

Curriculum Vitae

Dr. PANKAJ UTTAMRAO ZINE



Associate Professor

Mechanical Engineering Department,
Maharashtra Institute of Technology, Chh. Sambhajinagar (Aurangabad)

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Present Status

Presently working as Associate Professor & Head of Department at Mechanical Engineering Department at Maharashtra Institute of Technology (An Autonomous Institute), Chh. Sambhajinagar (Aurangabad)

Key Research Areas

- Product Service Systems
- Service System Design
- Value Co-creation
- Smart Manufacturing

Academic Qualification

- **Doctor of Philosophy (Ph.D.) in Mechanical Engineering**
Completed from Mechanical Engineering Department, **Indian Institute of Technology Delhi IIT Delhi**, February 2017
- **Master of Engineering (Manufacturing Engineering & Automation)**
Passed in First Class (63.78 %) in April 2003 from College of Engineering, Pune (COEP)
University of Pune
- **Bachelor of Engineering in Production Engineering**
Passed in First Class with Distinction (67.67 %) in August 2001 from Marathwada Institute of Technology, Aurangabad
Dr. Babasaheb Ambedkar Marathwada University. Aurangabad (MH state)
- **Higher School Secondary Certificate (HSC)**
Passed in First Class (72.67 %) in March 1996 from S. B. E. S. College of Science, Aurangabad
Aurangabad Divisional Board, Aurangabad
- **School Secondary Certificate (SSC)**
Passed in First Class with Distinction (83.85 %) in March 1994 from Z. P. H. S. Bhokardan, Dist Jalna
Aurangabad Divisional Board, Aurangabad

Credentials/Achievements

- Recognized **Ph.D. guide** in **Mechanical Engineering** under the faculty of Engineering & Technology by Dr. Babasaheb Ambedkar Marathwada University, Chh. Sambhajinagar.
- Recognized **Ph.D. guide** in **Mechanical Engineering** under the faculty of Engineering & Technology by Dr. Babasaheb Ambedkar Technological University, Lonere (DBATU).
- Recognized by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad as a **Post Graduate (PG) Teacher in Production / Manufacturing Engineering** under the faculty of Engineering & Technology.
- Recognized as a '**Certified Mentor**' by Bharatiya Yuva Shakti Trust (BYST) for completing the Mentor Development Programme in April 2016 accredited by City & Guilds, London.
- Served as '**Subject Expert**' for UG and PG syllabus preparation (curriculum development) at Dr. Babasaheb Ambedkar Technological University (BATU) Lonere, during 7-9 April, 2017.
- Served as '**Member**' for **UG Syllabus Revision Committee** (curriculum development) at Dr. Babasaheb Ambedkar Marathwada University (BAMU) Aurangabad in academic year 2016-17.
- Served as a **Member of Board of Studies (BoS)** in Mechanical Engineering at Dr. Babasaheb Ambedkar Technological University (BATU) Lonere, for academic year 2018-19.
- Worked as the **External Examiner** to conduct synopsis/pre Ph.D. presentation of the 3 research scholars of Mechanical Engineering Department Research Centre at Jawaharlal Nehru Engineering College Aurangabad on 13, 16 and 22 December, 2021.
- Serving as a '**Subject Expert**' on **Board of Studies (BoS)** in Mechanical Engineering at Government College of engineering, (Autonomous Institute), Chh. Sambhajinagar since academic year 2023.

List of Research Publications

Papers in International Journals & Conferences

- ♦ Zine P.U., Kulkarni M.S., Chawla R. and Ray A.K., *Designing Flexible Service Systems: Application to Machine Tools*, "Journal of Intelligent Manufacturing", 27(6): 1237-1259.
- ♦ Zine P.U., Kulkarni M.S., Chawla R. and Ray A.K., *A Conceptual Framework for Product Service System Design for Machine Tools: Issues in Indian Context*, "Benchmarking: An International Journal", 23(5):1227-1248.
- ♦ Anupriya Kamble and **Zine P.U.**, '*Industry 4.0 Technologies and Their Percolation: A Literature Review & Field Survey in SMEs*', in Mechanical Engineering International Conference 1.0 (MEICON 2024), held at OP Jindal University Raigarh, C.G., India, during December 19-20, 2024, in AIP Publishing, USA.
- ♦ **Zine P.U.** and Joshi P.K., '*Inducing compressive residual stress to minimize effect of crack generation by using controlled shot peening process*', 2nd International Conference and exposition on Advances in Mechanical Engineering (ICAME-2022), held at College of Engineering Pune, India during June 23-25, 2022, in Materials Today Proceedings.
- ♦ Rathod R.R. and **Zine P.U.**, '*Experimental Investigation of Cutting Parameters in AL6061-T6 Turning Operation by MQL*', in the Proceedings of the International Conference on Precision, Meso, Micro & Nano Engineering (COPEN-11), held at Indian Institute of Technology, Indore (M.P.) India during December 12-14, 2019.
- ♦ Bangale N.N. and **Zine P.U.**, '*Productivity Improvement Through Novel Modifications of Tool Holder Manufacturing Process*', in the Proceedings of the 59th National convention of Indian Institute of Industrial Engineering (IIIE) and International Conference on Manufacturing and

Industrial Engineering (ICMIE -2017) held at MGM'S Jawaharlal Nehru Engineering College, Aurangabad (M.S.) India during 14-16 September, 2017.

- ♦ **Zine P.U.**, Kulkarni M.S., Chawla R. and Ray A.K., '*A framework for value co-creation through customization and personalization in the context of machine tool PSS, Product Service Systems and Value Creation*'. The 6th CIRP Conference on Industrial Product-Service Systems, University of Windsor, Ontario, Canada, Procedia CIRP, 16 (2014): 32-37.
- ♦ **Zine P.U.**, Kulkarni M.S., '*Product service system design and management: Issues relevant to Indian machine tools sector*', in Proceedings of the 16th Annual International Conference of Society of Operations Management, jointly organized by GVSU USA, IIM Lucknow and IIT Delhi, held at IIT Delhi, 21-23 December, 2012.

Papers in National Conferences

- ♦ Zine P.U., Waghodekar P.H. and Bhalkikar N.S., '*On Some Aspects of Agile Manufacturing: A Review*', in proceedings of the National level Conference: Advances & Futuristic Trends in Mechanical Engineering (AFTME) 08, held at Atmiya Institute of Technology & Science, Rajkot, Gujrat, 09th December, 2008.
- ♦ Zine P.U. and Nikalje A. M., '*Six Sigma: a Tool for Quality Improvement*,' in proceedings of the National Conference: Enriching the Work Life – A Quality Engineering Perspective, held at Dr. D.Y. Patil College of Engineering Akurdi, Pune, 4 – 6 October, 2007.
- ♦ Nikalje A. M. and Zine P.U., '*Experimental Study and Analysis of Performance of Mineral And Synthetic Lubricants on Wear Characteristics of Bearing Steel AISI 52100*', in proceedings of the National Conference: TAME – 06, held at YCMA, Faridabad, Haryana, 9 – 10 December, 2006.
- ♦ Ambad P.M., Zine P.U., '*Mechatronics: An Application in Automotives*' in proceedings of the National Conference 'TsyGeca 2006', at Government College of Engineering Aurangabad held during 23rd – 24th January 2006.
- ♦ Ambad P.M., Zine P.U. and Andhale S.R., '*Hybrid Serial/Parallel Engineering*', in proceedings of the National Conference: Advances in Manufacturing Technology in the Era of Globalization (AMTEG) 2005, at Government College of Engineering Pune, 21 – 22 January 2005.

Book/Book chapter authored/Proceedings Edited

- ♦ Edited proceedings of 2nd International Conference on 'Materials, Manufacturing and Design Engineering (iCMMD2017)', Published by Procedia Manufacturing, Volume 20, 2018, pp.1-578.

Research Projects

- ♦ Worked on a research project titled 'IndAC-SM' jointly carried on by IIT Bombay, IIT Indore, MIT Aurangabad and local SMEs in the Marathwada region. The project was funded by Royal Academy of Engineering, UK and globally collaborated with Cambridge University and a few SMEs in UK. The project aims at assessment of the readiness of the SMEs for the Industry 4.0. A module on 'Service 4.0' had been explored by our Institute team being coordinated by me.
- ♦ Worked as 'Research Associate' on a research project titled as 'Development of an integrated approach for reliability based optimal system design for minimizing life cycle cost with special focus on Indian machine tool industry' funded by Council for Scientific and Industrial Research (CSIR), Govt. of India during July 2011 to May 2014.

Industry Sponsored Projects

- ♦ An Industry sponsored project under GIZ-MASSIA scheme completed in year 2017, funding received as Project Mentor Rs. 15000/-
- ♦ An Industry sponsored project under MASSIA-TATA Technologies 'Ready Engineer' scheme completed in year 2024-25, funding received as Project Mentor Rs. 25000/-

Invited talks/Guest lecture in STTP/workshop/Seminar

- Delivered a guest lecture on 'Servitization: A model for the transformation of Products into Services' at IILM Graduate School of Management on 19th April 2022 (online).
- Delivered an invited talk on 'Recent trends in Modern Manufacturing' at Mechanical Engineering Department at Government Polytechnic Ambad on 11th September 2018.

Overall Teaching Experience

Total teaching experience as on date is 21+ Years at UG/PG level and taught the following subjects.

The detail of teaching experience is as shown in table below (Y:Years, M:Months, D:Days)

Sr. No.	Name of the Organization	Post	Duration	Period (Y, M & D)	Nature of appointment
01	Marathwada Institute of Technology, Aurangabad	Lecturer in Mech. Engineering	23-07-2003 to 18-10-2003	0 Y 2 M 25 D	Adhoc
02	Marathwada Institute of Technology, Aurangabad	Lecturer in Mech. Engineering	13-12-2003 to 29-01-2005	1 Y 1 M 16 D	Regular
03	Government College of Engineering, Aurangabad	Lecturer in Mech. Engineering	29-01-2005 to 22-10-2005	0 Y 8 M 23 D	Contract basis
04	Government College of Engineering, Aurangabad	Lecturer in Mech. Engineering	27-10-2005 to 28-06-2007	1 Y 8 M 2 D	Contract basis
05	Marathwada Institute of Technology, Aurangabad	Assistant Prof. in Mech. Engineering	03-08-2007 to 31-12-2010	3 Y 4 M 28 D	Regular
06	Marathwada Institute of Technology, Aurangabad	Associate Prof. in Mech. Engineering	01-01-2011 to 26-09-2022	11 Y 9 M 26 D	Regular
07	Maharashtra Institute of Technology, Chhatrapati Sambhajinagar	Associate Prof. in Mech. Engineering	27-09-2022 to 19-02-2026	3 Y 4 M 22 D	Regular
08	Maharashtra Institute of Technology, Chhatrapati Sambhajinagar	Associate Prof. & Head, Mech. Engineering Department	20-02-2026 to Till date	1 M 22 D	Regular

Administrative Experience

- Presently working as **Head** of Mechanical Engineering Department, Maharashtra Institute of Technology (An autonomous Institute), Chh. Sambhajinagar (Aurangabad) since 20/02/2026.
- Presently working as **Central Coordinator** for MIT Students clubs which include a total of 23 co-curricular and extra-curricular clubs run by First Year students under the faculty mentorship on the MIT campus.
- Worked as **Head** of Mechanical Engineering Department, Marathwada Institute of Technology, Aurangabad during 26/10/2020 to 29/08/2022.
- Worked as **NBA coordinator** of Mechanical Engineering Department, Marathwada Institute of Technology, Aurangabad.
- Worked as **Coordinator, Internal Quality Assurance Cell (IQAC)** at Marathwada Institute of Technology, Aurangabad.
- Worked as **Central PG Coordinator** at Marathwada Institute of Technology, Aurangabad.

- Worked as a **Chairman of Local Inspection Committee (LIC)** of Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad to visit and Inspect 3 Pharmacy Colleges for University Affiliation in July 2023.
- Worked as **Chairman of External Vigilance Squad (ESV)** of Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad, in Aurangabad Region for End Semester Examination (ESE) Jun 2023.
- Worked as Member of **External Vigilance Squad (ESV)** of Government College of Engineering, Aurangabad for End Semester Examination (ESE) Jan-Feb 2023.
- Worked as a **Member of Local Inspection Committee (LIC)** of Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad to visit and Inspect 3 Pharmacy Colleges for University Affiliation in June 2022.
- Worked as Member of **'Seating Squad'** appointed by Director, Board of Examination & Assessment, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for May-June 2018 examination at M.B.E. Society's College of Engineering, Ambajogai, during 31st May-1st June 2018.
- Worked as Member of **'Seating Squad'** appointed by Director, Board of Examination & Assessment, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad for Nov-Dec. 2017 examination at STBT College of Engineering, Tuljapur, Dist. Osmanabad.
- Worked as Member of **External Vigilance Squad (ESV)** of Government College of Engineering, Aurangabad for End Semester Examination (ESE) April 2017.
- Worked as **Faculty Adviser Students Council**, Marathwada Institute of Technology, Aurangabad for the academic year 2010-11.
- Worked as a **Joint Chief Superintendent (JCS)** appointed by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad at Savitribai Phule Women's Engineering College, Sharnapur, Aurangabad to conduct Nov/Dec 2010 examinations.
- Worked as a **Member of Local Inspection Committee (LIC)** of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad to visit and Inspect Engineering Colleges for University Affiliation in February 2010.
- Worked as **Joint Director, Central Assessment System (CAS) Engineering Examination** appointed by Controller of Examinations, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad during 18thMay to 18thAugust, 2008.

STTP/FDP/Industrial Training/Seminar/Workshop Attended

- Attended ONE week ISTE Self-Financed online Faculty Development Program (FDP) on 'Smart Manufacturing with Industry 4.0: Robotics, AI and IoT' organised by Department of Robotics & Automation Engineering, AISSMS's College of Engineering Pune during 16th - 21st February, 2026.
- Attended ONE week online Faculty Development Program (FDP) on 'A New Era of Manufacturing-Challenges and Opportunities' organised by Department of Mechanical Engineering, DY Patil College of Engineering and Technology (An Autonomous Institute), Kolhapur in association with ISTE (New Delhi) during 25th- 30thJuly, 2022.
- ONE week online Faculty Development Program (FDP) on 'Industry 4.0 with Emphasis on Robotics and Automation' organised by Robotics and Automation Department, DY Patil College of Engineering Akurdi, Pune in association with ISTE and IQAC Cell DYPCOE Akurdi, Pune during 21st - 25thFebruary, 2022.
- Participated in ONE day workshop on 'New Education Policy: Role of DBATU' organized by Dr. Babasaheb Ambedkar Technological University, Lonere hosted at Marathwada Institute of Technology Aurangabad on 23rd June, 2019.
- Participated in ONE week Short Term Training Program (STTP) through ICT mode on 'NBA Accreditation' organized by National Institute of Technical Teachers' Training & Research

(NITTR) Kolkata during 22nd- 26thApril, 2019 hosted at Marathwada Institute of Technology Aurangabad.

- ♦ Participated in AICTE sponsored ONE week QIP Short Term Course on 'E-Mobility and Innovations in Sheet Metal Forming' conducted by Continuing Education & Quality Improvement Programmes (CE & QIP) IIT Bombay during 16th - 20th July, 2018.
- ♦ Attended ONE week Faculty Development Program (FDP) on 'Use of ICT for Innovative Teaching Learning & Effective Classroom Interaction' organised by Deogiri Institute of Engineering and Management Studies, Aurangabad in association with Dr. Babasaheb Ambedkar Technological University, Lonere, Raigad during 15th - 19th June, 2018.
- ♦ Attended ONE week Faculty Development Program (FDP) on 'Outcome Based Education and NBA Process' organised by Maharashtra Institute of Technology, Aurangabad during 9th- 14th June, 2018.
- ♦ Attended a Three days Faculty Symposium on 'Engineering Curriculum Innovation: An Outcome Based Education (OBE) Approach' held at PES College of Engineering, Aurangabad during 29th June, 2017 to 1st July, 2017.
- ♦ Participated in a Three days seminar '1st National Teachers' Congress' held in Pune, India organized at Maharashtra Institute of Technology, Pune during 23th- 25thSeptember, 2016.
- ♦ Attended a One day workshop on 'Intellectual Property rights (IPR)' organized jointly by Rashtriya Uchchar Shiksha Abhiyan Maharashtra (RUSA), Rajiv Gandhi National Institute of Intellectual Property Management Nagpur (RGNIPM) and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad held on 16th August, 2016 at Babasaheb Ambedkar Marathwada University, Aurangabad.
- ♦ Attended a Two-week STTP on 'Modeling and Simulations' at Goa College of Engineering, Ponda, Goa held between 7th to 18th December, 2015.
- ♦ Undergone Eight weeks Summer Faculty Research Fellowship Programme (SFRF) at Department of Mechanical Engineering, Indian Institute of Technology (IIT), Delhi under the supervision of Dr. M.S. Kulkarni during 13th May to 9th July, 2010.
- ♦ Attended One-day seminar on 'CAD / CAM / CAE Applications' at Indo German Tool Room (IGTR) Aurangabad, on 24th February, 2009.
- ♦ Attended XIIth ISTE Staff Convention & National Seminar (MH & GOA Section) organized at JSPM Group of Institutes, Wagholi, Pune during 12th- 13th January, 2008.
- ♦ Attended a One week STTP on 'Modeling and Simulation of Mechanical Systems in Multi Energy Domains: a Bond Graph Approach' at Government College of Engineering Aurangabad, during 9th - 15th January, 2006.
- ♦ Attended a Two day workshop on 'Research Methodologies and Report Writing (RMRW)' organized at Government College of Engineering Aurangabad, during 18th- 19th February, 2006.
- ♦ Attended a One day seminar on 'Supervisory Development and Stress Management' organized at Government College of Engineering Aurangabad, on 1st April, 2006.
- ♦ Attended a Two-week STTP on 'Mechatronics' at VNIT Nagpur, during 2nd- 14th January, 2005.
- ♦ Attended an Industrial Training on 'Six Sigma & TPM' at Merico Industries Ltd. Jalgaon during 23rd- 25th February, 2006.

Extra Curricular Activities

- ♦ Worked as **Coordinator** in conducting a One Week ATAL FDP on 'Industry 4.0: Technologies, Opportunities and Challenges for Indian SMEs' sponsored by AICTE ATAL scheme and organized by Mechanical Engineering Department, MIT, Aurangabad held during 11th - 16th December, 2023.
- ♦ Worked as **Jury** in the 36th National Convention on Quality Concepts organized by Quality Circle Forum of India (QCFI) held at MGM University, Aurangabad during 27th to 30th December, 2022.

- ♦ Worked as **Convener** in conducting a One Week STTP on 'Recent trends in Automotive Sector and Future Prospectives' organized by Mechanical Engineering Department, MIT, Aurangabad held during 30th August to 3rd September, 2021.
- ♦ Worked as **Organizing Secretary** in conducting a One Week STTP on 'Advances in Materials and Manufacturing Technology (AMMT)' jointly with Dr. Babasaheb Ambedkar Technological University DBATU), Lonere held during 1st- 6th March, 2019, hosted by Mechanical Engineering Department, MIT, Aurangabad.
- ♦ Worked as **Organizing Secretary** in organizing an International Conference on Materials, Manufacturing and Design (iCMMMD2017) jointly with Dr. Babasaheb Ambedkar Technological University DBATU), Lonere held during 11-12th December, 2017 hosted by Mechanical Engineering Department, MIT, Aurangabad.
- ♦ Worked as **Institute Coordinator** for Industry Institute Interaction with GIZ-MASSIA sponsored industry projects for under graduate students resulting in completion of 11 industry projects by Final Year students during academic year 2016-17.
- ♦ Worked as **Institute Coordinator** for Industry Institute Interaction with GIZ-MASSIA sponsored industry projects for under graduate students resulting in completion of 8 industry projects by Final Year students during academic year 2017-18.
- ♦ Worked as **Organizing Secretary** for a One Day workshop 'VSSC ISRO's FEAST^{SMT} FEA Technology' held on 11th November, 2017 at Mechanical Engineering Department, MIT, Aurangabad.
- ♦ Worked as **Coordinator** for a five day training program on 'Elements of Structural, Thermal and Coupled Field Analysis in ANSYS', conducted at Mechanical Engineering Department, Marathwada Institute of Technology, Aurangabad, during 1st – 5th February, 2009.
- ♦ Worked as **Convener** for organizing 'Mech Fest – 07', A National Level Technical Symposium held on 4th & 5th April 2007 at Government College of Engineering, Aurangabad.
- ♦ Worked as **Member** of Organizing committee 'Mech Fest – 05', A National Level Technical Symposium, held on 3rd & 4th April 2005, at Government College of Engineering, Aurangabad.
- ♦ Worked as **Member** of Organizing committee Technomillennium 2004, A National level paper presentation competition for engineering students Faculty members & Industry persons held during 15th – 17th September, 2004 at MIT, Aurangabad.
- ♦ Worked as **Member** of organizing committee Technomillennium 2003, A National level paper presentation competition for engineering students held during 15th – 17th September, 2003 at MIT, Aurangabad.

Online/MOOC/NPTEL courses done

- ♦ Completed 8 week NPTEL course (MOOCs mode) on 'Accreditation and Outcome Based Learning' conducted by Indian Institute of Technology, Kharagpur with Elite Silver medal/grade during August – October, 2019.

Membership of Professional Bodies

- ♦ Indian Society for Technical Education (ISTE) Life Member (LM 41083)
- ♦ Indian Institute of Industrial Engineering (IIIE) Life Member (M9693)
- ♦ Indian Institute of Production Engineers (IIPE) Annual Member (Reg.No.W/M/1329)
- ♦ Quality Circle Forum of India (QCFI) Life Member (Membership No : 049926 125186)

Computer/Software Literacy

- ♦ BlockSim
- ♦ Netica
- ♦ I-DEAS
- ♦ Pro Engineer (Wild Fire 2)

- ♦ All Basic Operating Systems

Personal Details

Date of Birth: 17th December, 1978

Corresponding Address: Flat A-4, Sanskarshil Apartment,
52, Devanagari, Dargah Road,
Chh. Sambhajinagar (Aurangabad) – 431005 (MH State)

Permanent Address: Flat A-4, SanskarShil Apartment,
52, Devanagari, Darga Road,
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Mobile: +91 8447429650

Hobbies: Travelling, Reading, Interacting with People

Strengths: Hard Working, Sincere, Punctual

Weaknesses: Talkative, Emotional

I hereby declare that all the information furnished above is true to the best of my belief.

Place: Chh. Sambhajinagar (Aurangabad)

(Dr. Pankaj U. Zine)