

**झारखण्ड सरकार**  
**झारखण्ड विज्ञान, प्रावैधिकी एवं नवाचार परिषद्**  
(उच्च एवं तकनीकी शिक्षा विभाग)  
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पत्रांक: वि0प्रा0/कौ0-02/2016 (पार्ट-II) -

/राँची, दिनांक :

**स्वीकृत्यादेश**

प्रोजेक्ट अप्रैजल समिति (PAC) की दिनांक 08.04.2025 एवं 09.04.2025 को संपन्न बैठक की कार्यवाही में की गयी अनुशंसा के आलोक में झारखण्ड विज्ञान, प्रावैधिकी एवं नवाचार परिषद्, राँची द्वारा निम्नलिखित संस्थान को शोध एवं अनुसंधान कार्य हेतु वित्तीय सहायता अनुदान स्वरूप निम्न राशि की स्वीकृति प्रदान की गई है :-

Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
1	2	3	4	5	6	7
1	Dr. Kashif Hasan Kazmi, Production and Industrial Engineering, BIT Sindri	Improving robotic additive manufacturing process stability and deposition quality through advanced path planning techniques	Long Term 10,00,000/-	7,00,000/-	4,90,000/-	<b>Utility to State of Jharkhand:</b> i. Jharkhand is a significant contributor to India's industrial and manufacturing sectors, particularly in metals and mining. By improving metal additive technology, this project aligns with the state's focus on advancing manufacturing capabilities, fostering local employment, and promoting industrial sustainability.

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						<p>ii. Enhanced metal additive manufacturing processes can support Jharkhand's goals by reducing production costs, enabling local production of high-quality metal components, and contributing to industrial self-reliance, which is a priority for both the state and national agendas like "Make in India."</p> <p><b>Recommendations of the PAC:</b></p> <p>i. The project is <b>recommended for grants</b>.</p> <p>ii. The budget for salaries/wages should be reduced to half (INR 3,00,000.00), while all other budget heads are approved as requested.</p> <p>iii. The project is expected to significantly enhance metal additive manufacturing capabilities in Jharkhand, aligning with the state's industrial goals. Additionally, it will promote local employment and sustainability, contributing to the "Make in India" initiative and fostering industrial self-reliance.</p>
2	Mr. Mukesh Chandra, Production and Industrial Engineering, BIT Sindri,	In-situ monitoring and quality control using Acoustics emission sensing in Wire-arc Additive manufacturing: Implementation of state-of-the-art machine learning techniques.	Long Term 10,00,000/-	6,80,000/-	4,76,000/-	<p><b>Utility to State of Jharkhand:</b> The state of Jharkhand has been witnessing growth in the automotive and steel sectors due to the availability of natural resources, strategic location, and supportive infrastructure. This project aligns closely with several key priorities of the state, contributing to its industrial development and socio-economic growth and collaboration of BIT Sindri to world world-class leaders of the steel industry, such as TATA Steel and SAIL, TATA motors, and other MSMEs of the states.</p>

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						<b>Recommendations of the PAC:</b> <ol style="list-style-type: none"> <li>The project is <b>recommended for grants</b>.</li> <li>The budget for salaries/wages should be reduced to half (INR 320,000.00), while all other budget heads are approved as requested.</li> <li>This project is expected to significantly enhance the automotive and steel sectors in Jharkhand, aligning with the state's industrial development goals. Additionally, it will foster collaboration with industry leaders like TATA Steel, SAIL, and TATA Motors, contributing to socio-economic growth. The PAC emphasizes the importance of this project in advancing Jharkhand's manufacturing capabilities and promoting innovation through the integration of advanced machine learning techniques in industrial processes.</li> </ol>
3	Dr. Prashant Prakash, Production & Industrial Engineering, BIT Mesra	Robotic Bobbin tool Friction Stir Welding (B-FSW) System Development for Efficient On-Site Structural Welding.	Long Term 10,00,000/-	6,00,000/-	4,20,000/-	<b>Utility to State of Jharkhand:</b> Jharkhand state have automobile industry which required FSW process. Robotic Bobbin Friction Stir Welding (B-FSW) process has potential to optimise and reduce the cost of the product. <b>Recommendations of the PAC:</b> <ol style="list-style-type: none"> <li>The project is <b>recommended for grants</b> with the following adjustments: remove the permanent equipment cost of INR 200,000.00 and the travel expenses of INR 150,000.00, and cut the overhead cost to half, reducing it to INR 50,000.00.</li> <li>All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 6,00,000.00</li> </ol>

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						iii. This project is expected to significantly benefit Jharkhand's automobile industry by optimizing and reducing the cost of structural welding processes. The development of the Robotic Bobbin Friction Stir Welding (B-FSW) system will enhance on-site structural welding efficiency and quality. Additionally, the PAC recommends that the applicant aim for Q2 publications and pursue a patent to maximize the project's impact and innovation.
4	Dr. Antarip Poddar, Mechanical Engineering, IIT (ISM) Dhanbad	Development of Bio-Mimicking Underwater Robots for Sustainable Mining	Long Term 10,00,000/-	7,33,600/-	5,13,520/-	<p><b>Utility to State of Jharkhand:</b></p> <ul style="list-style-type: none"> <li>i. Introducing RoboFish in the mining sector minimizes human exposure to hazardous conditions, enhances productivity, and contributes to the state's economic growth.</li> <li>ii. The biomimicking design of RoboFish promotes environmentally friendly practices, protects local communities from environmental hazards, and creates new job opportunities in engineering, robotics, and data analysis.</li> </ul> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <p>The focus should be expanded beyond mining to include other areas, and the salary budget should be reduced to 40% (INR 177,600.00). All other budget heads are approved as requested. The total recommended grant amount is INR <b>733,600.00</b>. This project is expected to significantly benefit Jharkhand by minimizing human exposure to hazardous conditions in mining, enhancing productivity, and promoting environmentally friendly practices. Additionally, it will create new job opportunities in engineering, robotics, and data analysis.</p>

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5	Dr. Chaitanya Sharma, Mechanical Engineering, BIT Sindri	Optimizing Wire Arc Additive Manufacturing for Aluminium alloy: Process parameters, Microstructure, and Material Properties.	Long Term 9,85,000/-	7,05,000/-	4,93,500/-	<p><b>Utility to State of Jharkhand:</b> This research aims to bridge these gaps by developing a thorough understanding of WAAM technology for aluminium alloys, ultimately enabling its successful implementation in various industrial applications.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <ol style="list-style-type: none"> <li>Remove the travel expenses (INR 80,000) and study materials (INR 200,000). All other budget heads are approved as requested.</li> <li>The total recommended grant amount is INR <b>705,000</b>.</li> <li>This project is expected to bridge gaps in WAAM technology for aluminium alloys, enabling its successful implementation in various industrial applications and contributing to the state's industrial growth. Additionally, it will support the development of high-strength, lightweight aluminium alloy parts for aerospace, automotive, and other sectors.</li> </ol>
6	Dr. Sudhanshu Shekhar Pati, Chemistry, NIT Jamshedpur	Development of Low-cost Magnetic Nanocomposites for Purification of Contaminated Water.	Long Term 7,20,000/-	4,95,000/-	3,46,500/-	<p><b>Utility to State of Jharkhand:</b> Jharkhand suffers heavily due to industrial water contamination. Developing a reliable low-cost method for water treatment is of great value.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <ol style="list-style-type: none"> <li>The travel expenses need to be removed. Approval of 75% of the requested budget for consumables. All other budget heads are approved as requested.</li> <li>The total recommended grant amount is INR 495,000.</li> </ol>

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						iii. The PAC noted the project's potential to significantly improve water purification methods in Jharkhand, leveraging advanced materials with high sensitivity and selectivity to detect pollutants at low concentrations. This initiative is expected to provide a cost-effective and environmentally friendly solution to industrial water contamination.
7	Dr. Soumen Dey, Chemistry, CUJ Ranchi	Valorization of waste fish scale for integrated techno-economic wastewater treatment: A lab to land approach	Long Term 10,00,000/-	5,68,000/-	3,97,600/-	<p><b>Utility to State of Jharkhand:</b> In a rapidly changing scenario, Jharkhand state is progressing convincingly. As a part of sustainable development goals, clean water is a priority. This project aimed to this point whereby after successful implementation, state people will have better access to clean water.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <ol style="list-style-type: none"> <li>The salaries/wages expenses should be removed. All other budget heads are approved as requested.</li> <li>The total recommended grant amount is INR 568,000.</li> <li>The PAC recognizes the project's potential to offer an innovative and sustainable solution for wastewater treatment in Jharkhand. By utilizing waste fish scales to produce biochar, this initiative aligns with the state's sustainable development goals and addresses the critical need for clean water access.</li> </ol>

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8	Dr. Ch. V. Raghunath, Chemical Engineering, BIT Sindri	Experimental and Computational insights for Sulphur Dioxide and NOx removal.	Long Term 10,00,000/-	7,00,000/-	4,90,000/-	<p><b>Utility to State of Jharkhand:</b> The project focuses on converting toxic gases from coal-fired thermal power plants into useful products, which will help reduce pollution and protect the environment. This aligns with Jharkhand's goals of mitigating the harmful effects of fossil fuel burning and preventing acid rain.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <ol style="list-style-type: none"> <li>The travel expense (INR 150,000) and contingency (INR 50,000) should be removed.</li> <li>Approval of 50% of the requested budget for permanent equipment (INR 1,00,000). All other budget heads are approved as requested.</li> <li>The total recommended grant amount is INR 700,000.</li> <li>The PAC recognizes the project's potential to significantly reduce pollution from coal-fired thermal power plants in Jharkhand by converting toxic gases into useful products. This initiative aligns with the state's goals of mitigating the harmful effects of fossil fuel burning and preventing acid rain, contributing to environmental protection.</li> </ol>
9	Dr. Neelima Sharma, Pharmaceutical Sciences and Technology, BIT Mesra	Fabrication of graphene oxide infused natural polymer based self-healing dressing foams using medicinal plants of Jharkhand.	Long Term 10,00,000/-	5,50,000/-	3,85,000/-	<p><b>Utility to State of Jharkhand:</b></p> <ol style="list-style-type: none"> <li>The project aims to commercialize native plants, creating job opportunities in cultivation, processing, and sales. This aligns with Jharkhand's goals of stimulating the local economy and providing employment for local communities.</li> </ol>

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						<p>ii. By promoting sustainable practices and involving communities in traditional medical practices, the project supports long-term ecological health and increases social awareness about local herbal resources. This aligns with the state's policies on prosperity and resource sustainability.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <p>i. The salaries/wages (INR 360,000), travel expenses (INR 45,000), and contingency expenses (INR 45,000) should be removed as the PAC feels these are not appropriate.</p> <p>ii. All other budget heads are approved as requested.</p> <p>iii. The total recommended grant amount is INR 550,000.</p> <p>iv. The PAC recognizes the project's potential to commercialize native plants, creating job opportunities and promoting sustainable practices in Jharkhand. This initiative supports the state's goals of stimulating the local economy, providing employment, and increasing social awareness about local herbal resources.</p>
10	Dr. Rohit Kandulna, Physics, IIIT Ranchi	Development of conducting polymer-based hybrid nanocomposites for the application of organic light	Long Term 10,00,000/-	6,72,000/-	4,70,400/-	<p><b>Utility to State of Jharkhand:</b> The project promotes advanced materials and the electronic industry, creating job opportunities and skill development. This aligns with Jharkhand's goals of economic diversification, job creation, and supporting the Atmanirbhar Bharat initiative. By focusing on environmental sustainability, green technologies, and infrastructure development for smart cities, the project</p>

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		emitting diodes as electron transporting layer material.				<p>supports Jharkhand's strategic objectives of sustainable development and embracing cutting-edge technology for a more sustainable future.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <ol style="list-style-type: none"> <li>The travel expenses (INR 52,000) should be removed as the PAC feels these are not appropriate.</li> <li>50% of the requested budget for salaries/wages (INR 324,000) is approved. All other budget heads are approved as requested.</li> <li>The total recommended grant amount is INR 672,000.</li> <li>The PAC recognizes the project's potential to promote advanced materials and the electronic industry in Jharkhand, creating job opportunities and supporting economic diversification. This initiative aligns with the state's goals of sustainable development, environmental sustainability, and embracing cutting-edge technology for a more sustainable future.</li> </ol>
11	Dr. Itu Snigdh, Computer Science and Engineering, BIT Mesra	AI-IoT-Enhanced Body-Centric Network for Children and Women's Safety in Jharkhand: A Predictive, and Adaptive Security System.	Long Term 10,00,000/-	7,00,000/-	4,90,000/-	<p><b>Utility to State of Jharkhand:</b></p> <ol style="list-style-type: none"> <li>The project aligns with Jharkhand's commitment to addressing gender-based violence and promote women's and children safety.</li> <li>It would boost digital literacy in the rural community.</li> <li>With smart city project underway, the BCN would seamlessly integrate to facilitate safe mobility for work and education.</li> <li>It would also expand safety in public transport networks and help in modernization efforts of policing and law enforcement.</li> </ol>

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						<b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the salaries/wages should be reduced to 50% (INR 300,000). All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 700,000. The PAC recognizes the project's potential to enhance safety for women and children in Jharkhand, boost digital literacy, and integrate with the smart city project to facilitate safe mobility and modernize policing and law enforcement.
12	<b>Dr. Vijay Kumar Jha,</b> Computer Science and Engineering, BIT Mesra	Assessing Cybersecurity Vulnerabilities in Jharkhand's E-Governance Infrastructure: A Strategic Approach to Network Security Enhancements	Long Term 9,91,300/-	5,62,300/-	3,93,610/-	<b>Utility to State of Jharkhand:</b> <ol style="list-style-type: none"> <li>This research could help the government of Jharkhand to safeguard its digital assets and improve the trust and efficiency of its e-governance systems.</li> </ol> <b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: <ol style="list-style-type: none"> <li>The salaries/wages should be reduced to 50% (INR 324,000).</li> <li>The travel expenses (INR 45,000) and other costs (INR 60,000) should be removed as the PAC feels these are not appropriate.</li> <li>All other budget heads are approved as requested. The total recommended grant amount is INR 562,300.</li> <li>The PAC recognizes the project's potential to enhance the security of Jharkhand's e-governance infrastructure, safeguarding digital assets and improving the trust and efficiency of e-governance systems. This initiative aligns with the state's goals of protecting critical information systems and ensuring the reliability of digital public services.</li> </ol>

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13	Dr. Awdhesh Kumar Choudhary, Civil Engineering, NIT Jamshedpur,	Possible Application of Industrial Waste as Filling Material for Sustainable Geosynthetic Reinforced Structures	Major 4,75,000/-	4,75,000	3,32,500/-	<p><b>Utility to State of Jharkhand:</b></p> <ul style="list-style-type: none"> <li>i. The project offers a pathway to repurpose construction and demolition (C&amp;D) waste, reducing landfill burden and mitigating environmental hazards, aligning with circular economy goals.</li> <li>ii. By focusing on sustainability, the project contributes to the longevity and resilience of critical infrastructure, supporting the development of new and smart infrastructure in Jharkhand.</li> </ul> <p><b>Recommendations of the PAC:</b></p> <ul style="list-style-type: none"> <li>i. The project is <b>recommended for grants</b>.</li> <li>ii. The total recommended grant amount is INR 475,000.</li> <li>iii. The PAC recognizes the project's potential to repurpose industrial and construction waste, reducing landfill burden and mitigating environmental hazards. This initiative aligns with Jharkhand's circular economy goals and supports the development of sustainable and resilient infrastructure.</li> </ul>
14	Dr. Sumit Kumar, Civil Engineering, GEC Palamu	Safeguarding building structures near mine sites from underground blasting.	Long Term 9,39,000/-	8,94,000/-	6,25,800/-	<p><b>Utility to State of Jharkhand:</b> The project addresses the damaging influence of underground blasting on building structures in the Dhanbad district, ensuring the safety and integrity of nearby structures.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments:</p> <ul style="list-style-type: none"> <li>i. The travel expenses (INR 45,000) should be removed as the PAC feels these are not appropriate. All other budget heads are approved as requested.</li> <li>ii. The total recommended grant amount is INR 894,000.</li> </ul>

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						iii. The PAC noted the project's potential to address the damaging influence of underground blasting on building structures in the Dhanbad district, ensuring the safety and integrity of nearby structures. The presentation was very well-received.
15	Dr. Puja Rajhans, Civil and Environmental Engineering, BIT Mesra	Development of Mix Design Method for Producing Sustainable Geopolymer Concrete Prepared with Waste Materials by Employing EMV method	Major 4,20,000/-	3,20,000	2,24,000/-	<p><b>Utility to State of Jharkhand:</b></p> <ul style="list-style-type: none"> <li>i. The project promotes the use of industrial waste (fly ash and GGBS) and construction and demolition (C&amp;D) waste in construction, reducing the environmental impact of waste disposal and mitigating the negative effects on air quality and public health.</li> <li>ii. By repurposing C&amp;D waste, the project helps reduce the amount of waste dumped in landfills, conserving land for future use and projecting the contamination of riverbeds and water bodies, protecting aquatic life.</li> </ul> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the contingency fund (INR 50,000) and the "Others" section fund (INR 50,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 320,000. The PAC recognizes the project's potential to promote the use of industrial and construction waste in construction, reducing environmental impact and conserving land and water resources, aligning with the state's goals of sustainable development and environmental protection.</p>

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16	Dr. Neeta Kumari, Civil and Environmental Engineering, BIT Mesra	Designing of drinking water system for the removal of groundwater fluoride using biochar derived from agro-industrial waste	Major 5,00,000/-	3,00,000/-	2,10,000/-	<p><b>Utility to State of Jharkhand:</b></p> <p>i. The project addresses fluoride pollution in water, which is prevalent in districts like Palamu, Garhwa, Giridih, Bokaro, Gumla, Godda, and Ranchi. By using biochar from agro-industrial waste for defluoridation, the project aims to provide effective solutions for water purification.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the salaries/wages (INR 200,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 300,000. The PAC recognizes the project's potential to address fluoride pollution in water, providing effective solutions for water purification in several districts of Jharkhand. This initiative aligns with the state's goals of improving public health and environmental sustainability</p>
17	Dr. Binod Kumar Mahto, Botany, Ranchi University	Bhut Jolokia Chilli Plant Cell-Derived Extracellular Vesicles for Antibacterial and Antifungal Applications	Long Term 10,00,000/-	6,40,000/-	4,48,000/-	<p><b>Utility to State of Jharkhand:</b></p> <p>i. The project provides innovative, natural solutions to combat antimicrobial resistance, addressing critical public health challenges and improving healthcare outcomes.</p> <p>ii. By enhancing agricultural productivity using Bhut Jolokia Chilli Plant Cell-Derived Extracellular Vesicles (EVs), the project promotes sustainable farming practices and supports rural economic development.</p>

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						<b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the salaries/wages (INR 360,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 640,000. The PAC recognizes the project's potential to provide innovative, natural solutions to combat antimicrobial resistance and enhance agricultural productivity, promoting sustainable farming practices and supporting rural economic development in Jharkhand
18	<b>Dr. Rajiv Chandra Rajak</b> , Botany, Marwari College Ranchi,	Bioethanol and Bio-product Generation Utilizing the Seeds of Shorea robusta Gaertn. from Ranchi District of Jharkhand.	Long Term 10,00,000/-	6,48,000/-	4,53,600/-	<b>Utility to State of Jharkhand:</b> The project focuses on generating ethanol and other bio-products from Sal seeds, which can be economically viable and create employment opportunities for local people and self-help groups (SHGs) in Ranchi district. <b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the travel expenses (INR 35,000) and contingency fund (INR 29,000) should be removed, and the salaries/wages should be reduced to 50% (INR 288,000). All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 648,000. The PAC recognizes the project's potential to generate ethanol and other bio-products from Sal seeds, creating employment opportunities for local people and self-help groups (SHGs) in Ranchi district, thereby supporting economic viability and community development.

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19	Dr. Shalini Lal, Botany, DSPMU Ranchi	Development of microbial biosurfactant based formulations as means of bioremediation and protection against phytopathogen of paddy in Jharkhand- An attempt towards sustainable agriculture.	Long Term 10,00,000/-	6,20,000/-	4,34,000/-	<p><b>Utility to State of Jharkhand:</b></p> <ol style="list-style-type: none"> <li>The project addresses significant environmental damage from mining activities, including heavy metal contamination and soil pollution, by promoting the use of biofertilizers and biopesticides, which offer a sustainable and eco-friendly approach to agriculture.</li> <li>A successful pilot project can lead to large-scale production and job creation, stimulating the local economy and providing employment opportunities in both the production and application of biofertilizers and biopesticides.</li> </ol> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the salaries/wages (INR 360,000) and travel expenses (INR 20,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 620,000. The PAC recognizes the project's potential to address environmental damage from mining activities and promote sustainable agriculture, offering eco-friendly solutions and stimulating the local economy through job creation.</p>
20	Dr. Ishwari Prasad Gupta, Botany, DSPMU Ranchi,	Influence of three different agro-climatic conditions of Jharkhand on the performance of plant growth and antimalarial phytochemicals of Swertia chirata.	Long Term 10,00,000/-	5,40,000/-	3,78,000/-	<p><b>Utility to State of Jharkhand:</b> The project aligns with state priorities to improve healthcare access and quality for tribal populations, contributing to better health and well-being.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the travel expenses (INR</p>

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Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
						100,000) should be removed, and the salaries/wages should be reduced to 50% (INR 360,000). All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 540,000. The PAC recognizes the project's potential to improve healthcare access and quality for tribal populations in Jharkhand, contributing to better health and well-being.
21	Dr. Yogender Aggarwal, Bioengineering & Biotechnology, BIT Mesra	Evaluation of Heat-Induced Cognitive Impairment with Neurological and Autonomic Alterations in Neurodegeneration Model	Major 5,00,000/-	4,00,000/-	2,80,000/-	<p><b>Utility to State of Jharkhand:</b></p> <p>i. The project addresses the impact of increasing heat waves on vulnerable populations, particularly those with cognitive impairments and neurodegenerative diseases, aligning with public health priorities and improving healthcare outcomes.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the contingency fund (INR 50,000) and travel expenses (INR 50,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 400,000. The PAC recognizes the project's potential to address the impact of increasing heat waves on vulnerable populations, particularly those with cognitive impairments and neurodegenerative diseases, aligning with public health priorities and improving healthcare outcomes.</p>

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Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
22	Dr. Sanjaya Shankar Tripathy, Electronics and Communication Engineering, BIT Mesra,	Design and development of Solar power Intelligent Scarecrow for bird and animal removal from crop fields	Long Term 9,95,000/-	6,35,000/-	4,44,500/-	<p><b>Utility to State of Jharkhand:</b></p> <p>i. Provides an autonomous, solar-powered system that is eco-friendly and ensures consistent operation in rural, off-grid areas, supporting agricultural resilience.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the salaries/wages (INR 360,000) should be removed as the PAC feels these are not necessary. Additionally, the project should include provisions for deterring other reptiles. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 635,000. The PAC recognizes the project's potential to provide an eco-friendly, autonomous system that supports agricultural resilience in rural, off-grid areas of Jharkhand.</p>
23	Dr. Kunal Singh, Electronics and Communication, NIT Jamshedpur	Design and Development of FPGA based IoT system for Monitoring Industrial Pollution.	Major 4,90,000/-	3,90,000/-	2,73,000/-	<p><b>Utility to State of Jharkhand:</b> The project focuses on remote monitoring of industrial pollution and checking hazardous gases in exhaust emissions, which is crucial for Jharkhand's industrial regions.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the contingency fund (INR 100,000) should be removed as the PAC feels it is not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 390,000. The PAC recognizes the project's potential to provide crucial remote monitoring of industrial pollution and hazardous gases in exhaust emissions, which is vital for Jharkhand's industrial regions.</p>

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Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
24	Dr. Surajit Kundu, Electronics and Communication Engineering, NIT Jamshedpur	Design and Development of Antennas for early detection of Oral/Mouth cancer, Lung cancer, and Breast cancer.	Long Term 10,00,000/-	7,19,000/-	5,03,300/-	<p><b>Utility to State of Jharkhand:</b> Addressing the low screening rates and improving early detection and diagnosis can significantly reduce cancer-related deaths and the cost of treatment, enhancing public health outcomes in Jharkhand.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the travel expenses (INR 50,000) should be removed, and the salaries/wages should be reduced to 70% (INR 539,000). All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 719,000. The PAC recognizes the project's potential to improve early detection and diagnosis of cancers, significantly enhancing public health outcomes in Jharkhand by addressing low screening rates and reducing cancer-related deaths and treatment costs.</p>
25	Dr. Rajashree Nayak, Electronics and Communication Engineering, NIT Jamshedpur	Development of AI enabled tool for the Identification of Deep fake/morphed Images as Investigation input for the Law Enforcement Agency.	Major 5,00,000/-	4,50,000/-	3,15,000/-	<p><b>Utility to State of Jharkhand:</b></p> <ol style="list-style-type: none"> <li>This project can strengthen the trust of the public, with a tool to identify the misleading information in social media platforms.</li> <li>It can support the State's efforts in promoting digital media literacy and public awareness of AI-driven technologies.</li> <li>It also supports the law enforcement and agencies in tackling digital frauds and uphold information integrity.</li> </ol> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the travel expenses (INR 50,000) should be removed as the PAC feels these are not necessary. All other</p>

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Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
						budget heads are approved as requested, resulting in a total recommended grant amount of INR 450,000. The PAC recognizes the project's potential to strengthen public trust by identifying misleading information on social media, support digital media literacy, and assist law enforcement in tackling digital frauds, thereby upholding information integrity in Jharkhand.
26	<b>Dr. Shailesh Kumar,</b> Electrical and Electronics Engineering, Arka Jain University	Development of multi-environmental parameter dependent temperature model to improve the short-term forecasting output of PV module for north and east-west location of Jharkhand.	Major 5,00,000/-	3,80,000/-	2,66,000/-	<b>Utility to State of Jharkhand:</b> Weather conditions in Jharkhand state vary with the location. Developed empirical models will be helpful in forecasting the short-term forecasting the temperature and output power of PV modules on a 1- minute basis. The developed model will help the operator to adjust the system operation in real time in different weather conditions to optimize the efficiency of the PV module. The improved accuracy of PV power output forecasting meets the need to balance between the supply and demand of grid electricity in an efficient manner. <b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the salaries/wages should be reduced to 50% (INR 120,000). All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 380,000. The PAC recognizes the project's potential to improve the accuracy of short-term forecasting of PV module output, optimizing system operation in real-time and balancing grid electricity supply and demand efficiently in Jharkhand.

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Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
27	Dr. Kumari Namrata, Electrical Engineering, NIT Jamshedpur	Design and Development of Sustainable Electric-Mini Tractor for Specially Challenged Marginal Farmers.	Long Term 9,70,000/-	6,05,000/-	4,23,500/-	<p><b>Utility to State of Jharkhand:</b> This initiative would directly help the state's development priorities and is in line with the Jharkhand government's broader priorities. Physically challenged farmers will benefit from the project's emphasis on cutting-edge solutions like electric mini tractors, which will lower carbon emissions, improve their livelihoods, and support the state of Jharkhand's larger objectives of inclusive economic growth and environmental sustainability.</p> <p><b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the funds for bought out items (INR 365,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 605,000. The PAC recognizes the project's potential to promote sustainable agricultural practices tailored for physically challenged farmers, enhancing their livelihoods and supporting Jharkhand's goals of inclusive economic growth and environmental sustainability.</p>
28	Mr. Mukhlesur Rahman, Electrical, BIT Sindri	Cost-Effective Renewable and Biomass Integration for Emission Reduction and Grid Resilience: A Sustainable Future for Dhanbad.	Long Term 7,65,000/-	3,25,000/-	2,27,500/-	<p><b>Utility to State of Jharkhand:</b> This project supports Jharkhand's priorities by advancing environmental sustainability, improving energy access, and boosting economic growth. It reduces coal reliance, cuts emissions, and enhances energy reliability in rural and industrial areas. By creating local jobs in renewables and leveraging advanced technologies, the project drives both innovation and community development across the state.</p>

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Sl. No.	Name, Institute & Department of Applicant	Topic of the Research Project	Category & Submitted Amount by Applicant	Sanctioned Amount (in INR)	First Installment (70% of the total Sanctioned Amount) (in INR)	Recommendation of PAC
						<b>Recommendations of the PAC:</b> The project is <b>recommended for grants</b> with the following adjustments: the funds for HOMER monthly subscription (INR 440,000) should be removed as the PAC feels these are not necessary. All other budget heads are approved as requested, resulting in a total recommended grant amount of INR 3,25,000. The PAC recognizes the project's potential to advance environmental sustainability, improve energy access, and boost economic growth in Jharkhand by reducing coal reliance, cutting emissions, and enhancing energy reliability.
<b>Total :</b>				<b>1,60,06,900/-</b>	<b>1,12,04,830/-</b>	

उक्त के क्रम में प्रथम किस्त के रूप में स्तम्भ-5 में अंकित राशि निम्नलिखित मुख्य शर्तों के साथ संबंधित संस्थान के बैंक खाता में विमुक्त किया जायेगा –

- शोध एवं अनुसंधान कार्य पूर्ण करने की अवधि, Long Term Project के लिए तीन (3) वर्ष, Major Project के लिए दो (2) वर्ष एवं Minor Project के लिए एक (1) वर्ष होगी।
- शोधकर्ता द्वारा उपकरणों और पुस्तकों पर कुल स्वीकृत अनुदान (Sanctioned Amount) के 20% से अधिक व्यय नहीं किया जायेगा।
- स्वीकृत्यादेश प्राप्त होने के एक माह के अन्दर शोधकर्ता द्वारा कार्य प्रारम्भ किया जायेगा।
- परिषद द्वारा उपलब्ध कराए गए प्रारूप में 100 रुपये के स्टांप पेपर पर शोधकर्ता को एक अंडरटेकिंग जमा करना होगा।

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- e) Long Term Project के लिए प्रथम किस्त प्राप्त होने के 18 माह के उपरान्त, Major Project के लिए प्रथम किस्त प्राप्त होने के 12 माह के उपरान्त एवं Minor Project के लिए 06 माह के उपरान्त संस्थान प्रधान एवं शोधकर्त्ता द्वारा संयुक्त रूप से निम्न अभिलेख परिषद को उपलब्ध कराया जाएगा—
- (i) Progress Report regarding the Project
  - (ii) Statement of Accounts
  - (iii) One Published Research Paper in the Peer Reviewed Journal
  - (iv) Utilization Certificate (in GFR 12A form) along with bills duly certified by the Head of the Institution / Organization and Statutory Auditor / Chartered Accountant (with UDIN number)
  - (v) Proper justification by Head of the Institution / Organization regarding expenditure incurred against approved budget heads
- f) उपरोक्त अभिलेख की जाँच/सत्यापन PAC द्वारा की जाएगी। PAC द्वारा अनुशंसा किये जाने के उपरान्त परिषद् द्वारा स्वीकृत अनुदान की दूसरी किस्त (30%) निर्गत की जाएगी।
- g) शोध कार्यों के दौरान सभी प्रकाशनों यथा Research Papers, Journal Articles, Articles in Edited Books etc., में Principal Investigator द्वारा JCSTI के सहयोग का उल्लेख करते हुए उनकी एक प्रति JCSTI को समर्पित की जाएगी। Conference / Seminar Proceedings में प्रकाशित शोध पत्र मान्य नहीं होंगे, क्योंकि वे Peer Reviewed नहीं होते। हालांकि, Scopus Indexed / UGC-CARE सूचीबद्ध जर्नल्स द्वारा प्रकाशित Proceedings मान्य होंगे।

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h) उपरोक्त के अतिरिक्त इस स्वीकृत्यादेश के साथ संलग्न गाईडलाइन्स में अंकित अन्य सभी शर्तों का अनुपालन करना संस्थान प्रधान एवं शोधकर्ता के लिए बाध्यकारी होगा।

2. प्रस्ताव पर प्रधान सचिव-सह-सदस्य सचिव का अनुमोदन प्राप्त है।

अनु०:- शोध संबंधित गाईडलाइन्स की प्रति।

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(सुनील कुमार) मा०प्र०से०  
निदेशक (तकनीकी शिक्षा)।

ज्ञापांक : वि०प्रा०/कौ०-०२/२०१६ (पार्ट-II) — २१०

/राँची, दिनांक : २९.०५.२०२५

प्रतिलिपि : निदेशक/कुलसचिव/प्राचार्य, IIT (ISM) Dhanbad / BIT Mesra / BIT Sindri / NIT Jamshedpur / CUJ Ranchi / IIIT Ranchi / GEC Palamu / Ranchi University/ Marwari College Ranchi / DSPMU Ranchi / Arka Jain University / **Dr. Kashif Hasan Kazmi**, Production and Industrial Engineering, BIT Sindri / **Mr. Mukesh Chandra**, Production and Industrial Engineering, BIT Sindri / **Dr. Prashant Prakash**, Production & Industrial Engineering, BIT Mesra / **Dr. Antarip Poddar**, Mechanical Engineering, IIT (ISM) Dhanbad / **Dr. Chaitanya Sharma**, Mechanical Engineering, BIT Sindri / **Dr. Sudhanshu Shekhar Pati**, Chemistry, NIT Jamshedpur / **Dr. Soumen Dey**, Chemistry, CUJ Ranchi / **Dr. Ch. V. Raghunath**, Chemical Engineering, BIT Sindri / **Dr. Neelima Sharma**, Pharmaceutical Sciences and Technology, BIT Mesra / **Dr. Rohit Kandulna**, Physics, IIIT Ranchi / **Dr. Itu Snigdh**, Computer Science and Engineering, BIT Mesra / **Dr. Vijay Kumar Jha**, Computer Science and Engineering, BIT Mesra / **Dr. Awdhesh Kumar Choudhary**, Civil Engineering, NIT Jamshedpur / **Dr. Sumit Kumar**, Civil Engineering, GEC Palamu / **Dr. Puja Rajhans**, Civil and Environmental Engineering, BIT Mesra / **Dr. Neeta Kumari**, Civil and Environmental Engineering, BIT Mesra / **Dr. Binod Kumar Mahto**, Botany, Ranchi University / **Dr. Rajiv Chandra**



**Rajak**, Botany, Marwari College Ranchi / **Dr. Shalini Lal**, Botany, DSPMU Ranchi / **Dr. Ishwari Prasad Gupta**, Botany, DSPMU Ranchi / **Dr. Yogender Aggarwal**, Bioengineering & Biotechnology, BIT Mesra / **Dr. Sanjaya Shankar Tripathy**, Electronics and Communication Engineering, BIT Mesra / **Dr. Kunal Singh**, Electronics and Communication, NIT Jamshedpur / **Dr. Surajit Kundu**, Electronics and Communication Engineering, NIT Jamshedpur / **Dr. Rajashree Nayak**, Electronics and Communication Engineering, NIT Jamshedpur / **Dr. Shailesh Kumar**, Electrical and Electronics Engineering, Arka Jain University / **Dr. Kumari Namrata**, Electrical Engineering, NIT Jamshedpur / **Mr. Mukhlesur Rahman**, Electrical, BIT Sindri / कोषागार पदाधिकारी, सचिवालय कोषागार, डोरण्डा / प्रोजेक्ट अप्रैजल समिति (PAC) के अध्यक्ष एवं सदस्य / स्थापना / लेखा शाखा को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

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डॉ० राजशेखर प्रसाद  
कार्यपालक निदेशक

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(सुनील कुमार) मा०प्र०से०  
निदेशक (तकनीकी शिक्षा)।