# **Faculty Profile**

	Faculty Profile	
Name Designation Qualifications Phone Email	<ul> <li>Dr Meena Tushir</li> <li>Professor</li> <li>PhD, ME, BE</li> <li>9811705113</li> <li>hodeee@msit.in</li> </ul>	
Area of Interest/Specialization: Artificial Intelligence, pattern Recognition, Fuzzy Systems		
Date of Joining MSIT	: 23-08-2003	
Nature of Appointment	: Regular	
Experience	: 25 years	
Educational Qualification:	<ul> <li>Ph.D. (Instrumentation &amp; Control Engineering) from Delhi University, New Delhi, 2013.</li> <li>Research topic: "Soft Computing based System Modeling, Identification and Control"</li> </ul>	
	M.E. (Control & Instrumentation) from Engineering, New Delhi in 2000, secured first	6
	B.E. (Electrical) from C. R. State College of Engineering, Murthal, Haryana in 1993, secured first class with Honours (74%)	
	10+2 (CBSE, Chandigarh) secured 85% (PCM)	
	10 <sup>th</sup> (CBSE, Chandigarh) secured 81%	

# **Total Teaching Experience - Over 25 Years**

- Presently working as Professor & HOD at Maharaja Surajmal Inst. of Technology, Janakpuri, New Delhi under G.G.S.I.P. Univ. (From August 2023 onwards)
- Worked as Professor & HOD (3 years) at Maharaja Surajmal Inst. of Technology, Janakpuri, New Delhi under G.G.S.I.P. Univ. (From June 2017 till 31<sup>st</sup> July 2020)
- Worked as Associate Professor & HOD (4 years) at Maharaja Surajmal Inst. of Technology, Janakpuri, New Delhi under G.G.S.I.P. Univ. (From March 2013 till May 2017)

- Worked as Reader (5 years) at Maharaja Surajmal Inst. of Technology, Janakpuri, New Delhi under G.G.S.I.P. Univ. (From Jan. 2008 till Feb. 2013)
- Around  $4\frac{1}{2}$  years in MSIT as Lecturer (Maharaja Surajmal Institute of Technology) (From Aug., 2003 to Jan, 2008)
- Around 3 years in Guru Tegh Bahadur Institute of Technology, Rajouri Garden, New Delhi as Lecturer (under G.G.S.I.P. Univ.) (From July 2000 to Aug 2003).
- 1 year in NSIT, New Delhi as Lecturer (Netaji Subhash Institute of Technology) (From July,1999 to July 2000)
- Around 3 years in Maharaja Surajmal Polytechnic, JanakPuri, New Delhi. (From Sept., 1995 to Aug. 1998)

# **Publications in Refereed Journals/ Conferences:**

# **International Journals:**

- Meena Tushir and Smriti Srivastava, "A New Kernelized hybrid c-means clustering model with optimized parameters," J. Applied Soft computing), Vol. 10(2), pp. 381-389, March 2010. (SCI Indexed)
- Meena Tushir and Smriti Srivastava "Generation of fuzzy rules using kernel based clustering in the design of fuzzy controller", International Journal of Computational Cognition, Vol. 10(1), pp 49-56, 2012.
- Meena Tushir and Smriti Srivastava "Type-2 Fuzzy Logic Controller Implementation for Tracking Control of DC motor" International Journal of Computer Network Security, Vol. 1(3), pp. 34-41, March 2011.
- Meena Tushir and Smriti Srivastava, "Design and Simulation of a Novel Clustering based Fuzzy Controller for DC Motor Speed Control", Innovative Systems Design and Engineering, Vol. 2(7), pp. 1-12, 2011.
- Meena Tushir, Smriti Srivastava and Yogendra Arya, "Application of a Novel Hybrid Controller for Load Frequency Control" Journal of Control Engineering and Technology, Vol. 2 (2), pp 56-61, 2012.

- Meena Tushir, Smriti Srivastava and Yogendra Arya, "Application of Hybrid Fuzzy PID Controller for Three Area Power System with Generation Rate Constraint" Int. J. Energy Technology and Policy (Inderscience), Vol. 8 (2), 159-173, 2012. (Scopus indexed)
- Meena Tushir and Smriti Srivastava, "Exploring different kernel functions for kernel based clustering", Int. J. Artificail Intelligence and Soft Computing (Inderscience), Vol.5 (3), pp. 177 193, 2016. (Indexed in ACM Digital Library)
- Meena Tushir, "Fuzzy Model Identification: A review and Comparison of type-I and type-II fuzzy systems" International Journal of Computing and Sciences, Vol. 10 (3), pp. 209-219, 2015.
- Sandeep Goyat and Meena Tushir, "To control the characteristics of AC motor using Fuzzy logic controller", Intl. J. Of Electrical and Electronics Engineers, Vol. 7 (1), pp. 112-118, 2015
- Sandeep Goyat and Meena Tushir, "Analysis DC Motor non Linear Behaviour Using Modeling and Simulation", Intl. J. Of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Vol. 5 (1), pp. 263-268, 2016
- Meena Tushir, Jyotsna Nigam, "A conditionally positive definite kernel function for possibilistic clustering", Int. J. Artificail Intelligence and Soft Computing( Inderscience), Vol 6 (1), pp. 75-91, 2017. (Indexed in ACM Digital Library)
- J. Arora, M.Tushir "A new kernel-based possibilistic intuitionistic fuzzy c-means clustering", International Journal of Artificial Intelligence and Soft Computing, Vol. 6 (4), pp. 306-325, 2017(Indexed in ACM Digital Library)
- J. Arora, M.Tushir, "Robust spatial intuitionistic fuzzy C-means with city-block distance clustering for image segmentation." Journal of Intelligence and Fuzzy systems, Vol. 35, pp. 5255-5264, 2018. (SCIE Indexed)
- J. Arora, M.Tushir "Intuitionistic Level Set Segmentation for Medical Image Segmentation ", Recent Patents on Computer Science. Vol. 12 (1), pp. 1-8, 2019.(Scopus Indexed)
- J. Arora, M. Tushir "A new Semi-Supervised Intuitionistic Fuzzy C-means Clustering." EAI Endorsed Transactions on Scalable Information Systems Vol. 7(24), 2020 (ESCI indexed).

- J. Arora, M. Tushir and R. Kashyap. "Improving Semi-Supervised Classification using Clustering." EAI Endorsed Transactions on Scalable Information Systems Vol. 7(25), 2020 (ESCI indexed).
- Sonia Goel and M. Tushir, "Different Approaches for Missing Data Handling in Fuzzy Clustering: A Review", Recent Advances in Electrical & Electronic Engineering Vol. 13: 833, 2020 (ESCI and Scopus Indexed).
- Sonia Goel and M. Tushir (2020) A new iterative fuzzy clustering approach for incomplete data, Journal of Statistics and Management Systems, Vol. 23(1), pp.91-102, 2020 (ESCI and Scopus Indexed).
- J. Arora, M.Tushir, "Performance Analysis of Fuzzy C-means, Mountain Clustering and Subtractive Clustering Techniques." Journal of Multi Disciplinary Engineering Technology, vol. 14(1), pp. 114-122, 2020.
- Goel, S. and Tushir, M., "A new imputation-based incomplete data-driven fuzzy modeling for accuracy improvement in ubiquitous computing applications", International Journal of Pervasive Computing and Communications, Vol. 17 No. 4, pp. 426-442, 2021 https://doi.org/10.1108/IJPCC-03-2021-0069 (ESCI Indexed)
- J. Arora, M. Tushir, et. al. "MCBC-SMOTE: A Majority Clustering Model for Classification of Imbalanced Data." Computers, Materials & Continua, vol. 73(3), pp. 4801-4817, 2022. (SCIE Indexed)
- J. Arora, M. Tushir and S. K. Dadhwal "A New Suppression-based Possibilistic Fuzzy cmeans Clustering Algorithm." EAI Endorsed Transactions on Scalable Information (2023),10(3), 2023 (ESCI Indexed)
- J. Arora, P. Kherwa and M. Tushir, "A comprehensive survey on the significance of industrial Internet of Things, energy management and big data analytics." Journal of Information & Optimization Sciences, vol. 45(2), 247-256, 2024, ISSN 2169-0103. (ESCI Indexed)
- J. Arora, G. Altuwajiri, A. Nauman, M. Tushir, T. Sharma, D. Gupta and S. W. Kim, "Conditional Spatial biased intuitionistic clustering technique for brain MRI image segmentation." Frontiers in Computational Neuroscience, 18: 1425008, 2024. (SCIE Indexed)

- Goel, Sonia & Tushir, Meena, "A conditionally positive definite kernel function for clustering of incomplete data", Journal of Information and Optimization Sciences, 45:2, 403–412, 2024, (ESCI indexed) DOI: 10.47974/JIOS-1557
- S Goel, M Tushir, J Arora, T Sharma, D Gupta, A Nauman, G Muhammad, "An Enhanced Integrated Method for Healthcare Data Classification with Incompleteness", in Computers, Materials and Continua, 18(2), 3125-3145, 2024. (SCI E Indexed)

### International/ National Conferences:

- Meena Tushir and Smriti Srivastava, "On comparing the performance of clustering techniques" in Proc. of Intl. conference on Intelligent Systems and networks, pp. 642-644, 23-25 Feb., 2007, Jagadhari, Haryana, India.
- Meena Tushir and Smriti Srivastava, "A new kernel based hybrid c-means clustering model," in Proc. of IEEE Intl. Conf. on fuzzy systems (IEEE-FUZZ), pp. 1-5, 23-26 July, 2007, London, U.K.
- Meena Tushir and Smriti Srivastava, "A novel clustering method for fuzzy model identification" in Proc. of IEEE region 10 Intl. Conference. TENCON'2009, pp (1-5), 23-26 Jan, 2009, Singapore.
- Meena Tushir and Smriti Srivastava, "Power system load frequency control by hybrid fuzzy PID controller" in Proc. of Intl. Conference on Electrical power and energy Systems, pp (27-31), 26-28th Aug, 2010, Bhopal.
- Meena Tushir, Smriti Srivastava an, Sonia Goel, "A clustering based fuzzy logic controller for speed control of DC shunt motor" in Proc. of National Conference on Mobile and Embedded Technology,10-11 March, 2011, Noida
- Meena Tushir, Mohak Gupta and Antim Naresh, "Analysis of load shedding fault in a micro grid", in Proc. Of International Multi-Conference on Intelligent Systems, Sustainable, New and Renewable Energy Technology and Nanotechnology (IISN-2012, March 16-18, 2012, pp 62-67, Haryana.
- Meena Tushir and Smriti Srivastava, "Application of a Hybrid Controller in Load Frequency Control of Hydro-Thermal Power System" in Proc. of IEEE Conference POWERCON INDIA-2012, Murthal, Haryana.

- Meena Tushir and Smriti Srivastava, "Performance Assessment of Kernel based Clustering" in Computational Intelligence, Cyber security and Computational Models, Advances in Intelligent Systems and Computing, Springer India, Vol. 246, pp-139-145, 2013.
- Sandeep Goyat and Meena Tushir, "To Control the characteristics of AC motor using fuzzy logic controller", International Conference on Science, Technology and Management, Feb 1, 2015, New Delhi.
- Jyotsana Arora, Meena Tushir, "A New Log based Possibilistics Clustering", CSI-2015;
   50th Global Jubilee Annual Convention on "Digital Life, Dec 2-5, 2015, New Delhi.
- Meena Tushir, "TS Model for Identification & Prediction of NonN-Linear System" In proc. of International Conference on Innovative Research in Civil, Computer Science, Information Technology, Mechanical, Electrical and Electronics Engineering" 19th -20th March 2016, New Delhi.
- Sonia Goel and Meena Tushir, "A Semi-supervised Clustering for Incomplete Data," in Proc. of International Conference on Signals, Machines and Automation (SIGMA-2018), NSIT, New Delhi
- J. Arora, K. Khatter, and M. Tushir "Fuzzy C-means clustering strategies: a review of distance measures." In Software Engineering, pp. 153-162. Springer, Singapore, 2019.
- J. Arora, K. Khatter, and M. Tushir "Performance assessment for clustering techniques for image segmentation." In Sensors and Image Processing, pp. 121-129. Springer, Singapore, 2018.
- J. Arora, M. Tushir "An Enhanced Spatial Intuitionistic Fuzzy C-means Clustering for Image Segmentation", Procedia Computer Science, 167,646–655, 2020.
- J. Arora, M. Tushir "Hybrid KFCM-PSO Clustering Technique for Image Segmentation", Proc. of International Conference on Artificial Intelligence and Applications. Advances in Intelligent Systems and Computing, vol 1164, 2021.
- J. Arora, M. Tushir "Performance Analysis of Different Kernel Functions for MRI Image Segmentation", Proc. of International Conference on Artificial Intelligence and Applications. Advances in Intelligent Systems and Computing, vol 1164, 2021.
- Goel S., Tushir M. "Linear Interpolation-Based Fuzzy Clustering Approach for Missing Data Handling" In: Hura G., Singh A., Siong Hoe L. (eds) Advances in Communication

and Computational Technology. Lecture Notes in Electrical Engineering, vol 668. Springer, Singapore, 2021.

- Goel, S., & Tushir, M., "A Semi-supervised Clustering for Incomplete Data". In Applications of Artificial Intelligence Techniques in Engineering, pp. 323-331, Springer, Singapore, 2019. https://doi.org/10.1007/978-981-13-1819-1\_31
- Sonia Goel and Meena Tushir, "Kernel Functions for Clustering of Incomplete Data: A Comparative Study", In Advances in Data Computing, Communication and Security, pp.63-75. Springer, Singapore, 2022. https://doi.org/10.1007/978-981-16-8403-6\_6
- S. Goel and M. Tushir, "A Comparative study of different approaches for clustering of incomplete medical data," 2023 13th International Conference on Cloud Computing, Data Science & Engineering (Confluence), Noida, India, 2023, pp. 112-117, doi: 10.1109/Confluence56041.2023.10048818.
- J. Arora, M. Tushir and P. Bansal "Detection of Lung Tumor Using Enhanced Image Classification", Presented paper in International Conference on Artificial Intelligence and Speech Technology, 2022.
- J. Arora and M. Tushir " Digital Twin: Towards Internet of Drones." In Book: Digital Twin Technology, eBook ISBN9781003132868, 2021.
- J. Arora, M.Tushir, P. Kherwa and S. Rathee "Generative Adversarial Networks: A Comprehensive Review." In Book: Data Wrangling, (213–234), 2023 Scrivener Publishing LLC.

Patents:WEBAPPLICATIONBASEDINTELLIGENT&SECUREDIMAGERETRIEVAL MODEL (Indian Patent Granted: 26-10-2023)

#### **Certification Courses:**

- 1. Completed 12 week NPTEL Certification on the topic "An introduction to Artificial Intelligence" by IIT Madras, Jan-Apr 2022.
- 2. Completed 8 week NPTEL Certification on the topic "An introduction to Machine Learning" by IIT Kharagpur, July-Sep 2022 with a consolidated score of 84% (Top 5%)
- Completed 12 week NPTEL Certification on the topic "Data Analytics with Python" by IIT Roorkee, Jan-Apr 2023 with a consolidated score of 83% (Top 5%)
- Completed 4 week NPTEL Certification on the topic "Python for Data Science" by IIT Madras, Jan-Feb 2024 with a consolidated score of 87% (Top 2%)

- Completed 12 week NPTEL Certification on the topic "Deep Learning" by IIT Ropar, Jan-Oct 2024 with a consolidated score of 75% (Top 5%)
- Completed 8 week NPTEL Certification on the topic "Data Mining" by IIT Madras, Jan-March 2025 with a consolidated score of 84% (Top 5%)

#### **FDP/** Seminars attended:

- Meena Tushir attended a two-week short term course on "Fuzzy logic & neural Networks in Identification & Control of Non-linear Systems", held at NSIT, Delhi, during 29<sup>th</sup> Dec 2003-9<sup>th</sup> Jan 2004.
- Ms. Meena Tushir attended one day Seminar on "Teaching Technologies & Methodology" on 17th Jan, 2004 at MSIT, New Delhi.
- 3. Ms. Meena Tushir attended one day Seminar on "Emerging Trends in Technical Education" on 8th May, 2010 at Noida.
- 4. Ms. Meena Tushir attended one day Seminar on "Matlab & Simulink for Engineering Education" organized by Mathworks India on 18th March, 2011 at Noida.
- Ms. Meena Tushir attended workshop on "Understanding Opportunities in solar energy" on 28th March 2012 at MSIT
- 6. Ms. Meena Tushir attended FDP on "Intelligent tools for various Engineering Applications" on 12th & 13th April, 2012 at MSIT.
- Ms. Meena Tushir attended a 2 day workshop on "Research Methods and Data Analysis using SPSS" held on 9-10th Nov, 2012 at MSIT, New Delhi.
- Dr Meena Tushir attended a short term course on "Solar Power and Space Conditioning", held at IIT, Delhi, during 2-8 June2014
- Dr. Meena Tushir attended FDP on "Signal Processing and its applications" on Oct 4, 2014 at MSIT.
- Dr Meena Tushir attended "Internal Quality Auditors" Training Programme on Quality Management System as per ISO 9001:2008 held at MSIT on 10<sup>th</sup> Nov,2014.
- 11. Dr. Meena Tushir attended a short term course at IIT, Delhi on "Advances in Solar Energy Technologies" organized by Centre for Energy Studies from December 09-15, 2014.
- Dr. Meena Tushir attended a two day workshop on "Basics of Solar/Photovoltaic", held at MSIT, Delhi, from 30<sup>th</sup> -31<sup>st</sup> October2014.

- Dr. Meena Tushir attended one day FDP on "Research Challenges and Emerging Trends in Electrical Engineering", held at MSIT, Delhi, on 25<sup>th</sup> February, 2015.
- 14. Dr. Meena Tushir Attended one week short term course on "Artificial Neural Networks", held at MSIT, Delhi, on 25<sup>th</sup> -29<sup>th</sup> April, 2016.
- 15. Dr. Meena Tushir attended one week QIP on "Yoga and Life Management", held at IIT, Delhi, on 7<sup>th</sup> -11<sup>th</sup> Nov, 2016.
- 16. Dr. Meena Tushir attended one week AICTE recognized short term course on "Wireless Networks ", held at MSIT, Delhi and Organized by NITTTR, Chandigarh, on 22th -26th May, 2017.
- 17. Dr. Meena Tushir attended one week AICTE recognized short term course on "MATLAB and SCILAB", held at MSIT, Delhi and organized by NITTTR Chandigarh, on 18<sup>th</sup> -22<sup>nd</sup> September, 2017.
- 18. Dr. Meena Tushir attended one week AICTE recognized short term course on "Power Electronics and its applications", held at MSIT and organized by NITTTR Chandigarh, on 27<sup>th</sup> Nov-1<sup>st</sup> Dec 2017
- 19. Dr. Meena Tushir attended one week AICTE recognized short term course on "Modeling and simulation using MATLAB through ICT", held at MSIT, Delhi and organized by NITTTR Chandigarh, on 21<sup>th</sup> -25<sup>th</sup> May, 2018.
- 20. Dr. Meena Tushir attended one week AICTE recognized short term course on "4G & 5G through ICT", held at MSIT, Delhi and organized by NITTTR Chandigarh, on 17-21<sup>st</sup> Sept., 2018.
- 21. Dr. Meena Tushir attended one week short term course on "Indian Electricity Rule and code of practices through ICT", held at MSIT, Delhi and organized by NITTTR Kolkatta, on 16-20<sup>th</sup> Dec, 2019.
- 22. Meena Tushir participated in AICTE Training and Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 15th -19th June 2020 at FEDERATION OF INDIAN CHAMBERS OF COMMERCE AND INDUSTRY (FICCI).
- 23. Dr Meena Tushir participated in one week Online Short-Term Course on "Exploratory Applications of Control & Instrumentation (EACI-20)" Organised by Department of Instrumentation and Control Engineering, Funded by TEQIP-III, Dr B R Ambedkar National Institute of Technology Jalandhar, held from 26<sup>th</sup> - 30<sup>th</sup> September, 2020.

- 24. Dr Meena Tushir participated in one week Online Short-Term Course on "Exploratory Applications of Control & Instrumentation (EACI-20)" Organised by Department of Instrumentation and Control Engineering, Funded by TEQIP-III, Dr B R Ambedkar National Institute of Technology Jalandhar, held from 26<sup>th</sup> - 30<sup>th</sup> September, 2020.
- 25. Dr Meena Tushir participated in one week online Teachers Training Program on Applications of AI techniques for Solving Engineering Problems" under AICTE-RGVP organized at University Institute of Technology, RGVP, Bhopal from 22<sup>th</sup>-27<sup>th</sup> February 2021.
- 26. Dr. Meena Tushir has participated in the Five-day online workshop on "Control Systems and Applications (CSA-2021)" organized by the Department of Electrical and Electronics Engineering, National Institute of Technology Sikkim in collaboration with TEQIP-III, during March 09-13, 2021.
- 27. Dr Meena Tushir successfully completed the AICTE-ISTE approved orientation Programme on "Use of ICT in Engineering Education" held from 7<sup>th</sup> -13<sup>th</sup> April organized by MSIT.
- 28. Dr. Meena Tushir, successfully completed One Week (Online) Short Term Training Programme (STTP) on '*Role of Energy Management Systems in Smart Grid*' organized by Jamia Milia Islamia during 7<sup>th</sup> -12<sup>th</sup> June, 2021.
- 29. Dr. Meena Tushir, successfully completed two weeks Industrial Training on "Data Science" from Nov 15, 2021 to Nov 26, 2021.
- 30. Dr. Meena Tushir has participated in the one-week online Faculty Development Programme on "Recent Trends in Artificial Intelligence and its Applications" during Nov 29<sup>th</sup> to Dec 3<sup>rd</sup>, 2021, organized by the Department of Electronics and Communication Engineering at Maharaja Surajmal Institute of Technology.
- 31. Meena Tushir Participated in the AICTE Recognized Faculty Development Programme on "Modelling and Simulation using MATLAB" Conducted by NITTTR from 16<sup>th</sup> – 20<sup>th</sup> Dec 2024 at Maharaja Surajmal Institute of Technology, New Delhi.
- 32. Dr. Meena Tushir, has successfully participated & completed AICTE Training and Learning (ATAL) Academy Faculty Development Program on "Emerging Trends in Control Systems and Sensor Technologies" at Netaji Subhas University of Technology from 21th Oct- 26<sup>th</sup> Oct 2024.

#### Awards and Recognitions/Responsibilities

- Received a grant of Rs. 85,000/- from AICTE under travel grant scheme to present a paper in *IEEE International Conference on Fuzzy Systems (IEEE-FUZZ 2007)* held on 23-26 July, 2007, London, U.K
- Convener of Annual Technical Festival "Avensis 2011" held on 24-25<sup>th</sup> March 2011 at MSIT.
- Convener of Faculty Development Programme on "Intelligent tools for various Engineering Applications", held on 12<sup>th</sup> - 13<sup>th</sup> April 2012 at MSIT.
- Coordinator of inter college ISTE approved Short term Training programme on "Speech and Image Processing" held on 17-21<sup>st</sup> Dec 2012 at MSIT.
- Convener of Faculty Development Programme on "Research Challenges & Emerging Trends in Electrical Engineering", held on 25<sup>th</sup> February, 2015 at MSIT.
- Convener of one-week Faculty Development Programme on "Artificial Neural Networks", organized by NITTTR held on 25<sup>th</sup> -29<sup>th</sup> April, 2016 at MSIT.
- 7. Convener GGSIPU Academic audit (2017-2018)
- 8. Teacher's Representative, Governing Body (MSIT) (2018-2019)
- 9. Member Internal Complaint committee (MSIT) since 2016 onwards
- 10. Presiding Officer, Internal Complaint committee (MSI) since Dec' 2019 onwards
- 11. **Co-Convener** of ICAIA International conference on Artificial Intelligence and its Applications held on 6<sup>th</sup> -7<sup>th</sup> March 2020 at MSIT New Delhi.
- 12. **Convener,** Technical Programme Committee, ADMET-2021 National Conference going to be held 5-6<sup>th</sup> March 2021.
- 13. Best Faculty Award 2023
- 14. Research Excellence Award, MSIT in 2018, 2022,2023
- 15. Convener, Program Committee, ICAIA 2024 held on 19th -20th March 2024
- 16. Convener, Program Committee, ICAIA 2025 held on 26<sup>th</sup> -27<sup>th</sup> March 2025
- 17. Best paper award for paper titled "Linear Interpolation based kernel fuzzy c-means clustering for Incomplete data" in ICAIA International conference on Artificial Intelligence and its Applications held on 26<sup>th</sup> -27<sup>th</sup> March 2025 at MSIT New Delhi.

### Ph.D Supervised: 03

- 1. Sandeep Goyat, Design and Analysis of Control System using Soft computing techniques for Electrical Machines, JJT University, Rajasthan, 2018.
- Sonia Goel, Some Investigations on Clustering of Incomplete data and its applications, GGSIPU, New Delhi, 2022
- 3. Jyoti Arora, Development of Intuitionistic Clustering Techniques for Image Segmentation, GGSIPU, New Delhi,2022

### M.Tech. Thesis Guided: 02

 Sunil Gupta, M.Tech (Instrumentation & Control, Punjab University, 2008), titled "Fuzzy Model Identification & Control of non-linear Systems"

2. Sonia Goel, M.Tech (Instrumentation & Control, Punjab University, 2011), titled "Digital Simulation of Clustering based Fuzzy Logic Controller for Speed Control of DC Motor"

# Subjects taught:

Electrical Science, Circuit Theory, Control System, Advanced Control System, Soft Computing (Fuzzy logic, Neural Networks), Electrical Machines. Machine Learning

### Personal Information: Date of Birth- 22/06/1972

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