



# Government Polytechnic Lakhisarai

## Department of Mechanical Engineering

(North of Vidyapeeth Chowk Lakhisarai- 811311)

Email ID- deptofmechenglakhisarai@gmail.com, Mob:-+917766887621

### LIST OF FACULTY PUBLICATION ALONG WITH DOI

| Sl. No. | Name of Faculty         | Title of paper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | DOI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.      | Dr. Rajesh Kumar Ranjan | <ol style="list-style-type: none"><li>1. MATHEMATICAL MODELING OF SINTER FORGING DYNAMICS CONSIDERING DIFFERENT ASPECT RATIO AND FRICTIONAL CONDITION</li><li>2. ANALYTICAL MODELING OF SINTER FORGING AT HIGH SPEED CONSIDERING VARIOUS FRICTION CONDITIONS</li><li>3. Energy Dissipation Dynamics in Bulged Profiles in Sinter Forging</li><li>4. Deformation characteristics of aluminium-copper composite preforms at different strain rates during cold forging</li><li>5. Cold Forging of Rivet Shape Head from Cylindrical Porous Aluminium Specimen at Different Strain Rates</li><li>6. Fracturing and Deformation of Aluminium Preform during Cold Forging at Low Strain Rates</li><li>7. Polygonal Porous Aluminium-Copper Composites Cold Forging at Different Strain Rates</li><li>8. Deformation Characteristics of Sintered Aluminium Preform Having Different Aspect Ratios</li><li>9. Barreling, fracturing and deformation characteristics of sintered aluminum powder cylindrical preform during cold forging at low strain rates</li><li>10. Parametric Analysis of Surface Condenser for Thermal Power Plant</li></ol> | <ol style="list-style-type: none"><li>1. <a href="https://doi.org/10.26782/jmcms.spl.12/2025.08.00007">https://doi.org/10.26782/jmcms.spl.12/2025.08.00007</a></li><li>2. <a href="https://doi.org/10.26782/jmcms.spl.12/2025.08.00008">https://doi.org/10.26782/jmcms.spl.12/2025.08.00008</a></li><li>3. Panamirican Mathematical Journal, Vol. 34, No. 03, pp. 284-294 (2024) ,ISSN 1064-9735</li><li>4. <a href="https://doi.org/10.1504/IJMPT.2017.080560">https://doi.org/10.1504/IJMPT.2017.080560</a></li><li>5. ISSN 2250- 0758, International Journal of Engineering and Management Research, Vol. 5, Issue- 1, Feb, pp 209-216, (2015)</li><li>6. International Journal of Scientific Engineering and Technology, Vol. 4, Issue 3, March, pp 182-186 (2015) , ISSN 2277- 1581</li><li>7. International Journal of Material Sciences and Manufacturing Engineering, pp 1-10, (2015) , ISSN 2051-6851</li><li>8. An International Journal Manufacturing Technology and Research, Vol 10, No-1, Jan-June, pp 45-52, (2014) , ISSN 0973- 0281</li><li>9. Turkish Journal of Engineering, Science and Technology, Vol 04, pp 127-156, (2014) ISSN: 2147-9690</li><li>10. International Journal of Thermal Technologies, Vol. 3, No-4, Dec, pp 155-159 (2013), ISSN 2277- 4114</li></ol> |
| 2.      | Dr. Rakesh Ranjan       | <ol style="list-style-type: none"><li>1. A Simple Method of Numerical Integration for A Class of Singularly Perturbed Two Point Boundary Value Problems</li><li>2. An Efficient Method of Numerical Integration for a Class of Singularly Perturbed Two Point Boundary Value Problems</li><li>3. An exponentially fitted scheme for solving singularly perturbed delay problems</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ol style="list-style-type: none"><li>1. <a href="https://doi.org/10.26634/jmat.7.1.14031">https://doi.org/10.26634/jmat.7.1.14031</a></li><li>2. Print ISSN: 1109-2769, E-ISSN: 2224-2880 <a href="https://wseas.com/journals/articles.php?id=2282">https://wseas.com/journals/articles.php?id=2282</a></li><li>3. DOI:10.29228/proc.73 / <a href="https://trans.imm.az/volumes/40-1/4001-16.pdf">https://trans.imm.az/volumes/40-1/4001-16.pdf</a></li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <ol style="list-style-type: none"><li>4. A Fitted Finite Difference Scheme for solving Singularly Perturbed Two Point Boundary Value Problems</li><li>5. A novel approach for the numerical approximation to the solution of singularly perturbed differential-difference equations with small shifts, Journal of Applied Mathematics and Computing,</li><li>6. A New Exponentially Fitted Numerical Integration Scheme for Solving Singularly Perturbed Two Point Boundary Value Problems,</li><li>7. A fitted numerical method for a class of singularly perturbed convection delayed dominated diffusion equation.</li><li>8. An Exponentially Fitted Integration Scheme For a Class of Quasi-linear Singular Perturbation Problems</li><li>9. A novel exponentially fitted finite difference method for a class of 2nd order singularly perturbed boundary value problems with a simple turning point exhibiting twin boundary layers</li><li>10. A Exponentially Fitted Numerical Finite Difference Method for Solving of Singularly Perturbed Convection Delayed Dominated Diffusion Equation with Small Shifts</li><li>11. A Three Point Integration Scheme For Singular Perturbation Problems,</li><li>12. A novel fitted approach for the solution of a class of singularly perturbed differential-difference equations involving small delay in undifferentiated term</li><li>13. Singularly Perturbed Two-Point Boundary Value Problem By applying Exponential Fitted Finite Difference Method,</li></ol> | <ol style="list-style-type: none"><li>4. DOI:10.18576/isl/090202</li><li>5. DOI:10.1007/s12190-020-01397-6.</li><li>6. DOI:10.37394/23206.2020.19.67</li><li>7. <a href="https://ejournal.unimap.edu.my/index.php/amci/article/view/141">https://ejournal.unimap.edu.my/index.php/amci/article/view/141</a></li><li>8. DOI:10.28919/jmcs/5589</li><li>9. DOI:10.1007/s12652-022-03902-0</li><li>10. <a href="http://gdzjg.org/index.php/JOL/article/view/58">http://gdzjg.org/index.php/JOL/article/view/58</a></li><li>11. <a href="https://www.researchgate.net/publication/358884910">https://www.researchgate.net/publication/358884910</a></li><li>12. DOI:10.31857/S0044466923120037</li><li>13. DOI:10.22067/ijnao.2023.83070.1283</li><li>14. DOI:10.1007/s12190-023-01939-8</li></ol> |
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|----|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                         | <p>14. A novel fitted spline method for the numerical treatment of singularly perturbed differential equations having small delays</p> <p>15. A Novel Fitted Three Term Method for the Numerical Treatment of Singularly Perturbed Differential–Difference Equations</p> <p>16. An Efficient Numerical Algorithm to Solve the Chaotic Behaviour of Fractional Financial Model Using Bernstein Polynomials with Convergence and Bifurcation Analysis</p> <p>17. An Efficient Numerical Approach to Solve SEIR Epidemic of Measles of Fractional Order by Using Hermite Wavelets</p> <p>18. A Novel Exponential Fitted Differential-Difference Method For Singularly Perturbed Delay Differential Equations Type With Small Delays</p> <p>19. An Exponential Fitted Finite Difference Method for Solving Singularly Perturbed Delay Differential Equations Two-Point Boundary Value Problems</p> <p>20. A new exponentially fitted three term scheme for the singularly perturbed second order delay differential equations</p> | <p>15. <a href="https://doi.org/10.1007/s00009-024-02590-8">https://doi.org/10.1007/s00009-024-02590-8</a></p> <p>16. <a href="https://doi.org/10.1007/s10614-025-10928-x">https://doi.org/10.1007/s10614-025-10928-x</a></p> <p>17. DOI:10.37394/23206.2025.24.19</p> <p>18. DOI: 10.9790/0661-2102023046</p> <p>19. DOI:10.37622/000000</p> <p>20. Thai Journal of Mathematics, (Accepted).</p> |
| 3. | Dr. Pankaj Kumar Baitha | <p>1. Luminescence properties of ZnO/TiO<sub>2</sub> nanocomposite activated by Eu<sup>3+</sup> and their spectroscopic analysis</p> <p>2. Enhancement of luminescence intensity and spectroscopic analysis of Eu<sup>3+</sup>-activated and Li<sup>+</sup> charge-compensated CaTiO<sub>3</sub> color tunable phosphors for solid-state lighting</p> <p>3. Structural and photoluminescence properties of red-light emitting YVO<sub>4</sub>:Eu<sup>3+</sup> phosphor synthesized by combustion and solid-state</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <p>1. DOI: <a href="https://doi.org/10.1007/s12034-016-1243-6">https://doi.org/10.1007/s12034-016-1243-6</a></p> <p>2. DOI: <a href="https://doi.org/10.1007/s00339-016-0201-x">https://doi.org/10.1007/s00339-016-0201-x</a></p> <p>3. DOI: <a href="https://doi.org/10.1007/s12648-015-0712-x">https://doi.org/10.1007/s12648-015-0712-x</a></p>                                                |

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|----|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |             | <p>reaction techniques: a comparative study</p> <ol style="list-style-type: none"><li>4. Influence of heat treatment on the structural and optical properties of <math>\text{SrGd}_2\text{O}_4:\text{Eu}^{3+}</math> phosphor</li><li>5. Structural and spectroscopic diagnosis of <math>\text{ZnO}/\text{SnO}_2</math> nanocomposite influenced by <math>\text{Eu}^{3+}</math></li><li>6. Luminescence behavior of <math>\text{Eu}^{3+}</math> activated <math>\text{ZnO}/\text{SnO}_2</math> nanocomposite phosphor</li><li>7. Dosimetric sensing and optical properties of <math>\text{ZnO}-\text{SnO}_2</math> nanocomposites synthesized by co-precipitation method</li><li>8. Enhanced photoluminescence emission from <math>\text{XSO}_4:\text{Eu}^{2+}</math> (<math>\text{X} = \text{Mg}, \text{Sr}</math>) microphosphors</li><li>9. Synthesis and photoluminescence properties of <math>\text{Eu}^{2+}</math> doped <math>\text{SrSO}_4</math> phosphor</li></ol> | <ol style="list-style-type: none"><li>4. <a href="https://doi.org/10.1016/S1002-0721(14)60524-X">https://doi.org/10.1016/S1002-0721(14)60524-X</a></li><li>5. <a href="https://doi.org/10.1016/S1002-0721(14)60488-9">https://doi.org/10.1016/S1002-0721(14)60488-9</a></li><li>6. <a href="https://doi.org/10.1016/j.ijleo.2015.09.118">https://doi.org/10.1016/j.ijleo.2015.09.118</a></li><li>7. <a href="https://doi.org/10.1016/j.nima.2014.01.041">10.1016/j.nima.2014.01.041</a></li><li>8. <a href="https://doi.org/10.1007/s12648-013-0411-4">https://doi.org/10.1007/s12648-013-0411-4</a></li><li>9. ISBN: 978-81-8424-806-7</li></ol> |
| 4. | Suraj Kumar | <ol style="list-style-type: none"><li>1. Design and Development of Non-Contact Image Processing Technique to Monitor Surface Texture During Turning</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ol style="list-style-type: none"><li>1. DOI: <a href="https://doi.org/10.55267/iadt">https://doi.org/10.55267/iadt</a></li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5. | Neha Kumari | <ol style="list-style-type: none"><li>1. A Comparative Analysis of Triboelectric Nanogenerators For Energy Harvesting Applications and Development of Data Acquisition System</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <ol style="list-style-type: none"><li>1. <a href="https://doi.org/10.1109/ICEFEET51821.2022.9848276">10.1109/ICEFEET51821.2022.9848276</a></li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 6. | Noorussabah | <ol style="list-style-type: none"><li>1. Copper(II) and Nickel(II) Complexes of Tridentate Hydrazide and Schiff Base Ligands Containing Phenyl and Naphthalyl Groups: Synthesis, Structural, Molecular Docking and Density Functional Study</li><li>2. Synthesis, characterizations, crystal structures, BSA-binding, molecular docking and cytotoxic activities of nickel(II) and copper(II) coordination</li></ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <ol style="list-style-type: none"><li>1. DOI: <a href="https://doi.org/10.1007/s10904-020-01610-w">10.1007/s10904-020-01610-w</a>.</li><li>2. DOI: <a href="https://doi.org/10.1080/00958972.2019.1602867">10.1080/00958972.2019.1602867</a>.</li></ol>                                                                                                                                                                                                                                                                                                                                                                                           |

*Suraj Kumar*  
27/08/26

*Neha Kumari*



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|----|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |              | <p>complexes with bidentate N, S-chelating ligand.</p> <p>3. Synthesis, crystal structures, molecular docking and urease inhibition studies of Ni(II) and Cu(II) Schiff base complexes</p> <p>4. Synthesis, characterization, crystal structure, superoxide dismutase and biological activities of Ni(II) complexes with bidentate ligands possessing N and O donor atoms.</p> <p>5. An efficient and eco-friendly synthesis, computational assay and antimicrobial evaluation of some novel diastereoselective monocyclic cis-<math>\beta</math>-lactams</p> <p>6. A green approach for organic transformations using microwave reactor.</p> | <p>3. DOI: 10.1016/j.molstruc.2017.11.062.</p> <p>4. DOI: 10.1016/j.molstruc.2017.07.059.</p> <p>5. DOI: 10.1016/j.molstruc.2020.128638.</p> <p>6. DOI:10.2174/1570179416666190412160048</p> |
| 7. | Sakshi Sinha | Gear Profile with Synthetic Curves: A Comparison Study                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1. <a href="https://doi.org/10.1007/978-981-97-0472-9_49">https://doi.org/10.1007/978-981-97-0472-9_49</a>                                                                                   |
| 8. | Ritu Sinha   | <p>1. Assessing the impact of pradhan mantri mudra yojana on economic development and empowerment of women entrepreneurs: A case study of Patna Distict</p> <p>2. Empowering Women Entrepreneurs: Assessing the Impact of Pradhan Mantri Mudra Yojana (PMMY)- A Case Study</p>                                                                                                                                                                                                                                                                                                                                                                | <p>1. ISSN:0378-4568</p> <p>2. ISSN No 2347-7075</p>                                                                                                                                         |

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H.O.D

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Principal

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## Department of Mechanical Engineering

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### Sponsorship for higher Studies (M.Tech./Ph.D.)

#### List of faculties:

| Sl. no. | Name              | M.tech/PhD                                 | DSTTE Letter no.                                              | Status                                                    | Remarks |
|---------|-------------------|--------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------|---------|
| 01.     | Dr. Rakesh Ranjan | Full time Ph.D. to convert Part time Ph.D. | वि० प्रा० (II) स्था० - 05/2021/630/ Patna, dated- 07.03.2022  | Completed Date-16.12.2022                                 |         |
| 02.     | Sri Suraj Kumar   | Ph.D. Admission                            | वि० प्रा० (III) विविध- 13/2025/3574/ Patna, dated- 19.06.2026 | Not Complete                                              |         |
| 03.     | Sri Suraj Kumar   | M.Tech Admission                           | वि० प्रा० (II) स्था० - 05/2020/2945/ Patna, dated- 12.10.2020 | Completed Date-13.08.2025 Letter No-436 dated- 05.06.2025 |         |
| 05      | Sri Amit Ranjan   | Full time Ph.D. to convert Part time Ph.D. | Underprocess                                                  | Not Complete                                              |         |

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Govt. Polytechnic, Lakhisarai