Research and Development (R&D) Policy JIS Group Educational Institutions

1st Edition
March 2024

Dear colleagues, students, and academic community,

I am pleased to announce, publication of the1st edition of 'Research and Development (R&D) Policy' for JIS University and other educational institutions of JIS Group Educational Institutions under our purview. This comprehensive policy outlines - Vision, Mission, Strategic Direction for research and development, emphasizing the importance of cutting-edge innovation, knowledge creation and academic excellence.

Research and Development is the lifeblood of any progressive educational institution, fueling transformative advancements in various disciplines. It is through meaningful research and diligent innovation that we push the boundaries of knowledge, drive societal progress, and shape the future of our nation. As the Chairman, I recognize the essential role R&D plays in our journey towards becoming a world-class institution, and this policy reaffirms our commitment to fostering a culture of research, discovery, and development.

In alignment with our core values of excellence, integrity, and inclusivity, this policy serves as a guiding compass for researchers, scholars, students, and all stakeholders involved in our academic ecosystem. It provides clear guidelines for the conduct of ethical and high-quality research, promoting interdisciplinary collaboration, encouraging partnerships with industry and other academic institutions, and nurturing a conducive environment for innovation and entrepreneurship.

I urge every member of our academic community to carefully review this policy, internalize its principles, and actively contribute to realizing our collective vision. Let us embrace this new era of research and development, where our ideas and innovations will shape a brighter future for not just our educational initiatives, but also for society at large.

I express my deep gratitude to the R&D Policy Committee, comprising esteemed faculty members, researchers, and administrative personnel, for their meticulous efforts in drafting this policy. Their expertise, dedication, and commitment have been instrumental in shaping this invaluable roadmap for our research and development pursuits.

Together, let us embark on this journey of knowledge creation, innovation, and societal impact, driven by our passion for excellence and our unwavering commitment to advancing human understanding. Our University and educational institutions are poised to make significant contributions to the scientific, technological, economic, and social domains, and this R&D policy will be our guiding light.

Warm Regards,
Sardar Taranjit Singh
Managing Director, JIS Group

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INTRODUCTION

1.1. Welcome to the dynamic realm of Research and Development (R&D) at JIS Group Educational Institutions. Our R&D policy stands as a testament to our unwavering commitment to advancing knowledge, fostering innovation, and contributing to societal progress. Rooted in the belief that a thriving academic institution is inseparable from a culture of rigorous inquiry and continuous exploration. Our R&D policy provides a comprehensive framework that empowers our faculty, researchers, and students to push the boundaries of conventional wisdom.

1.2. R&D stands as the cornerstone of academic progress and societal betterment. In the educational domain, R&D plays a pivotal role in shaping the landscape of learning and knowledge dissemination. It drives the evolution of teaching methodologies, ensuring that educators stay at the forefront of innovative pedagogies. By fostering a culture of inquiry and experimentation, R&D promotes curriculum development that reflects the dynamic needs of contemporary industries, particularly in technical, medical, legal, management, and scientific domains. Through R&D, educational institutions become incubators of creativity, producing graduates, equipped not only with current knowledge but also with the critical thinking skills necessary to navigate an ever-changing world. R&D serves as a catalyst for addressing pressing societal challenges, providing solutions to complex issues ranging from basic scientific inventions, healthcare disparities to environmental sustainability. The pursuit of knowledge through R&D empowers researchers and institutions to contribute meaningfully to the advancement of society, fostering a symbiotic relationship between academic progress and societal well-being.

1.3. Realizing its responsibilities towards the nation and making it Atmanirbhar in its Amrit Kaal, quest for imparting highest quality of education and research and mindful of its commitment to the stakeholders, the JIS Group Educational Institutions lays down this Policy for dedicating itself to the R&D activities

1. OBJECTIVES

2.1. R&D Objectives: Aligned with the vision and mission of the JIS Group Educational Institutions enunciated by it, the R&D objectives for the institution and the metrics for each are enumerated below:

a) **Increase Research Output**: Research publications are critical for an academic entity as they serve as a tangible and enduring record of scholarly contributions, showcasing the institution's commitment to advancing knowledge. These publications not only contribute to the academic reputation of the institution but also play a pivotal role in attracting funding, partnerships, and top-tier faculty. The number of peer-reviewed publications with substantial indexing shall serve as key indicator and its annual growth will reflect the institution's commitment to elevating research productivity.

b) **Enhance Interdisciplinary Research**: With a focus on fostering a collaborative and multidisciplinary research environment, the institution aims to increase the percentage of interdisciplinary research projects by 15% over the next three years. Progress will be measured by tracking the number of research projects involving collaboration between different disciplines or departments within and across the Institutes. The annual percentage increase in the number of interdisciplinary research projects, emphasizing the institution's dedication to holistic problem-solving shall be the index.

c) **Strengthen External Collaborations**: This objective emphasizes expanding the institution's global network by establishing partnerships with at least five leading research institutions or industry organizations within the next two years. Success will be measured through data on the number of formal collaboration agreements and the outcomes of joint research initiatives. The metric for growth on this front will be the annual increase in the number of joint publications and patents.

d) **Secure Research Funding**: To fuel research endeavors, the institution aims to increase total research grant funding by 25% annually. Monitoring the amount of external research funding secured through grants, industry partnerships, and government initiatives is crucial. The performance metric shall be the annual percentage increase in total research grant funding.

e) **Widen R&D Footprints**: This objective focuses on actively engaging with regions or states requiring support and forming partnerships with local organizations. A record of collaborations and outcomes will be maintained, ensuring the benefits of research and innovation reach diverse populations. A key metric for growth is the annual increase in the number of successful collaborations, highlighting the institution's expanding influence in different geographical areas.

f) **Improve Research Impact**: Improving research impact is crucial as it enhances the institution's visibility, credibility, and contribution to the broader academic and societal landscape. By increasing the average citation impact factor of research publications, the institution not only elevates its scholarly influence but also attracts attention from peers and collaborators, fostering a culture of excellence. With a goal to enhance the overall influence of research publications, the institution shall increase the average citation impact factor.

g) **Promote Student Involvement in Research**: This objective seeks to actively involve students in research projects and prepare them for fueling the research further. Documenting the number of undergraduate and postgraduate students engaged in research initiatives is crucial. The performance of the institute shall be recorded in terms of annual percentage increase in student participation.

h) **Establish Centers of Excellence**: The institution aims to establish two centers focusing on relevant or emerging areas of importance within three years. Monitoring the establishment and growth of these centers in terms of research, academic contributions, skill development, training, revenue generation, and collaborations is vital. Sustainability of such centers is important in view of substantial upfront investments and therefore, revenue generation shall be the indicator.

i) **Enhance Research Infrastructure**: Modernization of laboratories, equipment, and technology is crucial for ensuring that the institution's research infrastructure stays aligned with evolving research needs besides guaranteeing a conducive environment for cutting-edge research. This shall be measured in terms of investments over and above the 10% of annual budget in the research infrastructure.

j) **Promote Ethical Research Practices**: Through regular workshops and training sessions on research ethics for faculty and students, this objective aims to instill a culture of ethical research conduct. Monitoring attendance and feedback from these sessions is crucial. Performance on this objective shall be captured through the incidences of unethical practices promoting ethical research practices.

k) **Knowledge Sharing and Dissemination**: This objective encourages faculty participation in conferences, both within and outside India, to foster knowledge sharing and collaboration. Additionally, inviting top Indian researchers contributing at the global level as international experts ensures a diverse and enriching academic environment. This promotes the institution's standing as a hub for global research exchange and collaboration. This objective shall be monitored through the annual percentage increase in faculty participation in international conferences and participation of international experts in conferences organized by the institution.

2.2. **Other objectives**: A robust and functional R&D system in an academic entity can have a far-reaching impact to augment its academic status, industry connect, sustenance, attraction for scholars and visibility in the society. While the institute aims for excellence in R&D, it will also:

a) **Aim Academic Excellence**: This objective aims to elevate the focus on research within Postgraduate (PG) and Undergraduate (UG) courses by assigning more credits and aligning them with structures and guidelines prescribed by concerned regulatory bodies like UGC/ AICTE/ NCTE/ DCI/NDC/NMC. The growth in this area can be measured by monitoring the number of students actively involved in publishing papers and filing patents. The institution shall track these metrics and take strategic measures to enhance student engagement in research activities.

b) **Promote Technology Transfer Incubation and Innovation**: This objective emphasizes the facilitation of successful commercialization or technology transfer from out of the R&D activities taken up. Infrastructure and facilities required for technology translation towards commercialization will be created, with appropriate manpower allocated for its operation. The institution, in the process, will be able to bridge the gap between academia and industry, with measurable success through the number of patents filed, licenses issued, or products/services brought to the market.

c) **Conduct Training/Skilling Programs**: This objective focuses on enhancing the research capabilities of the academic community through short-term courses and workshops. These initiatives will provide hands-on and experiential learning, emphasizing practical skills development. The growth in this area can be measured by tracking the number of researchers participating in these training programs.

d) **Offer Consultancy**: To maintain a dynamic connection with industry advancements, the institution aims to offer technical knowledge and expertise through consultancy services. This ensures that faculty members remain updated with the latest developments in their fields. The growth in this area can be measured by the number of consultancy projects initiated and the cost of consultancies rendered.

e) **Augment Research Communication**: Research communication and outreach are vital for an academic entity as they facilitate the dissemination of knowledge beyond the academic community, fostering engagement with a wider audience including intended beneficiaries. By organizing outreach programs and conferences, the institution not only raises awareness about its research activities but also contributes to building a scientific temperament and research acumen among stakeholders. Metrics such as number of outreach programs and participants therein serve as key indicators for this.

2. GOVERNANCE STRUCTURE

3.1. R&D Advisory Committee (RDAC): The institution shall establish an apex level R&D Committee- mandated to providing guidance to the institute in the matter of R&D and approve its annual R&D plan. The Committee with following structure will meet once in four months approve/ review of R&D activities- both ongoing and planned, and suggest corrective actions and directions for future.

- An eminent industry person/ scientist/ entrepreneur/ clinician (Chairperson);
- Experts from academics, industry & government research (one each as members);
- HOI (of a sister organization as member)
- HOI, Chief Mentor of the R&D Cell of the Institute (member)
- Dean(R&D) as Secretary

3.2. R&D Cell: In the institution, an R&D Cell shall be established and it shall be the hub of research, development and innovation activities and will

i. Facilitate the R&D activities in the institute, including registering of researchers on the portal;
ii. Manage updated information related to research papers, projects, funding, funding opportunities, industry linkages, training, outreach activities etc.;
iii. Serve as a nodal point for liaising with JIS Group, other institutions, industries etc.;
iv. Provide support to the departments organizing R&D related events, including IPR matters;
v. Render support to researchers submitting proposals for funding;
vi. Facilitate review of internally supported activities/ proposals through a Standing Committee to be constituted by HOI; the Committee should evolve norms for an objective review.
vii. Oversee implementation of research ethics;
viii. Provide support related to documents like MOU, IP filing etc.;
ix. Submit reports to RDAC & JIS Group;
x. Initiate the process of Policy revision whenever required;
xi. Serve as Secretariat for the RDAC.

Dean (R&D) shall be the ex-officio head of this Cell which will be staffed with full-time Manager(s) and DEOs (as per the workload) to maintain the information and records related to institution R&D activities and liaise with all departments. It will periodically conduct training, awareness and outreach activities and maintain record of all research scholars also.

3.2 Responsibilities: HOI shall be the Chief Mentor of the R&D Cell with overall responsibility for implementation of R&D plan & activities of the institution, including creating a Standing Committee to vet the proposals seeking funding. Dean(R&D) shall be the Secretary of the RDAC and functional head of the institutional R&D Cell. Dean (R&D) shall also be responsible for maintaining the exclusive portal of R&D Cell; and all the faculty, research scholars and students doing their research-based projects shall cooperate with R&D Cell by providing timely information. Each faculty must submit at least two proposals each year, giving preference to multi-/ inter- disciplinary areas and involving co-researchers from other institutions, directly to the R&D Cell. The Financial Support delineated in the Annexure I shall be applicable to the faculty.

3.3 Portal for R&D Cell: The portal shall be maintained by the R&D Cell and updated on a continuous basis. This will showcase the activities, achievements, meritorious researchers, opportunities for researchers and industry, etc. with a footprint on social media also.

3. AREAS OF R&D

4.1 Academic: Based on the diverse disciplines within the institution, such as technical, medical, legal, management, education, humanities, sciences etc. or as announced by the governments from time to time, keeping balance between theoretical and experimental research.

4.2 Inter-/ Multi- disciplinary: As far as possible, problems for research shall be such that they address complex societal challenges and require knowledge of multiple domains.

4.3 Industrial research: Faculty shall be encouraged to take projects from industry to consolidate industry-academia interaction and enhance the quality of research. Industrial consultancy shall not be treated as research, but for health science disciplines where company-funded research/trials like dental/ pharmaceutical products/ devices are undertaken shall be considered as research.

4.4 Society-centered research: Faculty shall be encouraged to submit proposals under schemes targeting specific population, like SC, ST, Women, Elderly, Children, Rural, Persons-with-disabilities or against special/ thematic/ problem-solving calls for proposal issued by government.

4. INFRASTRUCTURE

5.1 Facilities and Laboratories: The institute is committed to providing state-of-the-art facilities and laboratories to support research activities. This includes:

a) **Well-equipped Laboratories**: Maintain specialized laboratories with the necessary infrastructure, equipment, and tools to facilitate research in various disciplines. Regularly upgrade and modernize the laboratories to ensure they meet the evolving needs of researchers.

b) **Research Centers and Schools**: Establish research centers and schools focused on specific disciplines or interdisciplinary research areas. These centers shall provide dedicated spaces, resources, and collaborative environments for researchers working in those domains.

c) **Experimental Facilities**: Provide access to specialized experimental facilities, such as cleanrooms, fabrication facilities, testing facilities, or animal research facilities, as required by the research projects.

5.2 Equipment and Technology: Well aware of the importance of advanced equipment and technology in conducting high-quality research, the institute shall ensure the following:

a) **Procurement and Maintenance**: Regularly update and acquire state-of-the-art research equipment and technologies to support cutting-edge research. Develop a process for the procurement, maintenance, calibration, and repair of research equipment.

b) **Access to Specialized Equipment**: Ensure researchers have access to specialized equipment and instrumentation necessary for their research projects. Establish guidelines and procedures for equipment usage, booking, and training.

c) **Technology Infrastructure**: Maintain a robust technology infrastructure, including high-speed internet connectivity, secure data networks, and advanced computing resources, to support data- intensive research, computational modeling, and simulations.

d) **Registration on I-STEM portal**: All equipment purchased shall be registered by the institution on the portal of Indian Science, Technology and Engineering Facilities Map (I-STEM); mandatory for all equipment purchased out of government funds. It is a dynamic and interactive, national portal for students, faculty and researchers in S&T institutions facilitating access to government-funded facilities distributed in institutions across the country. Details can be accessed from the link www.istem.gov.in

5. TRAINING AND DEVELOPMENT

6.1 Research Skills Development Programs: The institution shall offer research skills development programs to enhance the capabilities of the research community through following approaches:

a) **Research Workshops and Seminars**: Organize workshops and seminars on various research methodologies, data analysis techniques, literature review, and other essential research skills. These sessions provide opportunities for researchers to enhance their knowledge and skills in specific areas.

b) **Research Training Courses**: Offer research training courses that cover topics such as research design, data collection methods, data analysis, and research project management. These courses can be tailored to the needs of different disciplines and research areas.

c) **Research Collaboration and Networking**: Facilitate opportunities for researchers to engage in collaborative research projects, interdisciplinary collaborations, and networking events. These activities promote knowledge exchange, skill-sharing, and cross-pollination of ideas.

6.2 Research Methodology Training: The institution shall lay emphasis on the importance of research methodology in conducting rigorous and high-quality research. Towards this, it shall provide research methodology training to equip researchers with the necessary tools and techniques. This includes:

a) **Research Design**: Offer training on research design, including experimental design, survey design, case study design, and qualitative research methods. Provide guidance on selecting appropriate research methodologies based on research objectives.

b) **Data Collection Techniques**: Provide training on various data collection techniques, such as interviews, surveys, observations, experiments, and focus groups. Train researchers on best practices for collecting reliable and valid data.

c) **Data Analysis Methods**: Offer training on statistical analysis techniques, qualitative data analysis methods, and software tools commonly used for data analysis. Provide guidance on selecting and applying appropriate data analysis methods based on research questions.

6.3 Research Ethics Training: The institution shall provide training on research ethics to ensure that researchers adhere to ethical principles throughout the research process. This includes:

a) **Responsible Conduct of Research**: Offer training on responsible conduct of research, including ethical considerations in research design, data collection, data analysis, and reporting. Emphasize the importance of integrity, transparency, and responsible behavior in research.

b) **Human Subjects Research Ethics**: Provide training on ethical guidelines and regulations related to research involving human subjects. Train researchers on obtaining informed consent, ensuring participant confidentiality, and addressing potential risks and benefits.

c) **Animal Research Ethics**: Offer training on ethical principles and guidelines for conducting research involving animals. Educate researchers on the ethical treatment, care, and use of animals in research. Ensure compliance with institutional policies and regulatory requirements.

6.4 Grant Writing Workshops: The institution shall encourage and support researchers in securing external research funding through grant writing workshops. These workshops provide guidance and support in developing competitive grant proposals. This includes:

a) **Grant Writing Techniques**: Provide training on grant writing techniques, including proposal structure, content development, budget preparation, and evaluation criteria. Offer tips for effectively communicating research objectives, methodology, and expected outcomes.

b) **Funding Agency Guidelines**: Familiarize researchers with the guidelines and requirements of various funding agencies. Train them on aligning research proposals with the funding agency's priorities and objectives.

c) **Peer Review Process**: Educate researchers on the peer review process for grant proposals. Provide insights into common review criteria and strategies for addressing reviewer feedback.

6.5 Research Publication and Dissemination Training: The institution shall encourage researchers to disseminate their research findings through publications and other appropriate channels and shall organize training programs on research publication and dissemination, which shall include:

a) **Scientific Writing Skills**: Provide training on scientific writing, including writing research articles, conference papers, and book chapters. Train researchers on effective organization, clarity, and scholarly writing conventions.

b) **Journal Selection and Publication Process**: Guide researchers in selecting appropriate journals for publication. Provide insights into the publication process, including manuscript submission, peer review, revisions, and acceptance.

c) **Presentation Skills**: Offer training on effective presentation skills for conferences, seminars, and other research dissemination events. Train researchers on delivering engaging presentations, conveying research findings, and handling questions from the audience.

6.5.1 Research Support Services: The institution shall provide comprehensive research support services to facilitate and enhance research activities. This includes:

a) **Research Administration**: Offer administrative support to researchers in managing research grants, budgets, and compliance with funding agencies' requirements. Provide assistance in proposal development, project management, and reporting.

b) **Research Ethics and Compliance**: Provide guidance and support in navigating research ethics requirements, ensuring compliance with ethical guidelines and regulations. Offer training programs and resources to promote responsible conduct of research.

c) **Grant Writing and Funding Support**: Offer workshops, training, and resources to assist researchers in developing competitive grant proposals. Provide guidance on identifying funding opportunities, navigating the grant application process, and developing budgets.

d) **Statistical and Data Analysis Support**: Provide access to statistical and data analysis support services to help researchers with study design, data collection, analysis, and interpretation. Offer training programs and software resources for statistical analysis.

e) **Intellectual Property Support**: Provide support and guidance in matters related to intellectual property protection, patent filing, technology transfer, and commercialization of research outcomes.

6.6 Data Management and Storage: The institution recognizes the importance of robust data management and storage infrastructure for research projects and towards this, it shall ensure:

a) **Data Management Plans**: Encourage researchers to develop data management plans for their projects, outlining data collection, storage, sharing, and retention practices. Provide guidelines and templates to assist researchers in creating effective data management plans.

b) **Data Storage and Backup**: Ensure secure and reliable data storage facilities, both onsite and offsite, to store research data. Implement regular data backup procedures to minimize the risk of data loss.

c) **Data Security and Privacy**: Establish protocols and measures to ensure the security and privacy of research data. This includes data encryption, access controls, data anonymization, and compliance with relevant data protection regulations.

d) **Data Sharing and Collaboration**: Promote data sharing and collaboration by providing researchers with platforms and tools for secure data sharing and collaboration with external partners, while maintaining necessary confidentiality and privacy safeguards.

6.7 Access to Research Resources: The institute is committed to facilitating access to research resources for its faculty members and researchers. This includes:

a) **Library and Information Resources**: Maintain a comprehensive library with a wide range of physical and digital resources, including books, journals, databases, and research publications. Ensure access to online research databases and scholarly journals.

b) **Research Materials and Samples**: Facilitate access to research materials, samples, and repositories, both within the institution and through collaborative networks, to support research projects across different disciplines.

c) **Interlibrary Loan Services**: Collaborate with other libraries and institutions to provide interlibrary loan services, enabling researchers to access resources not available within the institution.

d) **Plagiarism check software**: Facilitate access to the software crucial to maintain its academic integrity and ensure originality in scholarly work; this is necessary to protect reputation of the institution.

6. ETHICS

7.1 Institutional Research Governance Structure: The institution's governance structure shall have mechanism to ensure ethical conduct, compliance with regulations, and the effective management of research activities. The institutional research governance structure shall include the following components:

a) **Research Ethics Committee**: Establish a dedicated research ethics committee responsible for reviewing and approving research proposals involving human subjects, ensuring ethical considerations and participant protection.

b) **Institutional Review Board**: Form an institutional review board (IRB) to oversee the ethical aspects of research involving human subjects. The IRB shall consist of experts from various disciplines and ensure compliance with ethical guidelines and regulations. For healthcare institutes, the role of IRB shall be to only check scientific rigour, merit and strength of study and propose changes before placing it in front of the Research Ethics Committee.

c) **Research Compliance Office**: Establish a research compliance office responsible for monitoring and enforcing compliance with regulatory requirements, including research ethics, data protection, and intellectual property.

d) **Research Integrity Officer**: Appoint a research integrity officer who serves as a point of contact for addressing research misconduct, promoting responsible conduct of research, and ensuring compliance with research integrity standards.

7.2 Research Ethics and Integrity: The institution shall be committed to upholding the highest standards of research ethics and integrity and ensure them through following mechanisms:

a) **Ethical Review and Approval**: All research involving human subjects, sensitive data, or potential ethical implications shall undergo thorough ethical review and obtain appropriate approvals from the institutional research ethics committee or IRB. For healthcare institutions, the Registration of Research Ethics Committees for Biomedical & Health Research must be done through the Central Drugs Standard Control Organization (CDSCO), Directorate General of Health Services, Government of India and with the National Ethics Committee Registry for Biomedical and Health Research (NECRBHR), Department of Health Research (DHR), Government of India through the portal [naitik.gov.in]

b) **Informed Consent**: Researchers shall obtain informed consent from participants involved in research studies as per their age, ensuring that they have a clear understanding of the purpose, procedures, potential risks, benefits, and their rights as participants.

c) **Confidentiality and Privacy**: Researchers shall prioritize participant confidentiality and privacy by handling data in a secure and anonymized manner, protecting personal identifiable information, and adhering to relevant data protection and privacy regulations.

d) **Conflict of Interest**: Researchers shall disclose any potential conflicts of interest that may arise from their research activities, ensuring transparency and minimizing any bias or influence that could compromise the integrity of the research.

e) **Publication and Authorship Ethics**: Researchers shall adhere to ethical standards in publishing research findings, including proper acknowledgment of contributions, transparent authorship criteria, and avoidance of plagiarism or data manipulation. For healthcare institutes, guidelines issued by the International Committee of Medical Journal Editors (ICMJE) shall be followed. For biomedical experiments EQUATOR guidelines shall be followed.

7.3 Human Subjects Research: When conducting research involving human subjects, the institution shall follow the ethical guidelines and regulations to ensure participant welfare and protection which shall include:

a) **Informed Consent**: Obtain informed consent from participants, ensuring that they have a clear understanding of the research purpose, procedures, potential risks, benefits, and their rights as participants. Maintain documentation of informed consent.

b) **Risk Assessment and Minimization**: Conduct a thorough risk assessment to identify and mitigate potential risks to participants. Minimize risks and ensure that the potential benefits of the research outweigh any potential harm.

c) **Confidentiality and Anonymity**: Safeguard participant confidentiality and anonymity by storing and handling data in a secure and anonymized manner. Protect personal identifiable information and comply with data protection regulations.

d) **Vulnerable Populations**: Give special consideration to the inclusion and protection of vulnerable populations, such as children, the elderly, individuals with disabilities, or those with diminished decision-making capacity. Obtain additional safeguards and approvals when involving such populations. For healthcare institutions, clinical trial registration is mandatory.

7.4 Animal Research: When conducting research involving animals, the institution shall follow ethical guidelines and regulations to ensure the welfare and humane treatment of animals, which include:

a) **Institutional Animal Care and Use Committee** (IACUC): Establish an institutional animal care and use committee responsible for reviewing and approving animal research protocols, ensuring compliance with animal welfare regulations and ethical guidelines.

b) **Animal Welfare**: Ensure that animals used in research are treated with care and respect. Adhere to the principles of the Three Rs: Replacement (minimize or replace animal use), Reduction (minimize the number of animals used), and Refinement (optimize procedures to minimize pain or distress). Ethical Review and Approval: Obtain ethical approval from the IACUC before commencing any animal research. This includes demonstrating the scientific necessity, proper housing and care, and monitoring of animal well-being throughout the study.

c) **Training and Expertise**: Ensure that researchers and staff involved in animal research receive appropriate training and possess the necessary expertise to handle and care for animals properly.

7.5 Data Protection and Privacy: The institution shall value the importance of protecting data and privacy in research activities, that will include:

a) **Data Security**: Implement robust data security measures to protect research data from unauthorized access, loss, or theft. This includes encryption, restricted access controls, and secure data storage practices.

b) **Data Privacy**: Comply with data protection regulations and guidelines, ensuring that personal identifiable information is handled and processed in accordance with applicable laws. Obtain informed consent and provide clear information on data handling practices.

c) **Data Sharing and Transparency**: Promote open and responsible data sharing practices, ensuring that research data is made available for validation, replication, and further scientific inquiry while safeguarding participant privacy and confidentiality.

d) **Research Data Management**: Establish data management protocols and procedures to ensure data integrity, quality, and long-term preservation. Develop data management plans that outline data storage, sharing, and retention practices throughout the research lifecycle.

7. FUNDING

8.1 Institutional Funding: The institution will allocate 10% of the annual budget for R&D activities.

a) The institution will provide a seed grant of up to Rs. 2 lakhs to a new faculty joining the institute to initiate R&D activities. This will be against a proposal that shall be submitted for consideration to the R&D Cell which will have it evaluated before funding. The amount can be spent on equipment and consumables. Permanent faculty not having any external project can also avail the opportunity. The proposal shall be prepared following the format given in Annexure II.

b) Research Scholars not getting any scholarship shall be given a consolidated monthly stipend of Rs. 20000, for 12 months during which they must qualify UGC/CSIR JRF NET; the duration can be extended for another year if the research work done has potential to result in research paper/ patent otherwise the student can continue through own resources. The number of research scholars can be fixed by the institution and shall be based on faculty available to guide. Such research scholars shall be selected on the basis of academic credentials and qualifying an entrance test to be conducted by the JIS Group.

8.2 External funding: All faculty shall submit at least two proposals in a year for research funding from government funding agencies and other possible sources, information about which shall be maintained by R&D Cell. Financial support of alumni or alumni batch and philanthropists shall also be explored, in which case the facilities can be named after the donors.

a) Government Grants and Funding: Explore funding opportunities provided by government agencies, research councils, and foundations that support research projects aligned with the institution's focus areas. This may include national or regional research funding programs.

b) Industry Partnerships and Collaborations: Seek partnerships with industry organizations, corporations, and private enterprises that are interested in supporting research in relevant areas. Collaborative research projects can attract funding from industry sponsors, leading to mutually beneficial outcomes.

c) Philanthropic Organizations and Foundations: Identify philanthropic organizations and foundations that provide grants and funding for research projects. These entities may have specific areas of interest or social impact goals that align with the institution's research priorities

d) Donations and Alumni Contributions: Engage with alumni, donors, and supporters of the institution who are interested in contributing to research activities. Establish mechanisms to facilitate donations and funding contributions towards research initiatives.

8. IP MANAGEMENT

9.1 Intellectual Property Rights Policy: The institute has an Intellectual Property Rights (IPR) policy in place to protect and manage intellectual property generated through research activities. This policy outlines the rights, responsibilities, and procedures related to intellectual property ownership, protection, and commercialization. Key elements of the IPR policy include:

a) Ownership of Intellectual Property: Clarify the ownership rights of intellectual property generated by faculty members, researchers, and students. Establish guidelines for determining ownership in cases of collaborative research or research funded by external parties.

b) Disclosure and Protection: Outline the process for disclosing inventions, innovations, and other intellectual property to the institution. Emphasize the importance of timely disclosure and provide mechanisms for ensuring the protection of intellectual property.

c) Assignment and Licensing: Define the procedures for assigning or licensing intellectual property rights to third parties, including industry partners or commercial entities. Address terms and conditions for revenue sharing, royalty distribution, and negotiation of licensing agreements.

d) Confidentiality and Non-Disclosure: Establish guidelines for maintaining confidentiality and non-disclosure of proprietary information during research collaborations or technology transfer activities. Ensure that appropriate confidentiality agreements are in place to protect intellectual property.

9.2 Patent Filing and Commercialization Process: The institution supports researchers in patenting and commercializing their inventions and innovations. The institution has a structured process for patent filing and commercialization, which includes:

a) Evaluation of Inventions: Assess the patentability and commercial potential of inventions or innovations through expert evaluation and market analysis. Identify inventions with significant market potential for further development and commercialization.

b) Patent Filing: Guide researchers through the process of drafting patent applications, including technical descriptions, claims, and drawings. Coordinate with patent attorneys or agents to ensure the timely and effective filing of patent applications.

In the case of filing of IPR the Institution would be the applicant and teachers and students concerned would be the inventor.

I. Patent Portfolio Management: Establish procedures for managing the institution's patent portfolio, including monitoring patent applications, prosecution, maintenance, and licensing or assignment of patents. Regularly review and evaluate the patent portfolio for strategic decisions.

II. Commercialization Support: Provide researchers with support in commercializing their patented technologies or inventions. This may include connecting researchers with industry partners, facilitating technology transfer agreements, and supporting the creation of spin-off companies.

9.3 Technology Transfer and Licensing: The institute facilitates the transfer of research outcomes and intellectual property to industry partners through technology transfer and licensing agreements, abiding by following practices:

a) Technology Disclosure and Evaluation: Encourage researchers to disclose their technologies and innovations to the institution's technology transfer office. Conduct thorough evaluations to assess the market potential, intellectual property protection, and commercial viability of the technologies.

b) Technology Marketing and Licensing: Develop strategies for marketing the institution's technologies to potential licensees and industry partners. Negotiate licensing agreements that ensure fair terms and conditions for both parties, including royalty rates, sublicensing rights, and intellectual property ownership.

c) Industry Engagement and Collaboration: Foster relationships with industry partners to identify their technology needs and facilitate collaborative research and development projects. Explore opportunities for joint ventures, strategic partnerships, and co-development of technologies.

9.4 Spin-off Companies and Start-ups: The institution supports the creation of spin-off companies and start-ups based on research outcomes and towards this it provides:

a) Entrepreneurship Support: Offer entrepreneurship programs, workshops, and mentoring to researchers interested in commercializing their research outcomes through the establishment of spin-off companies or start-ups. Provide guidance on business planning, funding opportunities, and market validation.

b) Incubation and Acceleration: Collaborate with incubators, accelerators, and entrepreneurship centers to provide physical space, infrastructure, mentorship, and access to networks for nurturing spin-off companies and start-ups.

c) Funding and Investment Support: Facilitate access to funding sources, venture capital firms, and angel investors for early-stage start-ups. Assist researchers in preparing funding proposals and connecting with potential investors.

9.5 IP Protection and Enforcement: The institution acknowledges the importance of protecting and enforcing intellectual property rights. The institution takes the following measures:

a) Intellectual Property Awareness: Conduct regular training sessions and workshops to create awareness among researchers, faculty, and students about intellectual property rights, infringement risks, and best practices for protection.

b) Monitoring and Surveillance: Establish mechanisms to monitor potential infringement of intellectual property rights, including patents, copyrights, and trademarks. Collaborate with legal experts to ensure prompt action in cases of infringement.

c) Legal Support: Provide legal support and guidance to researchers and faculty members in cases of intellectual property disputes, infringement claims, or licensing negotiations. Collaborate with external legal counsel when necessary.

9. PERFORMANCE EVALUATION

10.1 Key Performance Indicators: The institution shall establish key performance indicators (KPIs) to assess research performance. These KPIs serve as quantitative metrics to measure and evaluate the institution's research output, impact, productivity, and collaboration. Suggestive list of 20KPIs is given below, out of which institute shall choose at least relevant 15 and seek approval from RDAC for adoption:

Sl.	Performance Indicator	Action	Formula
1	Research Output Growth	Measure the percentage increase in the number of research publications from the previous year.	((Current Year Publications- Previous Year Publications)/ Previous Year Publications) * 100
2	Interdisciplinary Collaboration	Track the percentage of research projects that involve collaboration between different disciplines.	(Interdisciplinary Research Projects/ Total Research Projects) * 100
3	External Collaboration Effectiveness	Measure the percentage of successful outcomes from external collaborations.	(Successful Collaborative Projects/ Total Collaborative Projects) * 100
4	Research Funding Growth	Assess the percentage increase in research grant funding from the previous year.	((Current Year Funding- Previous Year Funding)/ Previous Year Funding)* 100
5	Technology Transfer Success	Measure the percentage success rate in commercializing or transferring technology.	(Successful Technology Transfers/ Total Attempts) * 100
6	Regional Engagement	Assess the effectiveness of engaging with local organizations in different regions.	(Successful Regional Collaborations/ Total Regional Collaboration Attempts)* 100
7	Citation Impact Improvement	Measure the percentage improvement in the average citation impact factor.	((Current Year Impact Factor- Previous Year Impact Factor)/ Previous Year Impact Factor) * 100
8	Student Research Involvement	Track the percentage of students actively involved in research projects	(Student Research Participants / Total Students)* 100

9	Sustenance of Centres of Excellence	Measure the year-on-year growth in revenue	((Current Year Revenue- Previous Year Revenue)/ Previous Year Revenue) * 100
10	Research Infrastructure Quality	Assess the improvement in the quality of research infrastructure.	(Current Year Infrastructure Quality- Previous Year Infrastructure Quality)/ Previous Year Infrastructure Quality
11	Ethical Research Awareness	Measure the percentage of faculty and students attending ethical research workshops.	(Ethical Research Workshop Attendance/ Total Faculty and Student Population) * 100
12	Knowledge Sharing Impact	Track the percentage of faculty engaged in international conferences for knowledge sharing.	(Faculty Participation in Conferences/ Total Faculty)* 100
13	Patent Filing Rate	Assess the rate at which the institution is filing patents.	(Patents Filed in a Year/ Total Research Projects)* 100
14	Research Project Success Rate	Measure the percentage success rate of research projects.	(Successful Research Projects/ Total Research Projects Initiated) * 100
15	Consultancy Project Revenue	Assess the financial impact of consultancy services offered by the institution.	Amount of Revenue Generated from Consultancy Projects
16	Research Project Completion Timeliness	Track the percentage of research projects completed within the scheduled timeframe.	(Projects Completed on Time/ Total Research Projects)* 100
17	Research Facilities Utilization	Measure the percentage utilization of research facilities.	(Research Facility Usage Hours/ Total Available Hours) * 100
18	Research Impact on Curriculum	Assess the utilization of research facilities in the courses.	(Student doing internship or projects/ Total students)* 100
19	Global Collaboration Index	Track the percentage of collaborations with international institutions.	(Global Collaborations/ Total Collaborations) * 100
20	Innovation Commercialization Rate	Measure the success rate in bringing innovations to the market.	(Innovations Successfully Commercialized/ Total Innovations) * 100

10.2 Impact Indicators: An impact indicator measures the broader and often long-term outcomes or effects resulting from an organization's activities. It goes beyond performance indicators, which typically assess immediate outputs and activities. In the realm of R&D, prioritizing impact indicators becomes paramount as they offer a comprehensive evaluation of the institution's influence, significance, and contributions to the advancement of knowledge and societal well-being, going beyond mere measures of research productivity and efficiency. Some impact indictors are suggested below

Sl.	**Impact Indicator**	**Action**	**Formula**
1	Research Influence Index	Evaluate the average influence of each research paper based on citation counts	(Total Citations of Published Papers/ Total Papers Published)
2	Societal Impact Score	Assess the percentage of research projects contributing to societal impact.	(Number of Research Projects with Societal Impact/ Total Research Projects) * 100
3	Educational Impact Ratio	Measure the percentage of courses influenced by research (internships/ projects).	(Research-Informed Courses/ Total Courses Offered) * 100
4	Knowledge Transfer Effectiveness:	Assess the effectiveness of transferring knowledge and technology through collaborations.	(Successful Technology Transfers/ Total Collaborative Projects) * 100
5	Innovation Adoption Rate	Evaluate the percentage of innovations successfully adopted in the market.	(Adopted Innovations in the Market/ Total Innovations)* 100

10. INCENTIVES

11.1R&D Incentives: The Institute shall follow a unique incentive scheme to recognize and reward the faculty & staff for the research. It is aimed at appreciating the all-round involvement, delivery, contribution and recognition in the R&D activities, in a comprehensive manner. The following table identifies the points awarded to a researcher for a particular step/ achievement and reflects the overall performance on R&D front.

Sl.	Parameter	Points	Information/ documents to be provided/ uploaded
1	Submission of proposal	200	Title of project; Co-PI(s)/ PI; project duration; project cost; funding agency; Acknowledgement (Application No.) from funding agency
2	Sanction of project	300	Sanction Letter from the funding agency
3	Completion of project	500	Project Completion Report; Fund Utilization Certificate; Proof of submission of Report
4	Before time (at least one month), completion & submission of Report to funding agency	200	Project Completion Report; Fund Utilization Certificate; Proof of submission of Report; Declaration of before time submission, mentioning both dates
5	Paper submitted (in Scopus/Web of Science only)	200	Manuscript; Co-authors; Name of the Journal; Acknowledgement of receipt by the Journal
6	Publication of the paper (Indexed)	500	Letter of Acceptance by the Journal; Volume, Year, Impact Factor of the Journal
7	Publication of chapter in a book	200	Chapter topic; Book title; Publisher; ISBN Number
8	Publication of a book	1000	Book title; Publisher; ISBN Number
9	Filing of patent	200	Title of the invention; Name of co-inventors& affiliation; Acknowledgement of filing by the Patent Office
10	Grant of patent	1000	Title of the invention; Names of co-inventors & affiliation Patent/ Publication number assigned by Patent Office
11	Ph.D. student registered	100	Title of thesis; Supervisor/ Co-Supervisor; University
12	Ph.D. thesis submitted by student	500	Acknowledgement of receipt of thesis by university
13	Ph.D. awarded to student	500	Provisional degree issued by University

14	Submission of proposal for International Conference for funding	100	Title of conference; Organizers; dates of Conference; estimated budget; Acknowledgement of submission by funding agency
15	Sanctioning of grant by funding agency	200	Sanction Letter issued by funding agency
16	Industry sponsorship (minimum 10% of conference budget)	200	Sponsorship Letter from Industry
17	Organizing an International Conference	1000	Submission of Report to Funding Agencies/ Sponsors; Name of Convener, Co-convener, Secretary, Joint Secretary
18	Organizing National Conference	400	Submission of Report to Funding Agencies/ Sponsors; Submission of Report to Funding Agencies/ Sponsors; Name of Convener, Co-convener, Secretary, Joint Secretary
19	Acceptance of paper in a national Conference (Indexed Publication)	100	Letter of acceptance by organizers; Name of coauthors from JIS institutions
20	Acceptance of paper in an international Conference (Indexed Publication)	300	Letter of acceptance by organizers; Name of coauthors from JIS institutions
21	Presentation of the paper national/ international)	100	Letter/ certificate issued by the organizer
22	Organizing a hand-on Workshop / Training which leads to IRG (for a group of minimum 20 participants) on instruments/ tools/ techniques	300	Submission of Report which should include feedback of participants; Name of Organizer; Co-organizer
23	Award to a paper/ student thesis	500	Certificate issued by event organizer; Name of co-supervisor (if from JIS Group institution)
24	Transfer of Technology	2000	MoU/ Agreement/ document in support of transfer; Name of team members

- Scheme is for faculty of JIS institutions only
- The relevant information has to be uploaded on the portal, to get points
- Points will be split equally between in case of multiple applicants/ investigators/ authors/ inventors/ organizers/ convenor are involved and credited to researchers.
- Additional points will be admissible for research papers published out of collaboration between institutions within JIS Group. For each additional institution in the collaboration, points will be increased by 10% and then divided among the authors. (10% if two institutions collaborate, 20% if three, 30% if four and so on).
- Monthly statement of points accumulated will be shared with the faculty
- Top three scorers in a month will be notified on the portal

- Annual performance-based recognition will be done at institutional & Group level
- The points accrued (x10) will be redeemed/ monetized once in a year. Institution may check physical documents before redemption.
- Any researcher found fudging data, giving wrong information, using unfair/unethical practices to secure points shall forfeit all the points accrued in the past.
- Points distribution shall be reviewed after a year
- Investigators of externally funded projects will be allowed to spend 5% of the project cost for their professional development.
- Points will be credited after approval of Central Standing Committee

11.2 Incentives for Consultancy and Training Programs: The Institute allows its faculty and researchers to engage themselves in consultancy assignment to such an extent, which does not interfere with the discharge of their duties and also conduct training programs for industry persons/ faculty from other institutions. Such assignments enrich the experience and knowledge of faculty through interactions in the professional sphere. The Consultancy charges for an assignment to be taken with approval of HOI and routed through R&D Cell shall be shared as follows:

Distribution of fees				
Consultancy	Faculty/ Staff	Procurement of material/ consumables	Institutional Development	Institutional overheads
Advisory (by individual & no institutional facilities used)	50%	0%	40%	10%
Service or training programme (by team* requiring no consumables)	60%	0%	30%	10%
Service or training programme (by team* requiring consumables	60%	20%	10%	10%
* Names of team member, role and the proportion of fee shall be declared to the R&D Cell before undertaking the consultancy				

The cost of consultancy shall be worked out factoring in: (a) Cost of consultant's time, including intellectual fee; (b) Cost of man days of the staff taking part in the project, excluding the consultant(s); (c) TA and DA (as per agreement with the client); (d) Cost of inputs (like chemicals, raw material and other types of consumables) and equipment; (e) Usage charges on equipment (including deprecation); (f) Payments to outside consultants; (g) Cost of stationary, printing & binding of report copies; (h) Miscellaneous; and (i) Administrative charges (10% of a to h)

11. POLICY REVISION

12.1 Policy Review Cycle: The institution recognizes the importance of revision of policy to ensure that research policies remain relevant, effective, and aligned with the evolving needs and goals of the institution Review Cycle includes the following steps:

a) Timeframe: Establish a predetermined timeframe for policy review, typically on an annual or biennial basis. This allows for systematic and timely updates to research policies.

b) Policy Review Committee: Form a dedicated policy review committee consisting of key stakeholders, such as faculty members, researchers, administrators, and legal or compliance experts. The committee oversees the policy review process and ensures its integrity.

c) Documentation and Tracking: Maintain a comprehensive record of all research policies, including their review dates, changes made, and the rationale behind the revisions. This documentation facilitates transparency, accountability, and future reference.

12.2 Policy Revision and Approval: To revise and update research policies, institution shall follow a structured process that involves multiple stages of review and approval, with the responsibility entrusted to R&D Cell. The process includes:

a) Policy Proposal: Any member of the institution can propose a policy revision based on identified needs, emerging trends, or feedback from stakeholders. The proposal includes a detailed justification for the revision.

b) Internal Review: The proposed policy revision undergoes an internal review process led by the policy review committee. The committee assesses the proposed changes for their feasibility, impact, and compliance with relevant regulations and best practices.

c) Stakeholder Consultation: Solicit feedback from relevant stakeholders, including faculty members, researchers, administrators, and legal or compliance experts. This consultation ensures that diverse perspectives are considered and that the revised policy addresses the needs and concerns of all stakeholders.

d) Approval and Adoption: Once the policy revision is finalized, it undergoes an approval process. This typically involves obtaining approval from relevant institutional authorities, such as the research committee, academic council, and executive management. Upon approval, the revised policy is officially adopted and implemented.

12. CONCLUSION

In conclusion, our commitment to fostering a thriving culture of Research and Development (R&D) at JIS Group of Educational initiatives stand as a testament to our dedication to intellectual growth, innovation, and societal progress. This R&D policy encapsulates our vision for the future – a future where the pursuit of knowledge knows no bounds, where innovation becomes a way of life, and where our academic community actively contributes to solving global challenges. As we embark on this collective journey, let us be guided by the principles of curiosity, collaboration, and impact. Together, we will continue to push the boundaries of what is known, inspire transformative discoveries, and make meaningful contributions to the world. The R&D policy is not just a document; it is a roadmap to excellence, and we invite every member of our academic family and stakeholders to play a vital role in shaping the future through the lens of R&D.

Annexure I: Template for Research Plan

ANNEXURE I

(Annexure to the R&D Policy for JIS Institute)

FORMAT FOR IN-HOUSE RESEARCH PROJECT PROPOSAL

1	Title of the Project
2	Principal Investigator* (with Department, Mobile No, Official Email ID/ ORCID & Vidwan ID)
3	Co-Investigator*, ** (with Department, Mobile No, Official Email ID/ ORCID & Vidwan ID)
4	About the project: (a) Intra-disciplinary or Inter-/Multi- disciplinary? (b) Objectives; (c) Novelty; (d) Benefit to user organization/ industry or society; (e) 5 institutions where work is ongoing in the chosen area; (f) Justification for in-house/ institutional funding; (g) Prospective sources of funding in future (Scheme & Funding agencies); (h) Keywords (maximum 5)
5	Project Summary (Not to exceed one page)
6	Project implementation: (a) Duration (not more than two years); (b) Quarterly Implementation Plan (with tentative milestones/ accomplishments); (c) Expected outcomes
7	Equipment available for research: (a) within institution; (b) sister institutions
8	Resources & Funding requirement: (a) Equipment required, with estimated cost; (b) Consumables; (c) Charges for using I-STEM portal (www.istem.gov.in) or any other data, if required
9	Plan to involve the current students

**Attach Bio-data as per format given ** There can be more than one Co-Investigators*

Signature of the PI

Place

Name

Date

Designation

Format for Bio-Data of Investigator (PI/ CI)

1. Name
2. Gender
3. Date of Birth
4. E-mail ID
5. Qualifications

Sl.	Degree	Institution	Year	Division/ Class

6. Employment Experience

Sl.	Position & Organisation	Nature of Job	Period

7. Selected List of Ten Best Publications (relevant to the proposed project)
8. Patents filed/Granted with details (relevant to the proposed project)
9. Books Published /Chapters contributed (relevant to the proposed project)
10. Projects

(a) Completed/ Ongoing Sponsored Research Projects (last five years)

Sl.	Title	Sponsoring Agency	Period	Amount	Achievements

(b) Completed and Ongoing Consultancy Projects (last five years)

Sl.	Title	Sponsoring Agency	Period	Amount

(c) Submitted Sponsored Research/Consultancy Projects

Sl.	Title	Sponsoring Agency	Period	Amount

11. Awards and Honours:
    A. National list
    B. International list:

12.Technologies Developed / Transferred: (please provide details of technologies transferred to industry, technologies commercialized)

Date: (Name & Signature)