Bio-Data



Prof. Raghvendra Kumar Mishra, Professor

Department of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra (Jammu & Kashmir) Mobile: 91-8750413236, E-mail: mishrark kanpur@yahoo.com, rmishrark kanpur@rediffmail.com

Personal Profile

| Father's | Late Shri Vinod Kumar Mishra | Date of birth | 11 th February 1972 | Sex | Male | |
|-------------|---------------------------------|-----------------------|--------------------------------|-----------|------------|--|
| name | | | | | | |
| Nationality | Indian Marital Status Married | | | | | |
| Address | Type VI, A-13, Gautam Buddha Un | iversity, Greater Noi | ida, Gautam Buddha N | lagar -20 | 1310 (U.P) | |

Educational Qualifications

Ph.D. (2003-2007): Mechanical Engineering Department, Birla Institute of Technology, Mesra Ranchi (Jharkhand), Awarded on 18th March 2009

M. Tech (July1997-Jan1999): Mechanical Engineering Department, IIT Kharagpur (WB) INDIA, FIRST CLASS

B.E (1989-1993): Mechanical Engineering Department, Nagpur University (M.S) INDIA-FIRST CLASS.

M.E. Thesis:

Title: "Analysis of four bar mechanism using CAD package".

Supervisor: Prof. (Dr.) C. S. Kumar, Mechanical Engineering Deptt, IIT Kharagpur

Ph.D. Thesis:

Title: "Analysis of Mechanical Behavior of Composites using Multiquadric Radial Basis Function".

Supervisor: Prof. (Dr.), Ashok Misra, Mechanical Engineering Deptt, Birla Institute of Technology, Mesra Ranchi (Jharkhand), India

Academic Experience

| Position | Name of | Per | Period | | Nature of work |
|-----------|-------------------|----------------------------|-----------|------------|-----------------------------|
| held | Organization | From | To | | |
| Professor | Shri Mata Vaishno | 1 st March 2020 | Till Date | PB 14, | Teaching, Research, lab |
| | Devi University, | | | AGP 10,000 | development, guiding |
| | Katra | | | | various B. Tech and M. Tech |
| | | | | | thesis, coordinate M. Tech |
| | | | | | Programme and admn. Work |

| Associate | Shri Mata Vaishno | 1 st March | 28 th February | Associate | Teaching, Research, lab |
|-----------|--------------------|----------------------------|---------------------------|--------------|-----------------------------|
| Professor | Devi University, | 2017 | 2020 | Professor, | development, guiding |
| | Katra | | | (37400- | various B. Tech and M. Tech |
| | | | | 67000) | thesis, coordinate M. Tech |
| | | | | AGP 9000/- | Programme and admn. Work |
| Assistant | Gautam Buddha | 7 th December | 28 th February | Assistant | Teaching, Research, lab |
| Professor | University, | 2010 | 2017 | Professor, | development, guiding |
| | Gautam Buddha | | | (15600- | various M. Tech thesis, |
| | Nagar (U.P) | | | 39100) | coordinate M. Tech |
| | | | | AGP 8000/- | Programme and admn. Work |
| | | | | Basic37400/- | |
| | | | | | |
| Professor | KIIT University, | 2 nd June 2009 | 1 st December2 | Professor | Teaching, Research, guiding |
| | Bhubaneswar | | 010 | (37400- | B. Tech & M. Tech M. Tech |
| | (Orissa) | | | 67000 + | thesis, coordinate M. Tech |
| | | | | 10000(AGP) | Programme |
| | 511710 | 101.11 | 201.75 | | |
| Reader | Birla Institute of | 18th March | 28th May | Reader | Teaching, Research, guiding |
| | Technology, | 2009 | 2009 | (12000- | B. Tech & M. Tech M. Tech |
| | Mesra, Ranchi | | | 18300) | thesis, |
| Lecturer | Birla Institute of | 11 th July | 18th March | Lecturer | Teaching & Teaching, |
| | Technology, | 2003 | 2009 | (8000-13500) | Research |
| | Mesra, Ranchi | | | | |
| Lecturer | BITS, Pilani, | 7 th April 1999 | 7 th September | Lecturer | Teaching & Teaching, |
| | Rajasthan | | 2001 | (8000-13500) | Research |

Industrial Experience

| Position Held | Name of Organization | Period | |
|---------------------|------------------------|-----------|-----------|
| | | From | To |
| Production Engineer | Roto Pumps Ltd. Kanpur | July 1993 | June 1997 |

Research Experience

- July 1998 Jan 1998, I.I.T. Kharagpur, "Analysis of four bar mechanism using CAD package".
- October 2001-June 2003 I. I. T, Delhi and University of Kaiserslautern, Germany, "Homogenization of composite materials".
- July 2003 May 2009 BIT, Mesra, Ranchi, Meshless Multiquadric radial basis function method for analysis of composite plates and laminates.

Editor in Chief

• Material Science, Engineering and Applications Journal (publishes original research articles on the latest developments in materials science and engineering) *Published by JVE International*

Workshop/ Conference/Seminar/FDP Participated

- ANSYS India Advanced workshop was held "between 29th November-2nd December 2005", in Bangalore.
- Workshop on personality development organized by Qualified Learning Systems Co. Inc., (USA) by SHIV KHERA held "29th to 31st Aug, 2006" in Ranchi.
- Seminar on "Finite Element Analysis-Application and trends" was held 1st -2nd June 2006 in IIT Kharagpur.

- Workshop on "Effective Teaching" organized by the Birla Institute of Technology, Mesra, Ranchi from 25-08-08 to 29-08-08.
- FEA Training Workshop organized by Altair Engg Pvt. Ltd. and School of Mechanical & Production Engineering, KIIT University, held 17 -18 July 2009.
- National Seminar on Industry Institute Interface organized by KIIT University was held 13th December 2009.
- 3rd International Conference on Materials Processing and Characterization was held 8th 9th March 2014 in Gokaraju Rangaraju Institute of Engineering and Technology (GRIET), Hyderabad (AP).
- Two-day workshop on "Introduction to Robotics" conducted on 27th and 28th October, 2017 held at Bhargava College of Engineering and Technology, Samba.
- TEQIP-III sponsored Workshop on NBA Accreditation organized by The Institution of Engineers (India) from 08-10 December 2017.
- TEQIP-III sponsored Professional Development Training organized by IIM Raipur from January 29-February 02, 2018.
- Faculty Development Program on "Sustainable Design and Manufacturing" which was held on 12th Feb 2018-16th Feb 2018 in School of Mechanical Engineering, Shri Mata Vaishno Devi University.
- Faculty Development Program on "Best Manufacturing Practices in Industries" which was held on 17th Dec.2018-21st Dec.2018 in School of Mechanical Engineering, Shri Mata Vaishno Devi University.
- National workshop on Advances in Clean Energy Conversion Technologies and Materials for Energy Storage Application organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University Katra and Jawaharlal Nehru Technological University Hyderabad, sponsored by Department of Science and Technologies, Science and Engineering Research Board (SERB) and TEQIP-III on 24th and 25th January 2019.
- One-week workshop on "Professional Ethics & Human Value-A Gandhian Perspective" organized by Faculty Development Centre in Shri Mata Vaishno Devi University, Katra on 11th -15th March 2019.
- Faculty Development Program on "Universal Human Value" from 21st June- 25th June 2021.

Short term course

- Short term course on design and development of Advance materials was held 23rd ---- 27th March 2009 in Birla Institute of Technology, Mesra, Ranchi.
- One-week Training on Ultrasonic Testing Level-II organized by MSME-Technology Development Centre, Agra was held on 13/12/2017 to 17/12/2017 in School of Mechanical Engineering, SMVDU, Katra, Jammu & Kashmir State.
- AICTE Recognized Short Term Course on "Nanotechnology: Development and Challenges" Conducted by Applied Science Department from 27/05/2019 to 31/05/2019 (One Week) at NITTTR, Chandigarh.
- One week workshop on "Professional Ethics & Human Values-A Gandhi Perspective" was held 11th March-15th March 2019 in SMVDU, Katra, Jammu & Kashmir State.

Student activity Participation

- EFFI CYCLE-2013, SAE India, Northern Section was held 5th 6th July 2013 in Jamia Millia Islamia University, New Delhi.
- Virtual Round of Eco-Kart 2014 was held in October 11, 2013 in Gautam Buddha University.
- EFFI CYCLE-2015, SAE India, Northern Section was held 4th 5th July 2015 in KIET, Ghaziabad.
- SAE-Baja-2018, SAE India, Northern Section was held 7th-11th March 2018, IIT Ropar, Punjab.
- Faculty Convener, Titiksha Annual Technical Fest-2023 organized on 20th and 21th May,2023 at Shri Mata Vaishno Devi University.

Workshop/ Conference/Seminar Organized

- National Conference on "Innovative Trends in Mechanical Engineering -2017" in Department of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra 3-4 March, 2017.
- National Seminar on Mechanical Engineering- Research opportunities and Challenges organized by Department of Mechanical Engineering; Shri Mata Vaishno Devi University was held 8th April 2017.
- Member of the organizing team of Faculty Development Program on "Best Manufacturing Practices in Industries" which was held on 17th Dec.2018-21st Dec.2018 in School of Mechanical Engineering, Shri Mata Vaishno Devi University.
- Member of the INDO-U.S. Science and Technology Forum (IUSSTF) on "Next Generation Logistics Supply Chain & CEO Workshop which was held on 5th August, 2019 to 10th August 2019 in Shri Mata Vaishno Devi University.

Sponsored Workshop/ Conference/Seminar/Refresher Program/Faculty Development Program/Short term Program

- TEQIP Workshop on Automobile Engineering Systems. Birla Institute of Technology, Mesra, Ranchi. Department of Mechanical Engineering. September 6-11, 2006 with the financial support **Rs. 30,000/-.**
- TEQIP Workshop cum Training Programme on Automobile Engineering Systems (Under Service to Community). Birla Institute of Technology, Mesra, Ranchi. Department of Mechanical Engineering. June 4-6, 2007 with the financial support **Rs. 30,000/-.**
- 2nd National Conference on Innovative Trends in Mechanical Engineering NCITME-2018 Sponsored by TEQIP-III and Organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, 23rd– 24th March- 2018 with the financial support **Rs.2,50,000/-**
- One Week Online AICTE-ISTE sponsored Induction/Refresher program on "Sustainable Product Design and Manufacturing (Phase I)" held online during March 18-24, 2021 with the financial support Rs. 93,000.00
- One Week Online AICE- sponsored Induction/Refresher program on "Sustainable Product Design and Manufacturing (Phase II)" organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, held online during April 15-21, 2021 with the financial support Rs. **93,000.00**
- One Week Online AICTE-ISTE sponsored Induction/Refresher program on "Sustainable Product Design and Manufacturing (Phase III)" held online during May 21-27, 2021 with the financial support **Rs. 93,000.00**
- One Week Online Faculty Development Program Organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering on "Sustainable Product Design and Manufacturing" held January 10-14, 2022 with the financial support Rs. 23,500/-
- One-day Workshop on "Celebration of Engineers Day 2023" organized by Dr. R. K. Mishra as a coordinator. The Financial assistance of Rs. 17,200/- (Rupees Seventeen Thousand Two Hundred only) for the said event from university funds and release of an advance amount of Rs. 12,200/- (Rupees Twelve Thousand Two Hundred only) in favour of Dr. R. K Mishra, Associate Professor, SoME.
- One Week Online Faculty Development Program Organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering on "Green Manufacturing" held on 4-8 March 2024 with the financial support Rs.23,500/-.
- One-week Online Short-Term programme Organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering on "Sustainable Product Design and Manufacturing" held on 22-27 July, 2024 with the financial support Rs. 1,20,000/-

Short Term Course Organized without sponsored

• Short Term Course on "Design and Analysis of Engineering Experiments" in School of Engineering, Gautam Buddha University, held 4–8 July, 2011.

Session Chair in Conference

- National Conference on "Innovative Trends in Mechanical Engineering -2017" in Department of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, 3-4 March, 2017.
- 4th International Conference on Recent Trends and Advancements in Engineering and Technology (ICRTAET-2017) in Shri Mata Vaishno Devi University, Katra, 3-4 November, 2017.
- 5th International Conference on Recent Trends and Advancements in Engineering and Technology (ICRTAET-2018) in Shri Mata Vaishno Devi University, Katra, 25th ---- 26th October, 2018.
- TEQIP-III sponsored International Conference on Mechanical Engineering and Allied Sciences (ICMEAS-2018) in Shri Mata Vaishno Devi University, Katra, 14-15 September, 2018.
- 2ndInternational Conference on Computational & Experimental Methods in Mechanical Engineering (ICCEMME-2019) was held at Department of Mechanical Engineering, GLBITM Greater Noida on 3rd 5th May, 2019.
- 6th International Conference on Recent Trends and Advancements in Engineering and Technology was held at Department of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, 17-18 January, 2020.
- Session Chair in the 2nd International Conference on Signals, Machines & Automation (SIGMA) 2022, held from 5th to 6th August 2022, at Netaji Subhas University of Technology, New Delhi, India.

Chairman

- TEQIP-III sponsored International Conference on Mechanical Engineering and Allied Sciences (ICMEAS-2018) in Shri Mata Vaishno Devi University, Katra, 14-15 September, 2018.
- TEQIP-III sponsored Faculty Development Program on "Best Manufacturing Practices in Industries" which was held on 17th Dec.2018-21st Dec.2018 in School of Mechanical Engineering, Shri Mata Vaishno Devi University.
- National workshop on Advances in Clean Energy Conversion Technologies and Materials for Energy Storage Application organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University Katra and Jawaharlal Nehru Technological University Hyderabad, sponsored by Department of Science and Technologies, Science and Engineering Research Board (SERB) and TEQIP-III on 24th and 25th January 2019.
- TEQIP-III sponsored National Workshop on "3D Printing for New Product Development" on 13th September 2019 organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University Katra
- Chairman of the discipline committee and committee to provide student volunteers in 9th convocation of SMVDU.
- Chairman of the committee for collection of application fee and application forms in 9th convocation of SMVDU.
- Nomination as the Chairman of the Viva Voce Examination Committee, of Mr. Arun Bali, Ph.D. student of Mathematics (Entry No. 19DMT004) under the supervision of Dr. Uday Pratap Singh, Associate Professor, School of Mathematics, SMVD University (presently on EoL) is scheduled to be held on Friday, 15th December 2023 at 12.00 Noon in the Administrative Block Committee Room, SMVDU.

Convener

• 2nd National Conference on Innovative Trends in Mechanical Engineering NCITME-2018 Sponsored by TEQIP-III and Organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, 23rd– 24th March- 2018.

Organizing Secretary

• National workshop titled "Advances in clean energy conversion technologies & materials for energy storage applications" during 24th – 25th Jan. 2019 at SoME.

Nodal Officer

• Nodal officer of the Indian society for technical education (ISTE) chapter in Shri Mata Vaishno Devi University, Katra.

Visit with students

• Appointment of Dr. Raghvendra Kumar Mishra, Associate Professor, School of Mechanical Engineering as a "Faculty Mentor" for smooth conduct of college on wheels: JK Gyanodaya Express (CoWJKGE).

Sanctioned Induction/Refresher Program

- One-week AICTE-ISTE Induction/Refresher Programmes titled "Sustainable Product Design and Manufacturing." The total sanction budget is Rs.3,00,000/- for 40 participants (budget should not exceed to Rs.3,00,000/- under any circumstances)
- One Week Online Faculty Development Program Organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering on "Sustainable Product Design and Manufacturing" held January 10-14, 2022 with the financial support Rs.23,500/-

MOOC Courses Development

• Developing MOOCS for UG/PG subjects in the curriculum.

MOOC Courses

| S. | Date of | Course title | University / | Outcomes | Implications |
|-----|----------|--------------------|--------------|----------------------------|-------------------------|
| No. | training | | Institute | | |
| 1. | 2020 | Equipment Design: | IIT | 89% completed, understand | For teaching UG /PG |
| | | Mechanical Aspects | Roorkee, | to design the pressure and | courses |
| | | | NPTEL | chemical vessel design | |
| 2. | 2021 | Accreditation and | IIT | Elite | For NBA |
| | | Outcome Based | Kharagpur, | | |
| | | Learning | NPTEL | | |
| 3. | 2023 | Protecting the | University | 99.65% | Information about |
| | | World: Introducing | of | | corrosion in materials, |
| | | Corrosion Science | Manchester | | chemical and oil |
| | | and Engineering | | | industry |

Books

National

| S. | TITLE with ISBN Number | Publisher | Year of | Remarks (Whether |
|-----|---|-----------|--------------|---------------------|
| No. | | | Publication | authored or edited) |
| 1. | Proceedings of the 2 nd National | GUTENBERG | March 23-24, | edited |
| | Conference on Innovative Trends in | | 2018 | |
| | Mechanical Engineering NCITME-2018 | | | |
| | ISBN: 978-93-86240-24-8 | | | |

Book chapter

| Sr. | Author Name | Title | of | Book | with | Title | of | the | Book | Publisher | Year | of |
|--------|--------------------|--------|-------|--------|------|-------|----|-----|------|-----------|---------|------|
| No. | | ISBN/I | SSN N | lumber | | Chapt | er | | | | Publica | tion |
| Interr | national | | | | | | | | | | | , |

| 1. | Apoorv Rathi, Joy Banerjee, Anurag Dixit, R. K. Misra, H. S. Mali | Engineering, ISSN 2195-4356 | Evaluation of Vibration of a Crankshaft and a Driveshaft Using FEM | Springer | 2016 |
|----------|---|---|--|-----------|------|
| 2. | Pawandeep Singh, R. K. Mishra, Balbir Singh, and Vivudh Gupta | _ | Tribological Properties of Green Hybrid Metal Matrix Composites Reinforced with Synthetic and Industrial Agricultural Wastes | CRC | 2021 |
| 3. | Vivudh Gupta, Balbir Singh, R. K. Mishra, and Pawandeep Singh | Tribology and Sustainability pp. 323-332 ISBN 9780367551469 Published August 27, 2021 by CRC Press | Tribological Studies on Titanium Alloys for Biomedical Applications | CRC | 2021 |
| Nation 1 | Dixit S., Mishra R.K., Ganguli B. | (eds) Advances in Micro and Nano Manufacturing and Surface Engineering. Lecture Notes on Multidisciplinary Industrial Engineering. Springer, Singapore | Numerical and Experimental Analysis of Plasma Nitrided XM- 19 Stainless Steel. In: Shunmugam M., Kanthababu M. | Springer, | 2019 |
| 2. | Vivudh Gupta, Balbir Singh, R. K. Mishra | | A critical assessment of electric discharge machining process: variants and hybrid approaches | | 2020 |

Patent/Copyright Filed/Case Study Filed or Accepted [Please Specify, with documentary proof]

1. Name of Inventor (Main Contact Person): Pawandeep Singh and R. K. Mishra **Title of the Innovation:** "Reinforced Aluminium Matrix Composites and Method of Preparation Thereof".

Application No: 202011052574.

Paper Publications (Journals /Conferences) *Journals*

1. R.K. Misra, K. Sandeep, Ashok Misra, *Analysis of Anisotropic Plate Using Multiquadric Radial Basis Function*, International Journal of Engineering Analysis with boundary Elements, 31(1), (2007), 28-34.

- 2. Sandeep Kumar, R. K. Misra, *Analysis of Banana Fibers Reinforced Low-density polyethylene/poly (ε-caprolactone) Composites*, International Journal of soft materials, 4, (2007), 1-13.
- 3. R. K. Misra, Ashok, Misra, K. Sandeep, *Analysis of Cross-ply Laminate using Multiquadric Radial Basis Function*, International Journal of Computational Methods in Engineering Science and Mechanics, 8, (2007),1–10.
- 4. Raghvendra Kumar Misra, Sandeep Kumar, Kumar Sandeep and Ashok Misra, *Dynamic Analysis of Banana Fibers Reinforced High-density Polyethylene/ Poly (C-caprolactone) Composites*, Journal of Mechanics of Materials and Structures, 3 (2008), 107-126.
- 5. R. K. Misra, Sandeep Kumar, K. Sandeep, Ashok Misra, *Some Experimental and Theoretical Investigations on fire retardant coir/epoxy micro-composites*, Journal of Thermoplastic Composite Materials, 21 (2008), 71-101.
- 6. R. K. Misra, Chandan Datta, *Mechanical behavior of unidirectional glass fibers reinforced Resol/VAC-EHA Composites at different volume fraction of fibers*. International Journal of soft materials, 6 (2008), 99–118.
- 7. R. K. Misra, Chandan Datta, *Mechanical Behavior of Polyethylene Fibers Reinforced Resol/VAC-EHA*, Journal of Macromolecular Science, Part A: Pure and Applied Chemistry, 46 (2009) 425-437.
- 8. R. K. Misra, Sandeep Kumar, Static and dynamic mechanical analysis of chemically modified randomly distributed short banana fiber reinforced high-density Polyethylene/ Poly (*C*-caprolactone) Composites, Journal of Polymer Engineering. 29 (2009), 213-247.
- 9. R.K. Misra and Chandan Datta, *Analysis of jute fiber reinforced Epoxy/VAC-EHA/HMMM IPN composite plate*, Composites: Mechanics, Computations, Applications, An International Journal, 1(4), (2010), 353-360.
- 10. R.K. Misra, Sudhir Kumar Saw, Chandan Datta, *The influence of fiber treatment on the mechanical behavior of jute-coir reinforced epoxy resin hybrid composite plate*, Mechanics of Advanced Materials and Structures, 18(6), (2011), 431-445.
- 11. R.K. Misra, P. C. Mishra, Sandeep Kumar, *Analysis of short banana fiber reinforced HDPE/Poly (C-caprolactone) skew composite plate using multi quadric radial basis function method*, Composites: Mechanics, Computations, Applications, An International Journal, 2(3), (2011), 195-221.
- 12. R. K. Mishra and N.V. Rachchh, *Mechanical performance of coir fiber reinforced polyester composite*, International Journal of Advanced Materials Science, 1(1), (2011), 19–28.
- 13. N.V. Rachchh, R.K. Misra, P.K. Das, *Uses of Red Mud in Built Environment An Indian Perspective*, International Journal of Business and Engineering Research, (4), (2011), 1-6.
- 14. R.K. Misra and N.V. Rachchh, Comparative Analysis of Mechanical Behavior of Chemically Treated & Untreated Coir Fibers at Different Percentage of Coir Fibers, International Journal of Applied Engineering Research, 6(4), (2011), 433-443.
- 15. R.K. Misra, Mechanical behavior of short banana fiber reinforced epoxy composites using meshless multiquadric radial basis function method, International Journal of Mathematical Modeling, Simulation and Applications, 5(2), (2012), 150-172.
- 16. N. V. Rachchh & R. K. Misra, Failure Analysis of Rollers of Bloom Withdrawal Stand in Continuous Casting Machines at Visakhapatnam Steel Plant, International Journal of Management, IT and Engineering, 2(8), (2012), 82-102.
- 17. R. K. Misra, Static and Dynamic analysis of rectangular isotropic plate using multiquadric radial basis function, International Journal of Management, IT and Engineering, 2(8), (2012), 166-178.
- 18. R.K. Mishra, *Free vibration analysis of isotropic plate using multiquadric radial basis function*, International Journal of Science, Environment and Technology, 1(2), (2012), 99 107.
- 19. R.K. Mishra, *Vibration analysis of glass fiber reinforced composites*, International Journal of Computational Engineering Research, 2(3), (2012), 776-789.
- 20. R. K. Mishra, *Determine the Fatigue behavior of engine damper caps screw bolt*, International Journal of Computational Engineering Research, 2 (4), (2012), 981-990.
- 21. Ajay Kumar Maurya, Yogesh K. Chauhan, R. K. Mishra, Twinkle, *Fuel Cell Integrated with Five Level VSI for Industrial Pump Applications*, International Journal of Renewable Energy Research 3(2), (2013) 388-394.

- 22. Biren J. Saradava, Nikunj V. Rachchh, R. K. Misra, D. G. Roychowdhary, *Mechanical Characterization of Coir Fiber Reinforced Polymer Composite using Red Mud as Filler*, Journal of Information, Knowledge, and Research in Mechanical Engineering.2(2), (2013),472-476.
- 23. Anurag Dixit, Harlal Singh Mali, R.K. Misra, *Unit cell model of woven fabric textile composite for multiscale analysis*, Procedia Engineering 68 (2013) 352 358.
- 24. R. K. Misra, and P. C. Mishra, *Utilization of waste coal dust of steel industry for power generation*, Int. J. Environment and Waste Management, 13(1), (2014) 50-66.
- 25. R. K. Misra and N. V. Rachchh, *Mechanical characterization and analysis of randomly distributed short banana fiber reinforced epoxy composites*, Iranian Journal of Materials Science & Engineering, 11(1), March 2014, 1-16.
- 26. Mayank Nirbhay, R. K. Misra, Anurag Dixit, *Finite element analysis of jute-coir fiber reinforced hybrid composite multi-panel plates*, Mechanics of Composite Materials.,51(4), September, (2015), 505-520.
- 27. R.K.Misra, Anurag Dixit, Harlal Singh Mali, *Finite Element (FE) Shear Modeling of Woven Fabric Textile Composite*, Procedia Materials Science 6, (2014), 1344-1350.
- 28. Anurag Dixit, R.K.Misra, Harlal Singh Mali, *Finite element compression modeling of 2x2 twill woven fabric textile composite*, Procedia Materials Science 6, (2014), 1143-1149.
- 29. N.V. Rachchh, P.S. Ujeniya and R. K. Misra, *Mechanical characterization of rattan fiber polyester composite*, Procedia Materials Science 6, (2014) ,1396-1404.
- 30. Mayank Nirbhay, Anurag Dixit, R.K. Misra, Harlal Singh Mali, *Tensile test simulation of CFRP test specimen using finite elements*, Procedia Materials Science, 5, (2014), 267-273.
- 31. Anurag Dixit, Harlal Singh Mali, R. K. Mishra, *A Micromechanical Unit Cell Model of 2×2 Twill Woven Fabric Textile Composite for Multi Scale Analysis*, Journal of the Institution of Engineers (India): Series E, Springer, 95(1), April 2014, 1-9.
- 32. R. K. Misra and Sushil Kumar, *Multiquadric Radial Basis Function Method for Boundary Value and Free Vibration Problems*, Indian Journal of Industrial and Applied Mathematics, Taylor and Francis 4(2), 2013, 138-141.
- 33. Neeraj Kumar Sharma, R. K. Misra and Satpal Sharma, *Thermal expansion behavior of Ni-Al₂O₃ composites* with particulate and interpenetrating phase structures: An analysis using finite element method, Computational Materials Science, 90, July 2014, 130–136.
- 34. Shashi Prakash Dwivedi, Satpal Sharma, Raghvendra Kumar Mishra, *A356 Aluminum Alloy and applications- A Review*, Advance Materials Manufacturing & Characterization, 4(2), 2014, 81-86. Doi: http://dx.doi.org/10.11127/ijammc.2014.08.01
- 35. Anurag Dixit, R. K. Misra, Harlal Singh Mali, Compression modeling of plain weave textile fabric using finite elements (Druckmodellierung von flächigen Textilgewebestrukturen mit Finiten Elementen), Mat. Wiss. U. Werkstofftech. 45(7), 2014, 600-610.
- 36. R.K. Misra and Sushil Kumar, *Analysis of fourth order partial differential equations using multiquadric radial basis function*, Mathematical Forum, 26, 2014.
- 37. Anurag Dixit, Harlal Singh Mali, R.K. Misra, *Investigation of the thermo mechanical behavior of a 2* × 2 *twill weave fabric advanced textile composite*, Mechanics of Composite Materials, 51(2), 2015, 253-264.
- 38. Shashi Prakash Dwivedi, Satpal Sharma, Raghvendra Kumar Mishra, *Electromagnetic Stir Casting and its Process Parameters for the Fabrication and Refined the Grain Structure of Metal Matrix Composites– A Review*, International Journal of Advance Research and Innovation, 2(3),2014, 639-649.
- 39. Mayank Nirbhay, Sagar Juneja, Anurag Dixit, R.K. Misra, Satpal Sharma, *Finite Element Analysis of All Composite CNG Cylinders*, Procedia Materials Science, (10), 2015, 507 512.
- 40. Srishti Mishra, Ajay Kumar, R K Mishra, Shristi Sharma, Sashwat Singh, *Structural health monitoring and Propagation of lamb waves to identification of crack*, Materials Today: Proceedings, 2(4-5), 2015, 1833-1840.
- 41. Nitin Jauhari, Raghvendra Mishra, Harishchandra Thakur, *Natural Fiber Reinforced Composite Laminates- A Review*, Materials Today: Proceedings, 2(4-5), 2015, 2868-2877.

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- 12. Shalok Bharti, Dr. Balbir Singh, Dr.R.K. Mishra, A Review on Nano Technology and Nano Fabrication, Proceedings of the 2nd National Conference on Innovative Trends in Mechanical Engineering NCITME-2018 Sponsored by TEQIP-III and Organized by School of Mechanical Engineering, Shri Mata Vaishno Devi University, Katra, 23rd– 24th March- 2018.
- 13. R. K. Mishra, Prediction of the performance of a diesel engine using jatropha based biodiesel blended with diesel at different ratios, National conference on renewable energy and sustainable environment: challenges and remedies, School of Energy Management, Shri Mata Vaishno Devi University, Katra, 24-25 April- 2018.

Area of Interests and Research:

Specialization of the research areas are following:

- a. Composite Plates and Laminates
- b. Natural fibers and glass fibers reinforced composites
- c. Meshless methods (Multiquadric Radial Basis Function)
- d. Hybrid radial basis function
- e. Bio-diesel

Theses and Projects Supervising/supervised

PhD *Thesis*

| Sr. | Name of the | Year | | Title of Thesis | Supervisor/ | |
|-----|-------------|-------------|-----------|-----------------|-------------|-------|
| No. | student | Registratio | Completed | | Co- | Proof |
| | | n date | _ | | Supervisor | |

| 2. | Anurag Dixit Registration Number: Ph.D./ENGG/119 Nikunj. V. Raccha Registration Number: ME1101 | 2011 16.02.2011 | 15-07-2015 (awarded) 07-08-2017 (awarded) | Experimental and Numerical Investigation on the Mechanical Behavior of Woven Fabric Carbon/Epoxy Composites Experimental and Numerical Investigations of Red Mud Filled Polyester Composites | Supervisor Co- supervisor | Yes |
|-----|---|--------------------|--|---|----------------------------|-----|
| 3. | Shashi Prakash Dwivedi Registration Number: 13/PhD/Engg/022 | 21.03.2015 | 01-09-2017 (awarded) | Synthesis and Characterization of Hybrid Metal Matrix Composites Reinforced with Eggshells and SIC for Enhanced Tribo- Mechanical Properties | Co- supervisor | Yes |
| 4. | Neeraj Sharma Registration Number: 13/PhD/ENGG. /018 | 21.03.2015 | 06-11-2017 (awarded) | Synthesis and characterization of Boron Carbide Reinforced MMC by FEA | Co- supervisor | Yes |
| 5. | Bhanumati Panda Registration Number: 2011/VSAS/MAW 05 | 26.07.2013 | 22-02-2018 (awarded) | Dispersion in Curved Channel Flow using Multiquadric Radial Basis Function Method | Co- supervisor | Yes |
| 6. | Nitin Johri Registration Number: 11/Ph. D/Engg. /121 | 20.03.2015 | 15-03-2019 (awarded) | Synthesis and Characterization of Jute— Chicken Fiber Reinforced Polymeric Hybrid Composites | Co- supervisor | Yes |
| 7. | Suraj Kumar Singh Roll No. 16PHDME010 | 11/11/2016 | 18/12/2023 (awarded) | Processing and characterization of plant Nano Fibers Reinforced Polymer composites | Co- supervisor | Yes |
| 8. | Pawandeep Singh Registration Number: 17DME002 | 10/08/2018 | 21-06-22 (awarded) | Mechanical and Tribological Characterization of Eggshell Ash/B4C and Bone Ash/B4C Particulates Reinforced ZA- 27 Composites | Supervisor | Yes |
| 9. | Vivudh Gupta Registration Number: 17DME001 | 10/08/2018 | 7-10-2022 (awarded) | Characterization and Machinability Study of Eggshell and Rice Husk Ash reinforced AA7075 Composites | Co- supervisor | Yes |
| 10. | Pankaj Kumar (23DME001) | 13/09/2023 | | | Co- supervisor | Yes |

Master's Theses

| Sr. | Name of the | Date and | Title of Thesis |
|-----|-----------------|----------|-----------------|
| D1. | r tuille of the | Dute and | Title of Thesis |

| | student | Year | |
|------------|-------------------------------|------------|---|
| 1. | V.Vital.Rao | 5/5/2006 | Failure analysis of continuous casting bloom withdrawal rollers (A |
| | (IE/Mech/24/2005) | | case study of the Visakhapatnam steel plant) |
| 2. | B. Balamurugan | 28/11/2007 | Utilization of waste coal dust of steel industry for power generation |
| | (IE/Mech/1022/06) | | |
| 3. | K.C. Dudeja | 8/5/2009 | Determine the fatigue strength of engine damper caps screw bolt and |
|] . | (IE/ME/1021/07) | 0/5/2009 | observe the stress concentration due to various notches on a round |
| | (IL//VIL//1021/07) | | bar |
| 4. | J.C. Tak | 15/5/ 2009 | Predict the mechanical and thermal behavior of HE Ammunition |
| 7. | (IE/ME/1002/08) | 13/3/ 2007 | shell at different loading conditions using finite element method |
| 5. | Sunil Kumar | 22/5/2014 | Application of Six Sigma Methodology in Private Engineering |
| <i>J</i> . | (12/PIE/004) | 22/3/2014 | Colleges In NCR (India) |
| 6. | Upendra Pratap | 22/5/2014 | _ |
| 0. | Singh (12/PIE/003) | 22/3/2011 | Improvement of the quality using <i>X</i> , R and U control charts in automobile industry |
| 7. | Aanchal Yadav | 21/5/2015 | Computational Investigation of Effect of Vortex Generator on |
| ' . | (10/IME/001) | 21/3/2013 | Hatchback Type Car and Varying Nose Shape on Bullet Trains |
| 8. | Himant Sirohi | 22/5/2015 | Optimization of Wire Electric Discharge Machining Process using |
| 0. | (10/IME/022) | 22/3/2013 | Response Surface Methodology on D-3 HCHCr Die Steel |
| 9. | Gagneet Khurana | 23/5/2015 | Contact Stress Analysis, Life Determination and Optimum Design of |
| ٦٠. | (10/IME/020) | 23/3/2013 | Ball Bearings |
| 10. | Vivek Kumar Gupta | 23/5/2015 | Experimental Investigation of Mechanical Properties of Glass- |
| 10. | (10/IME/059) | 23/3/2013 | <u> </u> |
| 1.1 | 1 | 21/5/2015 | Bagasse Reinforced Epoxy Composite |
| 11. | Pooja Rawal (10/IME/067) | 21/3/2013 | Analysis of Aerodynamics structure using Computational Fluid Dynamics |
| 12. | Adarsh Kumar | 22/5/2015 | Failure Modes and Effect Analysis of Four-Wheeler Fuel Level |
| 12. | (10/IME/005) | 22/3/2013 | Sensor Assembly Using Extended Vikor Methodology |
| 13. | Kiran Ahirwar | 20/5/2015 | , , , , , , , , , , , , , , , , , , , |
| 13. | (10/IME/026) | 20/3/2013 | SCM Functioning of Retailing and the Behaviour of Consumer Towards the Private Label |
| 14. | Arjit Kumar Saxena | 23/5/2015 | Experimental Studies of Glass Fibre Reinforced and Human Hair- |
| 14. | (10/IME/063) | 23/3/2013 | Glass Fibre Reinforced Epoxy Resin Hybrid Composite |
| 15. | Prashant Tripathi | 23/5/2015 | Development and Characterization of Low-Cost Jute Glass Fiber |
| 13. | - | 23/3/2013 | 1 |
| 16. | (10/IME/040) Aditi Chauhan | 20/5/2015 | Based Hybrid Epoxy Composites Quality Improvement of a Manufacturing Process Using Six Sigma |
| 10. | (13/PIE/001) | 20/3/2013 | Quanty improvement of a Manufacturing Process Using SIX Signia |
| 17. | Sumit Bhati | 19/5/2015 | Vibration Analysis of Rolling Elements Bearing Defects |
| 1/. | (10/IME/055) | 17/3/2013 | Violation Analysis of Rolling Elements Dearing Defects |
| 18. | Pradeep Kumar | 21/5/2015 | A Bio-Inspired Precision Air-Drop system |
| 10. | (10/IME/037) | 21/3/2013 | A Dio-maphed i recision An-Diop system |
| 19. | Shivam Gupta | 20/5/2015 | Implementation of Weibull Distribution in Defect Data Analysis |
| 17. | (10/IME/050) | 20/3/2013 | Implementation of wellum Distribution in Detect Data Analysis |
| 20. | Manish Tomar | 22/5/2015 | Validation and Effectiveness of a Four-Wheel Steering in |
| ۷٠. | (10/IME/029) | 44/3/4013 | Comparison with Two Wheel Steering of Car using MSC's Adams |
| | (10/11 VIL /029) | | Software |
| 21. | Apoorv Rathi | 1/6/2016 | Studies on shear properties of cortical bone using finite element |
| 41. | (11/IME/025) | 1/0/2010 | simulation of iosipescu test |
| 22 | , , | 1/6/2016 | - |
| 22. | Abhijeet Lamoria | 1/6/2016 | Design, development, and slurry erosion analysis of particulate filled |
| 22 | (11/IME/003) | 10/5/2015 | aluminium alloy composites |
| 23. | Sarthak Kanungo | 12/5/2016 | Analysis of flow separation in annular diffuser and its application as |
| | (11/IME/047) | | an under body to study the aerodynamics of a simplified car model |

| 24 | Danian Chatumyadi | 5/6/2016 | Synthesis development and characterization of composite from a |
|-----|-------------------------------------|------------|--|
| 24. | Ranjan Chaturvedi (11/IME/084) | 3/0/2010 | Synthesis, development, and characterization of composite from a hybrid geopolymer-epoxy resin and bamboo sawdust |
| 25. | Shristi Sharma (11/IME/101) | 1/6/2016 | Development of chitosan based anti-microbial leather with enhanced mechanical properties |
| 26. | Ranu Swaroop | 1/6/2016 | Mechanical characterizations of jute fabric and human hair |
| | (11/IME/085) | | reinforced hybrid epoxy composites |
| 27. | Deepak Kumar | 1/6/2016 | Study of mechanical and microstructure properties of water-soluble |
| | (11/IME/037) | | flux and flux cored wire on aluminium brazing joints |
| 28. | Pradeep Kumar (11/IME/075) | 5/6/2016 | Enhancement of aerodynamic efficiency of truck-trailer |
| 29. | Rajnish kumar (11/IME/083) | 5/6/2016 | Study of mechanical, morphological and dynamic mechanical properties of kenaf epoxy composites |
| 30. | Sachin Sharma (11/IME/030) | 5/6/2016 | Design and optimization of reconfigurable manufacturing system |
| 31. | Vishnu Raj (11/IME/118) | 10/6/2016 | Optimization of mechanical behaviour of hybrid joints of stainless steel 304 |
| 32. | Srijan Pratap Singh (11/IME/110) | 5/6/2016 | Design and Development of Pneumatic Circuit simulator |
| 33. | Shivani (11/IME/069) | 10/06/2016 | Design and Thermal Analysis of cold plate in Active Phased Array Radar |
| 34. | Ruchi Yadav (11/IME/091) | 10/06/2016 | Fabrication and Characterization of Jute/Human Hair Fiber Reinforced Polyester Hybrid Composite |
| 35. | Raman Bhati (11/IME/026) | 12/06/2016 | Study the Effect of Current on Pitting Corrosion and Mechanical Properties of TIG welded Austenitic steel 304 |
| 36. | Preyansh Mishra (11/IME/080) | 12/06/2016 | Study of Supply Chain Sustainability Issues in Indian Fertilizer Manufacturing Sector by Case Study and Modelling Approach |
| 37. | Ayush Verma (11/IME/031) | 31/05/2016 | Experimental Studies on Rice Husk/Glass Fibre Reinforced Epoxy Resin Hybrid Composites |
| 38. | Gaurav Singh (11/IME/044) | 31/05/2016 | Analysis of Glass Fibre/Chicken Feathers Reinforced Hybrid Composite |
| 39. | Ajay Kumar (10/IME/008) | 5/06/2016 | Nanoparticles- Based and Bioengineered (SPION) Probes for early detection of Alzheimer disease |
| 40. | Mahima Dua (11/IME/058) | 1/06/2016 | 3D Parametric Modeling and 2D designing of Francis Turbine Components |
| 41. | Suraj Kumar Singh (11/IME/107) | 1/06/2016 | Development Lightweight Material for Vehicle Frontal Bumper Beam Design |
| 42. | Srishti Mishra (11/IME/104) | 1/06/2016 | Non-Destructive Evaluation of Residual Stresses in Rail Steel |
| 43. | Abhinav Kumar (11/IME/002) | 1/06/2016 | Determination of Shear Behavior of Cortical Bone using Small Punch Test and Finite Element Method |
| 44. | Kuldeep Gurjar (11/IME/055) | 5/06/2016 | Experimental Study of Jute Fibre/Wool Fibre Reinforced Polyester Resin Hybrid Composite |
| 45. | Mayank Agarwal (11/IME/060) | 5/06/2016 | Experimental and Comparative Study of Glass Fibre/Sawdust Reinforced Epoxy Resin Hybrid Composite |
| 46. | Jasbeer Singh 16MMA002 | 7/5/2018 | Development of waste egg shell and rice husk powder reinforced aluminum metal-matrix composite for aerospace industry |
| 47. | Pranav Kumar 17MMA009 | 2019 | Experimental Investigation of Rice Husk Ash (RHA) & Zirconium Dioxide (ZrO2) Reinforced in Aluminium Alloy 6082 Hybrid Metal |
| | 17MMA009 | | Dioxide (ZrO2) Reinforced in Aluminium Alloy 6082 Hybrid Me |

| | | | Matrix Composite |
|-----|---------------|------|---|
| | | | |
| 48. | Adarsh Sharma | 2020 | Study of mechanical and corrosive properties of SiC nanoparticles |
| | 18mma014 | | reinforced AA6101-T6 Aluminium alloy metal matrix composite |
| | | | using Taguchi method |
| 49. | Shezan Malik | 2022 | Tribological investigation of Jute fiber reinforced Epoxy with |
| | 20mmn018 | | Pistachio Vera nut shell powder as a Filler |

Projects (Prepared / Submitted/Ongoing)
Granted

| Sr. | Recog nition | Title of Project | Year of funding | Sponsoring Organization | Amount of Grant (In Lacs) | Co- Investi gators (if any) | Institut e |
|-----|-----------------|---------------------|--------------------|----------------------------|------------------------------|--------------------------------------|---------------|
| 1. | Co-PI | Developing a hybrid | 25th April, | Gujarat | Rs. 24,37,200/- | Dr. | Shree |
| | | nanocomposite | 2023 | Council on | (Rupees Twenty- | Raghve | Mata |
| | | material using SiC | | Science & | Four Lakh Thirty- | ndra | Vaishno |
| | | & Bio-waste Nano | | Technology | Seven Thousand | Kumar | Devi |
| | | fillers in ZA-27 | | (GUJCOST), | Two hundred only) | Misra | Universi |
| | | matrix material | | Gandhinagar | | | ty |

Professional Societies and Services

- 1. Member (Life), International Association of Engineers (IAENG). IAENG membership number is 108493.
- 2. Member (Life), Indian Society of Technical Education, Membership Number is LM136829.
- 3. Member (Life), Tribology Society of India Membership Number is LM#6103.

Computer Experience

| | C, C++ and MATLAB | CAD Software package | Pro/e |
|-----------------------------|----------------------------|----------------------|-------|
| Programming Language | | | |
| Operating Systems | Windows (98, 2000, XP, NT) | FEA Software package | ANSYS |

Administrative Experience

| Period | | Organization | Designation | Responsibilities | | |
|------------|----------|---------------|------------------------------|---------------------------------|--|--|
| From | To | | | | | |
| 28/12/2010 | Feb 2017 | Gautam Buddha | Faculty In-charge School | Look after maintenance black | | |
| | | University. | Stores and Assets, School of | board, white board, projector, | | |
| | | | Engineering | AC etc. work. Maintain supply | | |
| | | | | chalk, marker & attendance. Any | | |
| | | | | maintenance work related to | | |
| | | | | School of Engg. | | |
| 07-01-2011 | Feb 2017 | Gautam Buddha | Members for technical | Opening of Technical bids of | | |
| | | University | scrutiny of technical bids | tenders for engineering | | |
| | | | | workshop. | | |
| 14-08-2012 | 2013 | Gautam Buddha | Coordinator, PhD | Conduct SRC & RDC in School | | |
| | | University. | Programme | of Engineering. | | |
| 13-12-2012 | Feb 2017 | Gautam Buddha | Member central purchase | Taking Part on decision matters | | |
| | | University. | committee | regarding purchase. | | |
| 29-07-2013 | Feb 2017 | Gautam Buddha | Member of the anti-ragging | To control ragging in campus | | |
| | | University | committee | | | |
| 07-02-2014 | 2014 | Gautam Buddha | Member of the committee | To remove General Proficiency | | |
| | | University | | marks from the course | | |
| | | | | curriculum | | |
| 30.07.2015 | Jan 2017 | Gautam Buddha | Coordinator of Time Table | Prepare Time Table of School of | | |

| | | University. | in School of Engineering | Engineering |
|-----------------------------|-----------------------|---------------|--------------------------------|---------------------------------------|
| 07.08.2015 | Feb 2017 | Gautam Buddha | Coordinator of Maintenance | To complete maintenance work |
| 07.00.2016 | 201, | University. | Committee | in School of Engineering |
| 12.10.2015 | Feb 2017 | Gautam Buddha | Member of the Proctorial | To maintain the discipline |
| | | University | Board | |
| 25.01.2016 | Feb 2017 | Gautam Buddha | Member of the NIRF | How to increase the NIRF |
| 20.01.2010 | 201, | University | ranking framework | ranking of the university |
| 07.11.2016 | Feb | Gautam Buddha | Member of the NAAC | To prepare and document for |
| | 2017 | University | committee | Accreditation |
| 27 th April, | 10/10/2018 | Shri Mata | Chairman of B. Tech / B. | Admission committee will |
| 2017 | 10,10,2010 | Vaishno Devi | Arch. Admission committee | complete the B. Tech /B. Arch |
| _017 | | University | | related process |
| 11/10/2018 | 1 st April | Shri Mata | Member of the University | Committee is empowered to take |
| 11/10/2010 | 2021 | Vaishno Devi | admission Committee | all decision regarding admission |
| | 2021 | University | | process /advertisement in the |
| | | | | newspaper & other medium for |
| | | | | UG, PG and PhD programs. |
| 09.08.2017 | September | Shri Mata | Warden of the Vindyachal | Warden has to look after the |
| | 2020 | Vaishno Devi | Hostel | welfare of the students, to check |
| | _0_0 | University | | the room and visit the students at |
| | | | | any time. |
| | | | | Warden is custodian and in- |
| | | | | charge of all the hostel |
| | | | | properties. Warden has to verify |
| | | | | the stock periodically. |
| 29 th March, | April 2021 | Shri Mata | Member of the Departmental | DRC is responsible for the |
| 2017 | 1 | Vaishno Devi | Research Committee of | conduct and monitoring of all |
| | | University | Department of Mechanical | matters of DOME relating to |
| | | , | Engineering | research, consultancy and PhD |
| | | | | program. |
| 26 th April, | March | Shri Mata | Member of the committee | Member of the committee for |
| 2017 | 2021 | Vaishno Devi | for handling matters repair | handling matters repair of non- |
| | | University | of non-working laboratory | working laboratory equipments |
| | | | equipment | |
| 10 th August, | 2022 | Shri Mata | Member of IP Management | Implementation of the IPR policy |
| 2017 | | Vaishno Devi | Standing Committee | of SMVDU |
| | | University | | |
| 15 th September, | 2019 | Shri Mata | Member of the Committee to | Member of the committee to |
| 2017 | | Vaishno Devi | review e-mail /net facility in | review e-mail /net facility in the |
| | | University | the campus | campus |
| 27 th February, | 2020 | Shri Mata | Member, School Purchase | Purchase the items for school of |
| 2018 | | Vaishno Devi | Committee | Mechanical Engineering |
| | | University | | |
| 02.04.2018 | 02.04.2021 | Shri Mata | Head of the School of | To look after departmental |
| | | Vaishno Devi | Mechanical Engineering | academic and administrative |
| | | University | 6 6 | activity |
| 13.11.2019 | 2020 | Shri Mata | The National Innovation and | Member of the committee |
| | | Vaishno Devi | startup policy 2019 for | · · · · · · · · · · · · · · · · · · · |
| | | University | students and faculty of | |
| | | | Higher Education | |
| | 1 | l | | <u> </u> |

| | | | Institutions. | |
|------------|------------------------|--------------------------|------------------------------|---|
| 23.09.2019 | 2020 | Shri Mata | Committee for auction of | Member of the committee |
| | | Vaishno Devi | scrap material/ items/ | |
| | | University | equipment | |
| 28.11.2019 | 2021 | Shri Mata | TEQIP-III Expert | As an Expert |
| | | Vaishno Devi | Committee Meeting to | |
| | | University | review available | |
| | | | Swayam/MOOC courses | |
| 9.05.2022 | 19 th April | Shri Mata | SMVDU CCMT/CCMN PI | Coordinator for M. Tech and |
| | 2023 | Vaishno Devi | | MSc admission through CCMT |
| | | University | | and CCMN |
| 20.04.2023 | | Shri Mata | SMVDU CCMT/CCMN PI | Coordinator for M. Tech and |
| | | Vaishno Devi | | MSc admission through CCMT |
| | | University | | and CCMN |
| 9.09.2021 | Till date | Shri Mata | Member, School Purchase | Purchase the items for school of |
| | | Vaishno Devi | Committee | Mechanical Engineering |
| | | University | | |
| 7.10.2022 | Till date | Shri Mata | Internal Member | School academic integrity Panel |
| | | Vaishno Devi | | |
| | | University | | |
| 17.03.2023 | 2023 | Shri Mata | Flying Squad | For carrying out surprise checks |
| | | Vaishno Devi | | during the conduct of |
| | | University | | Minor/Major examinations in the |
| | | | | university |
| 15.07.2022 | 9.08.2023 | Shri Mata | B. Tech Project coordinator | For assigning project guide to |
| | | VaishnoDevi | | students and arranging project |
| | | University | | presentation of students Infront |
| 22.02.2022 | 2022 | G1 : 3.5 | | of external examiner |
| 23.03.2023 | 2023 | Shri Mata | Chairman of the SoME | Preparation of FEST 2023 |
| | | VaishnoDevi | FEST 2023 project Proposal | Proposal |
| 15 11 2022 | 0.00.2022 | University | DID 1' (C ME | T |
| 15.11.2022 | 9.08.2023 | Shri Mata | PhD coordinator SoME | To take test and conduct |
| | | VaishnoDevi | | interview for admission in PhD |
| 0.00.2022 | T:11 data | University Shri Mate | Faculty Coordinates 7th | programme. |
| 8.08.2023 | Till date | Shri Mata | | Mentoring, registration etc work |
| | | VaishnoDevi | Semester, SoME | |
| 9.08.2023 | Till date | University Shri Mata | M. Tech Project coordinator | For essioning project suids to |
| 7.00.2023 | 1 III date | Shri Mata VaishnoDevi | WI. Tech Floject coordinator | For assigning project guide to students and arranging project |
| | | University | | 1 |
| | | University | | presentation of students Infront of external examiner |
| 9.08.2023 | Till date | Shri Mata | Coordinator Sponsored | Promote research and |
| 7.00.2023 | 1 III date | VaishnoDevi | research and Consultancy, | consultancy work in the |
| | | University | SomE | department |
| 23.08.2023 | Till date | Shri Mata | Member of the Institution | NIRF and research related work |
| 25.00.2025 | 1 III date | VaishnoDevi | Innovation Council | Time and research related work |
| | | University | Innovation Council | |
| 06.09.2023 | Till date | Shri Mata | Dean of Students Welfare, | To work for welfare of students. |
| 00.07.2023 | 1 III date | VaishnoDevi | SMVDU | To work for wentare of students. |
| | | University | | |
| | | Omversity | | |

| 25.07.2023 | Till date | Malaviya | Co-coordinator | To organize FDC programme |
|------------|------------|------------------------|--------------------------|-----------------------------------|
| | | Mission | | |
| | | Teacher | | |
| | | Training Centre, SMVDU | | |
| 30.11.2023 | 29.12.2023 | SMVDU | Member of the Committee | Identifying students eligible for |
| | | | for identifying students | awards of me `dal/certificate |
| | | | eligible for awards of | |
| | | | medal/certificate | |
| 29.02.2024 | Till date | SMVDU | Chairman | Constitution of committee for |
| | | | | formulating a policy for |
| | | | | providing financial assistance to |
| | | | | the students of SMVDU |

Additional work

In GBU

- Development of Mechanical workshop.
- Incharge of Dynamics of Machine Lab / Mechanical Vibration
- Involvement in M. Tech counseling held 26th June, 2011 in Gautam Buddha University
- Involvement in the counseling of integrated dual degree B. Tech / M. Tech + M.B.A counseling held 5-8th July, 2011, in Gautam Buddha University.
- As a Coordinator in Engineering Mechanics Subject in Gautam Buddha University.
- Preparation of machine dynamics lab specifications and experiments.
- Preparation of Applied Thermodynamics lab specifications and experiments.
- As a Observer in GPTU 2012-2016 examinations
- Preparation of Mechanical vibration lab specifications and experiments.
- Helping make virtual round of "Eco Kart-2014" a Success was held in October 11, 2013 in Gautam Buddha University.
- Represented **GBU Team** in SAEINDIA northern section EFFI-CYCLE 2013 virtual round hosted at Jamia Millia Islamia from 5 to 6th July 2013.
- Represented **Team Desert Eagle** from GBU in SAEINDIA northern section EFFI-CYCLE 2015 virtual round hosted at KIET Ghaziabad from 4-5 July, 2015.

Technical evaluation of bidding process

- Fluid Mechanics laboratory on 22nd June, 2011 in Gautam Buddha University.
- Machine Dynamics laboratory, 2011 in Gautam Buddha University.

Academic

- Summer course for back students in BIT Mesra, Ranchi on strength of materials subject.
- Summer course for back/repeat students in Gautam Buddha University, on engineering graphics subject in 2011.

Course Curriculum Preparation

- Syllabus Preparation of M. Tech Design in Department of Mechanical Engineering, Gautam Buddha University on 18.01.2014.
- Conducted BOS on 8th September 2018 in School of Mechanical Engineering in Shri Mata Vaishno Devi University and Prepared course structure and syllabus of 2018-19 Batches.

Edited Course

| Undergraduate | | | | | | | | | |
|---------------|---|---------|-------|--------|--------------------------|--|--|--|--|
| Sr. No. | Subject | Year | L-T-P | Credit | Institute | | | | |
| 1. | Kinematics of Machines | 2011 | 2-0-0 | 2 | Gautam Buddha University | | | | |
| 2. | Material Science | 2011 | 2-0-0 | 2 | Gautam Buddha University | | | | |
| 3. | Internal Combustion Engine & Gas turbine | 2012 | 3-1-0 | 4 | Gautam Buddha University | | | | |
| 4. | Dynamics of Machines | 2012 | 3-1-0 | 4 | Gautam Buddha University | | | | |
| 5. | Mechanical Vibrations | 2012 | 3-1-0 | 4 | Gautam Buddha University | | | | |
| | Postgr | raduate | | | | | | | |
| Sr. No. | Subject | Year | L-T-P | Credit | Institute | | | | |
| 1. | Experimental Stress Analysis | 2013 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 2. | Design of Pressure Vessels and Piping | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 3. | Bearings and Rotor-dynamics | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 4. | Mechanical Behavior of Materials | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 5. | Design of Hydraulic and Pneumatic Systems | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 6. | Design of Material Handling Equipments | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 7. | Vibration Engineering | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 8. | Mechatronics System Design | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 9. | Design of Automotive Components | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 10. | Engineering Fracture Mechanics | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 11. | Theory of Elasticity | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 12. | Theory of Plates and Shells | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 13. | Analysis and Synthesis of Mechanisms | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 14. | Reliability in Engineering Design | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 15. | Advanced Mechanics of Solids | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |
| 16. | Design of Process Equipments | 2014 | 3-0-0 | 3 | Gautam Buddha University | | | | |

Reviewer

- Journal of sound and vibration, Elsevier Publication
- Engineering analysis with boundary elements, Elsevier Publication
- Journal of Surface Science and Technology, Indian Society for Surface Science and Technology, Department of Chemistry, Jadavpur University, Kolkata 700 032, W. B., INDIA
- Journal of Engineering and Technology
- International Journal of Energy research
- Composite Science and Technology
- Journal of Composite materials, SAGE

Invited Lectures in International Conference, Guest/Invited Lectures

- 1. Invited lecture on "Analysis of composite using Meshless multi-quadric radial basis function method" in International Conference & Exhibition on cutting Edge Technological Challenges in Mechanical Engineering Organized by Department of Mechanical Engineering, Noida Institute of Engineering and Technology (NIET) knowledge park-II, institutional Area, Greater Noida-201 306 U.P. (India) on 21st & 22nd March, 2015.
- 2. Delivered guest lecture on "composite materials: synthesis and applications" 11th November, 2009 in DRIEMS (Dhaneswar Rath Institute of Engineering & Management Studies), CUTTACK, ORISSA.
- 3. Invited lecturer on "Analysis of the Natural Fiber Reinforced Composite Plates and Laminates Using Various Meshless Radial Basis Function Methods" in ISTE sponsored one-week short term training program "Modeling and Simulation for Mechanical Engineering System-MSMES-2016" conducted between 06.06.2016 to 10.06.2016 by Department of Mechanical Engineering, in Noida Institute of Engineering and Technology (NIET) knowledge park-II, institutional Area, Greater Noida-201 306 U.P. (India).

- 4. Invited Guest Lecturer on "Innovation in Design Engineering" held on 29 September, 2016 in Mechanical Engineering Department, G.L. Bajaj Institute of Technology & Management, Greater Noida.
- 5. Invited lecture on "Manufacturing of Polymer composite" topic in Faculty Development Program on "Sustainable Design and Manufacturing" which was held on 12th Feb 2018-16th Feb 2018 in School of Mechanical Engineering, Shri Mata Vaishno Devi University.
- 6. Invited lecture on "Two weeks winter School for Engineering Stream as a Resource Person organized by Faculty Development Centre-HRDC SMVD University in March 2019.
- 7. Invited Lecture on "Solve the differential equations using Multi quadric radial basis function method" in Two-week short-term course (17th-29th Dec., 2018) on "Tools and Techniques for Modelling & Simulation (TTMS-2018)" on 24th December, 2018 in the Department of Instrumentation & Control Engineering at Netaji Subhas University of Technology, New Delhi.
- 8. Invited lecture on "Predict the performance of Diesel Engine using Jatropha as a Biofuel" topic in Faculty Development Program on Energy & Power Systems which was held on 5th to 9th August 2019 in School of Energy Management, Shri Mata Vaishno Devi University.
- 9. Invited lecture on "Analysis of the composite structure using meshless methods" in One Week Online Short-Term Course on "Tribology for Sustainable Development" held online 20th-24th July,2020 hosted by Shri Mata Vaishno Devi University, Katra, Jammu and Kashmir.
- 10. Invited lecture on "Analysis of the Glass Fiber/Chicken Feathers Reinforced Hybrid Composite" topic in One Week Online AICTE-ISTE sponsored Induction/Refresher program on "Sustainable Product Design and Manufacturing (Phase I)" held online during March 18-24, 2021
- 11. Invited lecture on "Plastics recycling: challenges and opportunities" topic in One Week Online AICTE-ISTE sponsored Induction/Refresher program on "Sustainable Product Design and Manufacturing (Phase II)" held online during April 15-21, 2021
- 12. Invited lecture on "Introduction to nano materials" topic in One Week Online AICTE-ISTE sponsored Induction/Refresher program on "Sustainable Product Design and Manufacturing (Phase III)" held online during May 21-27, 2021.
- 13. Invited lecture on "Nano materials" topic dated 10th January 2021 in one week FDP on Sustainable Product Design and Manufacturing held online January 10-14, 2022 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering.
- 14. Invited lecture on "Sustainable Development Introduction and Concepts" in one week FDP on Sustainable Product Design and Manufacturing held online January 10-14, 2022 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering.
- 15. Invited lecture on "Research and Development" in 8-Days Online Training Program on NEP Orientation & Sensitization Program held on 11 to 20 December, 2023 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra.
- 16. Invited lecture on "Research and Development" in 8-Days Online Training Program on NEP Orientation & Sensitization Program held on 22 to 31 January 2024 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra.
- 17. Invited lecture on "Research and Development" in 8-Days Online Training Program on NEP Orientation & Sensitization Program held on 12 to 22 February 2024 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra.
- 18. Invited lecture on "Research and Development" in 8-Days Online Training Program on NEP Orientation & Sensitization Program held on 3 to 12 June, 2024 organized by Faculty Development Centre (FDC)-

- SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra.
- 19. Invited lecture on "Plastics Recycling: Challenges and Opportunities" in One Week Short Term Program on Sustainable Product Design and Manufacturing held on 22-27 July, 2024 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering.
- 20. Invited lecture on "Applications of Nanomaterial in Defense and Military" in Faculty Development Program on Green Manufacturing held on 4 -8 March 2024 organized by Faculty Development Centre (FDC)-SMVDU under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching of MOE, GOI, Shri Mata Vaishno Devi University, Katra, Jammu in Collaboration with School of Mechanical Engineering.
- 21. Invited lecture on "Performance Analysis of Circular and Non-Circular gas lubricated textured bearing" in International Conference on Recent Trends in Art, Commerce, Science & Technology, held on 10-11th August 2024, organized by IQAC Initiative, M.G.V.C Arts, Commerce and Science College, Muddebihal, Vijayapur, Karnataka, India & RSP Conference Hub, Coimbatore, Tamilnadu, India.

Experimental Projects: Name of the lab where experimental project added

A. Mechanical Vibration lab

| Sr. No. | Institute | Year | Period | Manuals | Details of the project |
|------------|---------------|------|--------|---------|---|
| | | | | | |
| 1. | Gautam Buddha | 2015 | Jan- | Yes | Experiment on Simple Pendulum & Compound Pendulum |
| | University, | | May | (Soft | Aim of the experiment: |
| | Greater Noida | | | copy in | Validation of simple pendulum theory. |
| | (U.P) | | | PDF) | Determine the value of gravitational acceleration, g. |
| | | | | | Validation of compound pendulum theory by |
| | | | | | determining the value of radius of gyration k, and value |
| | | | | | of gravitational acceleration, g. |
| 2. | Gautam Buddha | 2015 | Jan- | Yes | Multi degree of freedom |
| | University, | | May | (Soft | Aim: To verify the laws of multi-Degree of Freedom and |
| | Greater Noida | | | copy) | find out the equation of motion of given system (two- |
| | | | | | degree freedom system). |
| 3. | Gautam Buddha | 2015 | Jan- | Yes | Natural Frequency |
| | University, | | May | (Soft | Aim: The Natural Frequency of spring mass system |
| | Greater Noida | | | copy) | without damping. |
| | | | | | • Determine the spring constant (k). |
| | | | | | Determine the natural frequency (f). |
| 4. | Gautam Buddha | 2015 | Jan- | Yes | Experiment on Pendulum Waves |
| | University, | | May | (Soft | Aim of the experiment: Determining the frequency of each |
| | Greater Noida | | | copy) | pendulum. |
| 5. | Gautam Buddha | 2015 | Jan- | Yes | Inclined spring mass system |
| | University, | | May | (Soft | • Aim: To find out the expansion of the springs made of |
| | Greater Noida | | | copy) | different materials by varying the load at different angles |
| 6. | Gautam Buddha | 2015 | Jan- | Yes | Experiment on Torsional Vibration |
| | University, | | May | (Soft | Aim of the experiment: To study the Torsional Vibration |
| | Greater Noida | | | copy) | (undamped) of single Rotor Shaft system. |
| 7. | Gautam Buddha | 2015 | Jan- | Yes | Spring mass system |
| | University, | | May | (Soft | Aim: To study and verify the law of stiffness in case of |
| | Greater Noida | | _ | copy) | parallel and series arrangement of spring mass system. |
| 8. | Gautam Buddha | 2015 | Jan- | Yes | Spring mass system |

| University, | May | (Soft | Aim: |
|---------------|-----|-------|--|
| Greater Noida | | copy) | Verification of the simple mass theory |
| | | | Determine the value of gravitational acceleration, g |

M Tech/PhD thesis Examiner

| Sr. | Stream | Name of | Thesis | Name of | University/ | Year |
|-----|--------------------------------|----------|-------------|----------------------|-------------|---------|
| No. | | the | (MTech/PhD) | Supervisor Institute | | |
| | | student | | | | |
| 1. | Master of Engineering (Design | Not | M Tech | Not required | BIT Mesra | 2012 |
| | of Mech. Equipment) | required | | | | |
| 2. | Investigation of Mechanical | Shinde | PhD | Prof. S. B. | MIT World | 22/02/2 |
| | and Tribological Properties of | Shriyash | | Barve | Peace MIT- | 023 |
| | Aluminum Matrix Hybrid | Sunil | | | WPU | |
| | Nano Composites | | | | University, | |
| | | | | | Pune | |
| | | | | | 1 dile | |
| 3. | Formation and | Mr. | PhD | Prof. | MIT World | 2023 |
| | Characterization of Aluminium | Pankaj | | Shivaprakash | Peace MIT- | |
| | Metal Matrix Nanocomposites | Phadnis | | B. Barve | WPU | |
| | Using Graphene and Al2O3 as | Awate | | | University, | |
| | Reinforcement Materials with | | | | Pune | |
| | Varying Weight Percentages | | | | | |
| | Separately | | | | | |

Contributions (teaching) to Continuing Education Programmes

- Delivered lecture in National Thermal Corporation Ltd. (NTPC) through BITS, Pilani.
- Spent 6 month as a faculty in Indian Railway Institute of Electrical and Mechanical Engineering, (IRIEME) Jamalpur through BIT, Mesra.

 Courses Taught

| Sr. Subject L-T-P Credit Level Number of | | | | | | | | |
|--|--|-------|-----------|---------|-------|--|--|--|
| Sr. | Subject | Level | Number of | | | | | |
| No. | | | | (UG/PG) | Times | | | |
| 1. | Manufacturing Process (MP) | 3-0-0 | 3 | UG | 3 | | | |
| 2. | Mechanics of solids/ Strength of materials (SOM-I) | 3-1-0 | 4 | UG | 6 | | | |
| 3. | Machine Design –I (MD-I) | 3-1-0 | 4 | UG | 4 | | | |
| 4. | Machine Design –II(MD-II) | 3-1-0 | 4 | UG | 2 | | | |
| 5. | Automobiles Engg (AE) | 3-0-0 | 3 | UG | 8 | | | |
| 6. | Workshop practice (WP) | 3-0-0 | 3 | UG | 5 | | | |
| 7. | Thermodynamics (TD) | 3-1-0 | 4 | UG | 4 | | | |
| 8. | Finite Element (FEM) | 3-1-0 | 4 | UG | 1 | | | |
| 9. | Fluid mechanics (FM) | 3-1-0 | 4 | UG | 3 | | | |
| 10. | Principal of mechanical Engg. Science (PMES) | 3-0-0 | 3 | UG | 2 | | | |
| 11. | Dynamics of Machines (DOME) | 3-1-0 | 4 | UG | 4 | | | |
| 12. | Mechanical Vibration (MV) | 3-1-0 | 4 | UG | 2 | | | |
| 13. | Material Science (MS) | 2-0-0 | 2 | UG | 1 | | | |
| 14. | Engineering Mechanics (EM) | 2-1-0 | 3 | UG | 2 | | | |
| 15. | Engineering Drawing (ED)/Engg Graphics | 0-0-3 | 2 | UG | 4 | | | |
| 16. | IC Engine & Gas Turbine (ICGT) | 3-1-0 | 4 | UG | 2 | | | |
| 17. | Advance Mechanics of Solids (AMOS) | 3-1-0 | 4 | PG | 4 | | | |
| 18. | Experimental Stress Analysis (ESA) | 3-1-0 | 4 | PG | 4 | | | |
| 19. | Composite Material (CM) | 3-1-0 | 4 | PG | 2 | | | |

| 20. | Foundry Technology | 3-0-0 | 3 | PG | 1 |
|-----|--------------------|-------|---|----|---|

Awards & achievements

- HAL (Koraput division) selected as a design engineer
- Associate Professor, Hindustan University, Chennai
- Associate Professor, Mody University, Sikar
- Awarded DAAD Scholarship

References

| Sr. No | Designation | Name | Institute | Departmental Address | Phone No & Fax | E-mail |
|-----------|-------------|-------------------------|-----------------------|---|---|---|
| 1. | Professor | Dr. Sandeep Kumar | IIT (BHU) Varanasi | Department of Mechanical Engineering, Institute of Technology, Banaras Hindu University, Varanasi, 221005 | | sandeepkumar333@y ahoo.com |
| 2. | Professor | Dr. Arvind Kumar | BIT Mesra Ranchi | Department of Mechanical Engg, Birla Institute of Technology, Mesra-835215, Ranchi, Jharkhand, India | Mobile: 9431382609 Fax: 0651- 2275401 /2275868 | arbindkumar@bitm esra.ac.in |
| 3. | Professor | Dr. S P Harsha | IIT Roorkee | Department of Mechanical & Industrial Engineering, Indian Institute of Technology, Roorkee 247667 (UP), INDIA | Phone +91- 1332- 285891/28689 1, +91- 9917489849 (M) | surajfme@iitr.ernet.in spharsha@gmail.com |