 and from 25th June to 27th June 2014 at KJSCE, Mumbai.
12. Attended **Evaluation workshop** in July 2014 at KJSCE, Vidyavihar
13. Attended STTP on “ **Self-Transformation and Management**” from 4th January to 8th January 2016 at K. J. Somaiya Polytechnic, Mumbai-77
14. Attended STTP on “ **Use of Open Source software In Research**” from 27th June to 1st July 2016 at Vidyalankar Institute of Technology, Mumbai
15. Attended and Successfully completed “**FDP101X- Foundation Program in ICT for Education**” from 3rd August to 7th September 2017 Organized by IIT Bombay as an MOOC course
16. Attended and Successfully completed “**FDP201X- Pedagogy for Online and blended Teaching – Learning Process**” from 12th September to 12th October 2017 Organized by IIT Bombay as an MOOC course
17. Attended and successfully completed a 8 week online course on “**Graph Theory**” by IIT Madras through NPTEL during August to October 2017.
18. Attended and successfully completed a 12 week online course on “ **Numerical Linear Algebra**” by IIT Roorkee through NPTEL during Jan – April 2018
19. Attended and successfully completed a 8 week online course on “**Introduction to Abstract and Linear Algebra**” by IIT Kharagpur through NPTEL during July-October 2018.
20. Attended and successfully completed a one week National level workshop on “**Cooperative**

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Learning" through face to face mode from 14th to 18th December 2018 and participated in synchronous session on 21st December 2018 at department of Educational Technology at SNDT Women's university, Teaching Learning center, Mumbai

21. Attended and successfully completed a 12 week Online course on "**Business Statistics**" by IIT Roorkee through NPTEL during Jan- April 2019.
22. Attended and Successfully Completed a 4 weeks Online FDP Course on "**Designing Learner Centric MOOC**'s organized by IIT-Bombay through NPTEL during July-Aug 2019.
23. Attended and Successfully Completed a 8 weeks Online FDP Course on "**Matrix analysis with Applications**" organized by NPTEL through July-Oct 2019.
24. Attended a 8 weeks Online FDP Course on "**Matlab Programming for Numerical Computations**" organized by NPTEL through Jan-Apr 2020.
25. Attended a 12 weeks Online FDP Course on "**Transform Calculus and it's Applications in Differential Equations**" organized by NPTEL through Jan-Apr 2020.
26. Successfully completed "**Effective and Efficient online teaching in the age of Corona: A hands on workshop**" on 16th May 2020 through IIT Bombay Bodhi Tree Platform involving 3 days of video lectures and hands on work.
27. Participated in a 3 days national level Online workshop on "**Research Methodology, Statistical Techniques & Data analysis using MS- Excel**" held on 18th, 19th and 20th May 2020, organized by Tilak College of Science and Commerce, Vashi, Navi Mumbai.
28. Participated in the one - day IQAC Webinar "**Introduction to Latex**" on 28th May 2020 organised by Loganatha Narayanasamy Government College, Ponneri, Tamilnadu.
29. Attended and Successfully Completed an Online Course on "**Online Teaching**" organized by IUCEE team of Faculty through July-Sep 2020.
30. Attended and Successfully Completed a 8 weeks Online FDP Course on "**Computational Mathematics with Sage Math**" organized by NPTEL through Jan-March 2021.
31. Attended and Successfully Completed a 8 weeks Online Course on "**Introduction to R- Software**" organized by NPTEL through July-Sep 2021.
32. Attended and Successfully Completed a 8 weeks Online FDP Course on "**Descriptive Statistics with R-Software**" organized by NPTEL through Aug-Oct 2021.
33. Attended and Successfully Completed an 8 weeks Online Course on "**Essentials of Data Science with R-software-1: Probability and Statistical Inference**" organized by NPTEL through Jan-Apr 2022.
34. Participated and Successfully completed a 5 weeks Online Faculty Development Program on "**Linear Algebra**" conducted by department of Applied Sciences and Humanities, SPIT, Mumbai through 25th July 2022 to 26th August 2022
35. Attended 2 days national level online workshop on "**SPSS software**" organized by the Department of Mathematics, G H Raisoni college of Engineering , Nagpur, on 1st-2nd September 2022
36. Participated in 2 days National Symposium on "**Academic challenges towards implementation of NEP in HEIs**" organized on 29th-30th September 2022 by Lokmanya Tilak College of Engineering, Navi Mumbai
37. Successfully Completed an Online course on "**Data Science Math Skills**" offered by Coursera , October 2022
38. Attended an online seminar on 'Introduction to Intellectual Property' by National Intellectual Property Awareness Mission (NIPAM 2.0) in association with K. J. Somaiya College of Engineering, Somaiya Vidyavihar University, Mumbai on 6th April, 2023
39. Attended and Successfully Completed a 12 weeks Online Course on "**Data Analytics with Python**" organized by NPTEL through Jan-Apr 2023.
40. Attended a one week National level Online Faculty Development Program on "Outcome Based Education and Application of Generative AI in Teaching and Research", organised by the DST-CURIE-AI center of sri padmavati Mahila Visvavidyalayam (SPMVV University), Tirupati, in association with ipsr solutions limited from 18 March 2024 to 23 March 2024 and secured A grade

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| <ul style="list-style-type: none">41. Attended and Successfully Completed a 12 weeks Online Course on “Essential Mathematics for Machine Learning” organized by NPTEL through July- Oct 2024.42. Attended and Successfully Completed a 12 weeks Online Course on “Mathematical Methods and its Applications” organized by NPTEL through July- Oct 2025. |
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Organized

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| <ul style="list-style-type: none">1. Member of the organizing committee of 2 day National webinar “Challenges, Innovations and Adaptations of COVID-19: Science and Society Perspectives” on 29th – 30th October 20212. Member of the organizing committee of Training/ Demo session of “Impartus Lecture Capturing solutions” on 7th October, 20223. Member of the organizing committee of a webinar on “ Curriculum Framework aligned to NEP Implementation” on 10th October, 20224. Organized an online training session on “Impartus” for FY faculty on 2nd March, 20235. Member of the organizing committee of a webinar on “ Students as stakeholders towards Quality Assessment” on 28th February, 20246. Co-coordinator for a Guest Lecture on “Applications of Laplace and Fourier Transforms” for Second Year B.Tech Students conducted on 16th October ,20247. Member of the organizing committee for a Guest Lecture on “Applications of Data Science” for Second Year B.Tech Students conducted on 1st April, 20258. Member of the organizing committee for one week ISTE approved STTP on “Advanced Functional Materials and Sustainability” conducted from 23rd June to 27th June 20259. Co- coordinator for one week ISTE approved STTP on “Quantum Computing: From Fundamentals to Applications” conducted from 15th to 19th December 2025 |
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Delivered

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| <ul style="list-style-type: none">1. Delivered a Session on “Sampling Distributions” during AICTE, ISTE approved one week STTP on “ Linear Algebra, Statistics and Mathematical Modelling: Hands On“ on 9th January 2019 at K. J. Somaiya college of Engineering, Mumbai – 772. Delivered an Online expert talk on “Fourier Series” during One week crash course on “Engineering Mathematics-III” organized by the Department of Applied Sciences and Humanities, Pillai HOC College of Engineering and Technology, Rasayani, Raigad on 24th March 2021.3. Delivered an Online session as a workshop facilitator on “Transforming Mathematics Education in Engineering: The Model KJSCE” during 9th International Conference on Transformations in Engineering Education on 7th January 2022.4. Delivered a session on “MATLAB” during a workshop on “MATLAB, SQL & SAS” on 5th September 2023, organized by the Department of Mathematics and Statistics, S. K. Somaiya College, Somaiya Vidyavihar University.5. Delivered a session during a workshop on “Basics of R Programming” on 11th January 2024, organized by the Department of Computer Science & Information Technology, S. K. Somaiya College, Somaiya Vidyavihar University.6. Delivered a session during a workshop on “Basics of R Programming” on 10th January 2025, organized by the Department of Computer Science & Information Technology, S. K. Somaiya College, Somaiya Vidyavihar University.7. Delivered a session during a workshop on “Basics of R Programming” on 12th December 2025, organized by the Department of Computer Science & Information Technology, S. K. Somaiya College, Somaiya Vidyavihar University. |
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| Notable Key Scholastic Achievements | |
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| 1. | Recipient of Gold Medal in M.Sc. Exam from University of Mumbai 2005 |
| 2. | Ranked Third in the University of Mumbai 2003 |
| 3. | Recipient of NPTEL Discipline Star July – Nov 2021 |

| Notable Positions and Responsibility | |
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| 1. | Member of Departmental Planning Committee |
| 2. | Coordinator of Departmental Academic Committee |
| 3. | Coordinator of Departmental Time table Committee |
| 4. | Former Coordinator of Course In charge for FY |
| 5. | Co-coordinator of Curriculum design and Development Committee |
| 6. | Member of Expert Committee for Integrated BS-MS Program |
| 7. | Departmental Representative in KJSCE-LOCF Committee |
| 8. | Member of KJSSE Exam Squad |
| 9. | Member of Student Disciplinary Committee (KJSSE) |
| 10. | Representative from KJSSE for the Somaiya Summer & Winter School program |

Date: 29/01/2026

Signature of Faculty Member