Shri Vile Parle Kelavani Mandal's
DWARKADAS J.SANGHVI COLLEGE OF ENGINEERING
(Empowered Autonomous College Affiliated to the University of Mumbai)

Department of Science and Humanities

Departmental Achievements Report

A.Y. 2026-27
A.Y. 2025-26
A.Y. 2024-25
A.Y. 2023-24

Department of Science and Humanities

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Books Published

Department of Science and Humanities

Books Published

Sr. No.	Name of the faculty	Year	Category/Title	ISBN No.	Publication
1.	Dr Meenakshi Rananaware, Dr Yogesh S Parab	2025	Environmental Chemistry and Non-Conventional Energy Sources	ISBN : 978-93-7105-481-2	Himalaya Publishing House
2.	Dr. Smita Rane	2025	Professional Communication and Ethics	ISBN: 978-93-7105-793-6	Himalaya Publishing House
3.	Shirley Mathew	2025	Effective Communication Skills	ISBN 978-93-6109-148-3	Nirali Prakashan
1.	Shirley Mathew	2024	Professional Communication and Ethics	ISBN 978-93-6109-776-8	Nirali Prakashan
2.	Shirley Mathew	2022	Book chapter/"Image Building" in Communication Skills for Engineers.	ISBN 978-93-94766-21-1	SCIENG Publications.
3.	Shirley Mathew	2020	Book/Professional Communication and Ethics-1	ISBN 978-93-89825-58-9	Nirali Prakashan
4.	Shirley Mathew	2019	Book/Communication Skills (3rd revised edition)	ISBN 978-93-332-1497-2	Technical Publications
5.	Shirley Mathew	2018	Book/Communication Skills (2nd revised edition	ISBN 978-93-332-1487-2	Technical Publications
6.	Shirley Mathew	2017	Book/Communication Skills (1st edition)	ISBN 978-93-332-1487-2	Technical Publications
7.	Shirley Mathew	2016	Book/Communication Skills (4th revised edition)	ISBN 978-93-5038-884-6	Technical Publications
8.	Shirley Mathew	2015	Book/Communication Skills (3rd revised edition)	ISBN 978-93-5038-884-6	Technical Publications
9.	Shirley Mathew	2014	Book/Communication Skills (2nd revised edition)	ISBN 978-93-5038-8884-6	Technical Publications
10.	Shirley Mathew	2013	Book/Communication Skills (1st edition)	ISBN 978-93-5038-884-6	Technical Publications

Research and Publications

(June 2026-September 2026)

1. Market-Consistent Hybrid Fuzzy Binomial Option Pricing Model in Volatile Markets, MK Goswami, VS Kulkarni, Computational Economics, 0927-7099,

2. A Double Fuzzy Heat Kernel Framework for NIFTY 50 Index Options under Epistemic Ambiguity, MK Goswami, VS Kulkarni J. Korean Soc. Ind. Appl. Math.,1226-9433,

Research and Publications

Academic Year

2025-2026

1. Exploring various nanomaterials in enhancing the performance of chiral nematic liquid crystal for blue phase display. **Jessy P. J**, Journal of Molecular Liquids, 0167-7322

2. Highly Sensitive and Selective Room-Temperature H_2S Detection Using N-Doped Carbon Nanofiber/Ni−ZnO Composites. Akshara Paras Parekh, Carlos Posada, **Narayan Karmakar**, Shilpa Jain, Guoliang Liu , ACS Applied Electronic Materials, 2637-6113.

3. Selective Hopping and Stable Path Integration to Boost AODV's Message Delivery. Pratik Kanani, Neel Kothari, Lakshmi Kurup, Deepali Patil, Darshana Sankhe, **Gayatri Pandya.** International Research Journal of Multidisciplinary. Technovation. EISSN: 2582-1040.

4. Smart Bins, Smarter Cities: IoT- Driven Waste Collection with Real-Time Sensing and Methane Mapping. Hrushik Mehta, Vraj Deriya, Darshana Sankhe, Pratik Kanani, **Gayatri Pandya**, Vishaka Shelke. Mathematical Modelling of Engineering Problems. ISSN: 2369-0739.

Research and Publications

Academic Year

2024-2025

Department of Science and Humanities

1. Diffusion limited aggregation of polymers with anisotropic interactions and phase transition. **Kartha, M.J.,** Applied Physics A, 131(6), p.507

2. Experimental and simulation study of polymer nanocomposite thin films. **Karmakar, N**.S., Valavade, A.V., Jain, S., **Kartha, M.**, Khandekar, P.L., Shah, A., Phirke, A. and Kothari, D.C., 2025. Materials Science and Technology, p.02670836251340454

3. Synthesis and biological evaluation of novel imidazolone-thiabendazole-based metal complexes. PN, P., **YS, P**. and NS, P., 2024. International journal, 15(3), pp.1268-1274.

4. Inversion Formula of Generalized Sumudu-Laplace Transform in the Distributional Sense. Rangari, A.N., **Pawar, R.S**. and Sharma, V.D., Available at SSRN 5172505.

5. Analytical Study of Generalized Sumudu-Laplace Transform in Distributional Sense A. N. Rangari1 **, Rohini S. Pawar2** and V. D. Sharma3 Aayushi International Interdisciplinary Research Journal Sept. 2024 (ISSN 2349-638x).

6. Testing Function Spaces and Operation Transform Formulae for Sumudu-Laplace Transform A. N. Rangari1 , **Rohini S. Pawar2** and V. D. Sharma3International Journal of Innovative Research In Technology (IJIRT 179341) May 2025 ISSN: 2349-6002.

7. A Study of Sumudu-Laplace Transform and Its Analytical Structure A. N. Rangari1 , **Rohini S. Pawar2** and V. D. Sharma3 Goya Journal May 2025 ISSN N0 : 0017 – 2715.

8. Consistency Analysis of Systems of Nonlinear Equations **Dr. Gayatri Pandya** UGC-CARE Approved Group 'II' journal Tanz Research Journal August 2024 ISSN NO: 1869-7720.

9. Biometric Data Breaches: Legal Consequences and Remedies for Victims. Darshana Nimesh Sankhe, Sandeep Musale, Snehal Bhosale, **Gayatri Pandya** Biometric Technology Today May 2024 ISSN(Online):1873-1880

10. Legal Challenges of Biometric Systems in Public Spaces: Surveillance vs. Privacy. Snehal Bhosale, Darshana Nimesh Sankhe, Sandeep Musale, **Gayatri Pandya** Biometric Technology Today May 2024 ,ISSN(Online):1873-1880

11. Synthesis and biological evaluation of novel imidazolone-thiabendazole-based metal complexes. PN, P., **YS, P.** and NS, P., 2024. International journal, 15(3), pp.1268-1274.

12. Published a Book Chapter: “Professional Ethics and Business” in The Management Revolution: Navigating the Future of Business" **Dr. Anjali Samuel** Indowise International Publishers.2024-25. Print ISBN: 978-81-987622-6-9.

Research and Publications

Academic Year

2023-2024

Department of Science and Humanities

1. Enhanced Sensing Performance of an Ammonia Gas Sensor Based on Ag-Decorated ZnO Nanorods/Polyaniline Nanocomposite. **Dr. Narayan Karmakar**, Dr. Shilpa Jain, Dr. Rohan Fernandes, Dr. Akshara Shah, Dr. Uday Patil, Prof. Navinchandra Shimpi, Prof. Dushyant Kothari, ChemistrySelect. Volume8, Issue 18 May 11, 2023 e202204284. 2365-6549

2. Gow-tamburini type generation of the special linear group for some special rings **Naresh Vasant Afre** and Anuradha S. Garge. International journal of group theory. Issn (print): 2251-7650, issn (on-line): 2251-7669

3. Optimization of Health-as-a-Service Using OptiFog Algorithm. Pratik Kanani, Anil Vasoya, Kamal Shah, Neel Kothari, Nilesh Patil, **Gayatri Pandya**, Mamta Padole. International Journal of Intelligent Engineering and Systems.

4. Assessing AODV Protocol Suitability for Collision Avoidance Systems. Pratik Kanani, Jatinderkumar R. Saini, Darshana Sankhe, Deepali Patil, **Gayatri Pandya**, Archana Nanade, Bhoomi Shah. International Journal of Intelligent Systems and Applications in Engineering. ISSN: 2147-6799

5. Traditional Indian Food Classification Using Shallow Convolutional Neural Network. Bhoomi Shah, Pratik Kanani, Poonam Joshi, **Gayatri Pandya**, Dhanashree Kulkarni, Nilesh Patil, Lakshmi Kurup. International Journal of Intelligent Systems and Applications in Engineering. ISSN: 2147-6799.

6. MobileNet-Based Transfer Learning: A Novel Approach for Improved Alzheimer's Disease Classification from Brain Imaging. Dhrumil Panchal, Neel Kothari, Dhruv Gada, Pratik Kanani, Lakshmi Kurup, Darshana Sankhe, **Gayatri Pandya**. International Journal of Intelligent Systems and Applications in Engineering. ISSN: 2147-6799.

7. Reviving Memories of the Naga freedom struggle- A study of Bitter Wormwood by Easterine Kire. **Shirley Mathew**. International Journal of English and Studies. ISSN: 2581-8333.

Book Chapter

Book Chapter Published

Sr. No.	Name of the faculty	Year	Category/Title	ISBN No.	Publication
1.	Dr. Anjali Samuel	2025	Published a Book Chapter: "Corporate Social Responsibility" in "Research Synergy: A Multidimensional Approach to Academia and Innovation"	ISBN:978-81-9444404-4-4.	Indowise International Publishers
2.	Dr. Anjali Samuel	2025	Published a Book Chapter: "Digital Identity and Post Humanism in Jeanette Winterson's Frankissstien" (Contemporary British Literature) in the book titled 'British Literature: Chaucer to Modern Times'	Print ISBN: 978-93-6665-0630.	Authors Click Publishing
3.	Shirley Mathew	2024	Book chapter/"Women, Land and Resistance: Ecofeminism in Linda Hogan's Select Novels" in Unveiling Nature's Narrative: Through the Lens of Eco-Feminism.	ISBN 978-93-92504-55-6	Research Culture Society and Publication
4.	Manisha Keshab	2024	Ancient Indian Cryptography: A unique way of encrypting the numbers	ISBN: 978-81-19098-2	Akhand Publication House
5.	Dr Yogesh S Parab	2023	Editor for the edited book/ titled Futuristic Trends in Chemical Material Sciences & Nano Technology Volume 3 Book 25	ISBN: 978-93-6252-370-9	Iterative International Publishers.
6.	Shirley Mathew	2022	Book chapter/"Image Building" in Communication Skills for Engineers.	ISBN 978-93-94766-21-1	SCIENG Publications.

NPTEL/ NITTTR/ FDP/Coursera

(June 2026-September 2026)

Department of Science and Humanities

1. ISTE FDP 1-week course on Communication Excellence and Lean Thinking in Engineering Education. **Dr. Smita Kiran Rane**
2. ISTE FDP 1-week course on Communication Excellence and Lean Thinking in Engineering Education. **Mr. Vishal Tendulkar**
3. FDP:- 40-hour (3-Credits equivalent) organised by MNIT Jaipur
   QT- 00 & Consortium of EICT Academies 01:- Foundations of Quantum Computing & Applications:- **Mr. Vishal Tendulkar**
4. ISTE Approved one week Faculty Development Programme on 'Communication Excellence and Lean Thinking in Engineering Education'. **Ms. Prahelika Pai**
5. NPTEL -AICTE eight weeks FDP on 'Film Appreciation'. **Ms. Prahelika Pai**
6. 10 Days short term course on 'NEP 2020 Orientation & Sensitization Programme' under Malviya Teacher-Training Programme, UGC. **Prahelika Pai**
7. One-month online workshop-cum-certificate course on 'Research Methodology, Academic Writing, Publishing & AI in English Studies'. **Ms. Prahelika Pai**
8. ISTE FDP 1-week course on Communication Excellence and Lean Thinking in Engineering Education. **Dr. Jessy P. J**
9. FDP:- 40-hour (3-Credits equivalent) organised by MNIT Jaipur
   QT- 00 & Consortium of EICT Academies 01:- Foundations of Quantum Computing & Applications:- **Dr. Jessy P. J**
10. Online workshop "Photonic Quantum Computing: Basic Ideas and Applications" on 03–04 September 2026, organized by the Foundation for QC Innovation (FQCI) under the National Quantum Mission (NQM), Department of Science and Technology (DST), Government of India at IISc, Bengaluru.- **Dr. Jessy P. J**

NPTEL/ NITTTR/ FDP/Coursera

Academic Year

2025-2026

1. NPTEL- Developing Soft Skills and Personality. **Prahelika Pai**. Completed Elite Gold Certificate, top 5% ranking

2. Coursera- Foundations of Teaching for Learning: Curriculum. **Prahelika Pai.**

3. Coursera-University Teaching. **Prahelika Pai.**

4. Coursera-Understanding Research Methods. **Prahelika Pai**.

5. Coursera- People and Soft Skills for Professional and Personal Success. **Prahelika Pai**.

6. NPTEL- Mastering Speaking and Presenatations: A Case Based Approach. **Dr. Khushbu Trehan**. Completed, Elite Gold Certificate, Top 1% Ranking.

7. NPTEL/Making Learning Engaging through Interactive Games. **Dr Aditi Kulshrestha**.

8. NPTEL - Python for Data Science: **Alisha Banz**. NPTEL 1% Topper.

9. NPTEL - Essential Mathematics for Machine Learning: **Alisha Banz**. NPTEL 2% Topper

10. NPTEL - A Primer to Mathematical Optimisation. **Alisha Banz**

11. Coursesra- Crash Course on Python. Ms. **Rohini Pawar (Ghule)**

12. Coursera- Foundation of Teaching for Learning: -Curriculum. **Mr. Vishal Tendulkar**

13. Coursera-Foundation of Teaching for Learning: - Student's Assessment. **Mr. Vishal Tendulkar**

14. Coursera- Understand Research Methods. Mr. **Vishal Tendulkar.**

15. Coursera-People and soft skills for professional & personal success. **Mr. Vishal Tendulkar**

16. National Initiative for Technical Teacher's Training (All 8 Modules) **Mr. Vishal Tendulkar.**

17. ATAL FDP on Ethical and Responsible AI: Harnessing XAI for India's Economic Future. **Dr. Jessy P. J.**

18. Short Term Course in MOOC & e-content Development. **Dr. Jessy P. J**

19. NPTEL FDP - Nanotechnology, Science and Applications. **Dr. Jessy P. J**

20. National Initiative for Technical Teacher's Training (All 8 Modules). **Ms. Prahelika Pai**

21. NPTEL FDP 8 weeks course on Introductory Mathematical models for Biologists. **Dr. Jessy P. J**

NPTEL/NITTTR/ FDP/Coursera

Academic Year

2024-2025

Department of Science and Humanities

1. NPTEL- Public Speaking. **Dr. Khushbu Trehan**. Elite Certificate
2. NPTEL "Basics of Health Promotion and Education Intervention". **Dr. Anjali Samuel**
3. 21 days Faculty Induction Program (FIP)MMTC. **Dr. Anjali Samuel**
4. NPTEL- FDP on "Modernization and Creative Communication". **Dr. Anjali Samuel.**
5. NPTEL/ Introductory Organic Chemistry II. **Dr Yogesh S Parab**
6. SWAYAM NPTEL: Graph Theory. **Dr. Naresh Vasant Afre.**
7. SWAYAM NPTEL: Research Methodology. **Ms. Rohini Pawar (Ghule)**
8. Faculty Induction Programme – VI (Guru Dakshata). **Dr. Smita Amogh Bhatavadekar**
9. SWAYAM NPTEL: Graph Theory. **Dr. Smita Amogh Bhatavadekar**
10. Applications of AI-ML-DL in Product Life Cycle Design and Management. **Dr. Smita Amogh Bhatavadekar**
11. NPTEL- Essential Mathematics for Machine Learning. **Alisha Banz**
12. NPTEL- Python for Data Science. **Alisha Banz**
13. NPTEL- Essential Mathematics for Machine Learning. **Micheal Ammal Nadar**
14. NPTEL- Research Methodology. **Micheal Ammal Nadar**
15. FIP - **Dr. Jessy P. J**
16. NPTEL FDP- Physics of Functional Materials & Devices. **Dr. Jessy P. J**
17. ATAL FDP on Quantum Computing. **Dr. Jessy P. J**
18. webinar on Quantum Computing for the Next Generation. **Dr. Jessy P. J**
19. NEP 2020 Orientation & Sensitization Programme. **Dr. Jessy P. J**
20. Descriptive Statistics with R Software. **Dr. Moses Kartha**
21. One week online FDP on Evolution of Generative AI Past, Present and Future. **Dr. Moses Kartha**
22. 14 Days FDP on"Innovative Teaching Strategies and Tools in the Digital Age. **Dr. Moses Kartha**

NPTEL/ NITTTR/ FDP / Coursera

Academic Year

2023-2024

1. NPTEL course on Educational Leadership. **Shirley Mathew**. Completed with score 97%

2. SWAYAM NPTEL: Introduction to Probability Theory and Statistics. Ms. **Rohini Pawar (Ghule)**

3. SWAYAM NPTEL: Mathematical Methods and its Applications. **Manisha Keshab**

4. AICTE 5 day online FDP on "Inculcating Universal Human Values in Technical Education. **Dr. Jessy P. J**

5. NPTEL FDP 8 weeks course on Roadmap for patent creation. **Dr. Jessy P. J**

6. NPTEL FDP 12 weeks course on Maternal Infant Young Child Nutrition. **Dr. Jessy P. J**

7. NPTEL FDP 12 weeks course on Introduction to Laser. **Dr. Jessy P. J**

8. NPTEL FDP 12 weeks course on Introduction to Laser. **Dr. Narayan S. Karmakar.**