Yashoda Shikshan Prasark Mandal

# Yashoda Technical Campus, Satara

## An Autonomous Institute

# Research and Development Policy



## RESEARCH AND DEVELOPMENT POLICY

### Introduction

The Research & Development cell integrates all the departments to facilitate the academic, sponsored-research, projects and consultancy services. The cell extends its full support to students/ staff/alumni/other-stakeholders through its facilities i.e., research labs/centers, COE innovation and incubation centers to present/publish papers in the conferences/journals of national/international repute which contributes towards academic transformation, professional and career advancement. The cell associates & sponsors various innovative research & development activities such as workshops, symposiums, seminars, conferences, research publications, projects, innovations, patents and IPR in diverse fields. The Research and Development (R&D) activities also include skill cum technology up-gradation programs, startups, entrepreneurship and participation in various national/international technical competitions. The cell extends its support to start-up of new ventures in association with innovation incubation entrepreneurship cell (IIEC).

The cell strive towards perfection and high-quality scientific research to take-up active research and contribute towards publications, patents, prototypes and filing of IPR and to build research culture, to tap global potential, support to strengthen the knowledge foundation and promote the creation of new R&D applications in multi-disciplinary areas by using social innovation and rural/indigenous technology in support of Make in India and Digital India slogan of PMO and country. As a part of UBA, IIIC activities the cell adopts social out-reach programs in support of education, research & innovation to households/children/adults/adolescence in rural villages & hamlets. To achieve the high quality research ambience, the R&D cell enables the staff/students to pursue research and participate in consultancy works. R&D policy states that the rules & regulations pertinent to research are should be followed by every individual involved in R&D activities.

**Vision:** To facilitate innovative and multi-disciplinary research in collaboration with industry to meet global needs by involving the all stakeholders.

**Mission:** Develop an eco-system for R&D activities through effective contributions of the staff and students to actuate industry relevant innovative projects, prepare the research proposals, apply for funding agencies, publish papers, patents that leads to entrepreneurships and startups.

### ❖ Objectives

1. Create zeal in staff/students to take-up multidisciplinary innovative research and publish papers in conferences/journals of national/international repute.

2. Strengthen the R&D activities and get recognition from SIRO/DST/university/DRDO.

3. Ink MoUs with industries, collaborate with institutions of higher learning and R&D organizations.

4. Foster scientific temper, assure R&D quality and ethical efficacy.

5. Create centers of excellence in niche/thrust/emerging areas of research.

6. Recommend for financial assistance for various R&D activities.

7. Identify and inform researchers about the appropriate research opportunities announced by different academic, research, and industry or government organizations.

8. Encourage students to undertake innovative projects and publish the same in reputed journals.

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9. Provide scope for staff/students to work on latest technologies with industry.

10. Take-up testing/consultancy services in co-ordination with alumni, industry and stakeholders.

**Research and Development Committee:** A Research and Development Committee will be constituted in the institute. The committee will include Dean R&D, Coordinators from every department or faculty and a member secretary.

**Frequency of Meeting:** The Research and Development committee shall meet at least four times a year or as and when required. The member secretary in consultation with the chairman prepares and circulates the agenda of the meeting well in advance. The member secretary maintains the minutes of the meeting and action taken report.

**Quorum:** Two-third members constitute the quorum. If there is no quorum for the meeting convened up to half an hour, then the meeting shall stand adjourned to the next convenient day.

**Term:** The tenure of the members shall be three years.

❖ **Functions**

1. Prepare the annual R&D action plan along with R&D incentive policy for various R&D activities/programs.

2. Obtain the budget approval for various activities from finance & planning committee and GB.

3. Prepare a comprehensive list of funding agencies that allocate funds for R & D projects.

4. Motivate staff and students to publish papers/articles/manuscripts in conferences/journals of national/ international repute and to file/publish patents.

5. Encourage staff & students to prepare and submit R&D/AQIS/project proposals for funding by ISRO, DRDO, CSIR, DST, AICTE, UGC, MSME, hubs etc., within the stipulated time.

6. Formulate strategies for mutual benefit of stakeholders by fostering research collaborations in interdisciplinary areas of industry/govt./iits/tbis/professional chapters to address societal needs.

7. Monitor R&D project progress of various departments through visits to identify bottlenecks and propose remedial actions.

8. Maintain close liaison with industry and undertake sponsored projects.

9. Organize national/international conferences/workshops/seminars/training programs in thrust areas to enhance the professional and research skills among the staff and students.

10. Promote self-employability skills through innovation, incubation and entrepreneurship cell (IIEC).

11. Insist faculty members to publish their research work in Web of Science/Scopus indexed journals.

12. Maintain & update data of research, consultancy and extension activities of staff/students

13. Upload progress of R&D activities on the web portals of affiliating/accrediting/ranking agencies.

14. Constitute a review committee to adjudicate the originality & quality of the publications/projects/ consultancies/patents of staff/students and to recommend for incentives/appreciation and suggestions for improvement.



15. Consolidate the progress of R&D activities of all departments and submit report to the Director. Allocation of funds/seed-capital to various departments and staff members to take up R&D activities to established researchers both individually and also in groups.

16. Monitor the utilization of research funds appropriately as per sanctioned budget without any deviation.

17. Monitor the progress of R&D activities and send report in Gantt chart format to the Director.

18. Report on revenue generation by R&D projects/consultancies, open a separate bank account for each project and maintain all registers/records for audit by CA/IQAC/Director.

19. Perform any other duties as assigned by the Director time to time.

- **Promotion of Research**

The staff/students have free-access to R&D cell and choose the topic of their interest and also can provide free guidance to seek funds from various government organizations/industries. The institute encourages the faculty, provide incentives for peer reviewed publications, consultancy works, writing books and filing patents. The institute takes care of complete patent filing process as per national/international IPR guidelines & policies to commercialize a product/prototype/ design/service. The R&D cell provides necessary eco-system/conducive-environment with infrastructure/expert support to staff/students to take-up R&D, consultancy, innovation and intellectual capital. Staff is responsible to apply for various R&D agencies through individual/institutional login and pursue their R&D projects. However, the institute is always ready to provide seed-capital and ample support for all potential research projects which can generate revenue after commercialization of product/services.

- **Research at UG and PG Level**

To enhance quality research outcome, mentorship/internship shall be facilitated to encourage UG/PG students to pursue research activities leading to tangible outcomes, such as publication, process, novel, prototype, design and functionality changes. Research component is already embedded in the curriculum at all levels/years of their academic/professional stay/association at the institute being a society member in various clubs/committees/cells/chapters/associations and also as a student member. The staff members of the institute shall provide suitable professional/ expert guidance in all spheres of student R&D activities.

The UG/PG students are encouraged to take up a module/content in the ongoing research projects funded by government agencies/industries with the support of investigators. Those students who are the part of funded projects should transfer know-how to other UG/PG students for further research.

- **Seed Funding:**

**1. Introduction**

To promote a vibrant research culture and encourage faculty and students to undertake Innovative and especially interdisciplinary projects, it is proposed to allocate Seed Money Funding within the institution. This fund will support preliminary research, prototype development, pilot studies, and activities that can potentially lead to externally funded projects, patents, or publications.

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**2. Objectives of Seed Money**

The Seed Money aims to:

1. Encourage faculty and students to initiate research projects.
2. Support innovative ideas leading to prototypes or proof-of-concept models.
3. Generate preliminary results for submitting proposals to agencies like AICTE, DST, SERB, DRDO, and others.
4. Promote interdisciplinary, industry-oriented, and socially relevant research.
5. Enhance institutional research output through publications, patents, and technology development.

**3. Eligibility**

a) All full-time faculty members of the institution.

b) Student groups guided by faculty members.

**4. Types of Projects Supported**

a) Prototype or product development

b) Development of Instrumentation

c) Technology-driven community solutions

d) Student mini-projects and pre-incubation ideas

**5. Funding Limit per Project**

| Category | Maximum Funding for a duration of one year |
|---|---|
| Faculty Research Project | ₹50,000 – ₹1,00,000 |
| Student Innovation/Prototype Project | ₹10,000 – ₹30,000 |
| Interdisciplinary Collaborative Project | Up to ₹1,00,000 |

***Note:** a) Higher budgets may be approved for exceptional proposals.

b) 60% disbursement after sanctioning of proposal after producing the receipt of the expenditures and remaining 40% after completion of project

**6. Budget Utilization Heads**

Seed money may be used for:

a) Purchase of consumables and small equipment

b) Software licenses and simulation tools post approval from higher authority

c) Testing and characterization charges

d) Fabrication, machining, or external laboratory support

e) Field survey and travel (local)

f) Conference Registrations (with Publications in Only SCI/Scopus indexed)

g) Patent filing fees

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h) Student support for prototype building

**Not permitted for:** any travel, salary, large capital equipment.

**Note:** All purchases must be made with prior permission and as per the institute norms.

**7. Expected Outcomes**

Every project with seed funding must produce **at least one** of the following:

a) At least one SCI/Scopus indexed research publication

b) At least one patent filing or technology disclosures

c) Presentation of work in an International Conference with publication in Scopus indexed journal or proceedings or book chapter

d) Prototype development for competitions or startup ideas

e) Enhanced institutional research ranking and accreditation quality metrics

**8. Monitoring and Reporting**

a) Mid-term progress review by Research and Development Cell

b) Final report submission with utilization certificate

c) Presentation of outcomes during Research/Innovation Day

d) Any un-utilized funds to be returned to the Research and Development Cell or Institute

❖ **Research Laboratories**

The following research laboratories and Centers of Excellence are established in the college to train the students in advanced technologies to carry out the research work.

a) Square Wave Lab: This Lab gives the opportunity to the students to validate their knowledge and skills Hand-on experience of work and wide exposure during study period and also create & assure new opportunities for our students in the job market.

b) CAD/CAM Lab: Construct solid Models with the help of Solid Modeling and Simulation packages including Solid Works and ANSYS.

c) Mechanical Workshop: equipped with CNC lathe, conventional lathe, welding shop to carry out project related activities.

❖ **Sponsored Research Projects**

The staff-research-proposals are to be submitted to R&D cell for scrutiny and further submission to the funding agencies such as AICTE, UGC, DST, etc. The institute supports the execution of a R&D project in all manners. The funds must be credited into the college bank account from the sanctioned R&D organization and covers all the heads of budget proposal without any deficiency. No deviations of any nature are allowed and shortage of funds met through honorarium and remuneration. However, escalations of cost of executing a project beyond control shall be brought to the notice of the Director for further action and approval. Any staff member can collaborate in any major research project for publications/patents. UG/PG students must be involved in the sponsored research projects and can be remunerated if possible.

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❖ **Collaborative Research Projects**

**(i) Industry Sponsored Research Project:** A public/private sponsored projects can utilize experts of the institution concerned to conduct research. If any patent is registered, then there shall be a sharing of income generated from patent among the industry, researcher and institute. This will lead to following benefits:

a. The researcher will get an exposure to the concerned area of research.

b. The industry will get solutions to their problem.

c. The researcher, institute and industry can get the end-benefits.

d. The society is ultimate beneficiary with new R&D product or service.

**(ii) Multi/Inter disciplinary Research:** Interdisciplinary/multidisciplinary research is the need of the hour. No department, institution, researcher or scholar can alone address any problem. The end results of R&D can only be derived with proper interaction between and amongst various other discipline faculties. The institute motivates all the staff members to involve in multi/inter disciplinary R&D activities. The following actions are in vogue:

a. Identify the multi/inter disciplinary R&D areas.

b. Identify the experts from various disciplines to work together on projects.

c. Study the infrastructure requirement of various disciplines.

d. Explore possibilities to find other resources for such multi/inter disciplinary research.

**(iii) Inter-Institutional Research:** The staff members are encouraged to prepare the proposals in collaboration with well-established research institutes such as Universities, NITs, IIITs, IITs, and other organizations having similar interest. The staff may act as Principal investigator/Co-investigator depends on their contribution towards the research.

❖ **Incubation Facility:**

The development of an incubation center at an institute is a strategic initiative designed to foster innovation, entrepreneurship, and economic growth by supporting startups and early-stage ventures. Here's a typical framework for developing and implementing an incubation center:

**1. Define the Objectives**

- Encourage Entrepreneurship: Inspire students, faculty, and alumni to pursue entrepreneurship and innovation.

- Support Innovation: Provide a structured environment where novel ideas can be explored, tested, and developed.

- Create Industry-Academic Links: Foster collaboration with industries for real-world insights and support.

- Contribute to Economic Development: Generate employment opportunities and economic value through successful startups.

**2. Identify Target Audience and Sectors**

- Audience: Primarily students, faculty members, researchers, and alumni with promising business ideas or prototypes.

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- Focus Sectors: Based on the institute's strengths (e.g., technology, biotechnology, healthcare, energy), align the incubation center's resources and expertise with specific sectors to better support startups in these areas.

**3. Set up the Infrastructure**

- Space and Facilities: Provide physical workspaces, meeting rooms, and collaborative areas for startups.

- Technology and Resources: Offer high-speed internet, office equipment, labs, and prototyping facilities (e.g., 3D printing).

- Specialized Labs: For technical institutions, setting up industry-grade labs with tools and equipment relevant to the focus sectors can be critical.

**4. Develop Support Services**

- Mentorship and Guidance: Develop a network of mentors from academia and industry who can guide incubated startups on technical and business challenges.

- Training and Workshops: Provide regular training sessions on entrepreneurship fundamentals, product development, marketing, finance, and legal requirements.

- Business and Legal Support: Offer support for business registration, intellectual property rights, contract drafting, and other legal services.

- Market Access and Networking: Facilitate connections with potential customers, suppliers, investors, and strategic partners through events, networking sessions, and expos.

**5. Establish Funding Mechanisms**

- Seed Funding: Provide initial seed funding or grants to promising startups within the incubation center.

- Investor Access: Establish partnerships with venture capitalists, angel investors, and financial institutions willing to support startups.

- Government and Private Sector Funding: Tap into government grants and industry sponsorships to create a diversified funding pool.

**6. Develop an Application and Selection Process**

- Application Portal: Create an online portal where potential entrepreneurs can apply to the incubation center.

- Selection Criteria: Develop clear criteria for selecting startups, such as innovation potential, feasibility, market need, and alignment with the incubation center's objectives.

- Review Panel: Form a selection panel with academic, industry, and entrepreneurship experts to evaluate applications and provide feedback.

**7. Implement a Structured Incubation Program**

- Pre-incubation: Offer support for idea validation, market research, and prototype development for early-stage ideas.

- Incubation: Guide startups through the development, testing, and refinement of their products or services, including MVP (Minimum Viable Product) development.

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- Acceleration: For startups ready to scale, provide more intensive support for market entry, investor pitching, and scaling operations.

**8. Monitoring, Evaluation, and Graduation**

- Regular Progress Reviews: Conduct periodic reviews to track progress and identify areas where additional support may be required.

- Performance Metrics: Set key metrics like product development milestones, market traction, and financial viability to evaluate success.

- Graduation Criteria: Define criteria for graduation, such as revenue targets, product readiness, or funding achievements, and provide post-graduation support or alumni status for ongoing access to resources.

**9. Forge Industry and Academic Partnerships**

- Collaborate with industry leaders for internships, mentorships, and technical expertise.

- Involve academia in R&D support and student engagement, ensuring startups have access to cutting-edge research and skilled interns or employees.

**10. Ensure Sustainable Operations**

- Revenue Streams: Develop income streams, such as equity stakes in startups, fee-based services, and revenue-sharing models.

-Funding Sources: Secure ongoing funding through government programs, industry sponsorships, grants, and successful alumni ventures.

- Community Engagement: Engage with the local community through events, workshops, and demonstrations to promote the incubation center's impact.

A well-designed incubation center can significantly enhance an institute's entrepreneurial ecosystem, contributing to innovation, job creation, and long-term economic growth.

**Intellectual Property**

In case of any innovation/invention, the institute will encourage the researcher to file a patent. The institute has collaboration with the third party agency, which will process the patent application. The institute shall bear all the expenditure in filing of patent application. If the patent is commercialized, then the revenue sharing would be as per IP Policy of the Institute.

❖ **Research Paper/ Book Chapter Publication / Conference Presentation Policy**

**1. Introduction**

Institute Research and Development Policy was framed and implemented from January 2025. Based on the suggestions provided by the Faculty members, head of the departments, following amendments are proposed for upgradation in the policy and its effective implementation.

**2. Amendments for Journal / Book Chapter Publications or Intellectual Property:**

**2.1. Undergraduate Publications:**

2.1 a) The number of authors has to be limited to five for Undergraduate publications, including students and supervisor.

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2.2 b) If the name of an industry person is to be included for their contribution in the project, the authors need to take a written permission of Director, to include co-authors from industry with the consent of authors.

2.2 c) In the case of interdisciplinary projects from multiple branches, the number of authors could be increased to six (four students and two supervisors).

2.2 d) The incentives for journal publication will be applicable only for Scopus/Web of Science/ SCIE/ESCI journals.

**2.2. Post-graduate Publications:**

2.2 a) The number of authors are limited to two for Post-graduate publications.

2.2 b) The two authors must include the Post-Graduate student and his / her supervisor only.

2.3 c) If the name of an industry person is to be included for their contribution in the project, the authors need to take a written permission of Director, to include co-authors from industry with the consent of authors. The concerned name should be at author position 3.

**2.3. Faculty Publications:**

2.3 a) If a group of Faculty members from Yashoda Technical Campus, Satara, are contributing for a publication, the number of authors and co-authors should not exceed three.

2.3 b) If a faculty member from Yashoda Technical Campus, Satara, is contributing to journal publication/book chapter along with faculty members from other institutes, the incentive policy will be applicable only if the name of the faculty member from Yashoda Technical Campus, Satara, appears as author position 1 or 2 or 3 in the journal /book chapter publication.

2.4. The manuscript scrutiny form needs to be filled, got it approved from concerned authority before submitting any manuscript to any journal /book/ conference without which no claim for incentives will be entertained. The same will be applicable to filling for Intellectual Property (IP) also.

2.5. Revision in the Incentives for the faculty members based upon their publication in Scopus/SCI/SCIE/ ESCI journals (twice in an academic year)

| **Journal Quartile** | **Incentive for the First Author (in INR)** | **Incentive for the Second Author (in INR)** | **Incentive for the Third Author (in INR)** |
|---|---|---|---|
| Quartile 1 | 10000 | 8000 | 5000 |
| Quartile 2 | 8000 | 6000 | 4000 |
| Quartile 3 | 7000 | 5000 | 3000 |
| Quartile 4 | 6000 | 4000 | 3000 |
| No Quartile but Scopus/SCI/SCIE/ ESCI journals | 2000 | 1500 | 1000 |
| **Book Chapter** in Scopus Book Citation Index or Web of Science (WoS) Book Citation Index | 6000 | 4000 | 2000 |

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**Note:** Incentive policy is applicable only for unpaid / subscription based journals/ book chapters. No incentive is applicable for book chapter or journal publication in a paid journal.

2.6. The incentives for author positions at four or more will be shared from incentive of author position three (in exceptional cases only).

2.7. Incentives are applicable for Journal papers or Intellectual Property only if author/s have Institutional affiliation (**Yashoda Technical Campus, Satara**) on published or granted work.

2.8. In case of any unethical practice, leading to retraction of published work or any kind of publishing restrictions imposed by publishing houses, no incentives will be applicable and if disbursed, the author/s have to return the incentives to the institution.

**2.9. Incentives for citations**

• INR 1000 for every 10 Scopus citations received in a Calendar year (data to be obtained from Scopus) after verification.

**2.10 Conference Registration Reimbursement:**

2.10 a) Full registration fee of the conference could be reimbursed for the presenting author, provided the presented work will be published in Scopus indexed proceedings or a journal or a book chapter.

2.10 b) The conference presentation scrutiny form, duly approved by the concerned authority along with conference brochure, have to be submitted prior to complete the registration for the conference.

2.10 c) The presenting author has to submit the certificate of presentation within 60 days from the date of the conference.

2.10 c) For presentation in an International Conference abroad, permission need to be taken before from higher authority submitting the abstract or paper (whatever is the case) or before registering for the conference.

2.10 d) No claim for incentives will be entertained for the published work through conference, unless it is a Quartile 1 or Quartile 2 journal.

Patents and Book Chapters

1. The fee for patent filling will be borne by institute; provided "Institute" is, the First applicant and Inventors (with institute address) belong to the institute.

2. For the Patents filed & published filed & published individually (wherein institute does not bear any filling charges) and applicant not being Institute, reward of Rs.5000/- will be given to the first Inventor with institute address.

❖ **Code of Ethics for Research**

1. Academic Honesty: The institute holds high respect for honesty in all scientific communications in reporting data, results, methods, procedures, and publication status. The institute does not entertain fabrication, falsification, misrepresentation of data. Deceit of colleagues/funding-agencies or public is considered misconduct on the part of the researcher.

2. Integrity: The institute gives high regard for keep-up promises & agreements and sincerity & consistency of ideas and implementation.

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3. Carefulness: One must carefully & critically examine one's own work, associates/team work and keep a record of research activities such as data collection, research design, and correspondence with agencies of journals.

4. Respect for Intellectual Property: Honor patents, copyrights, citations, and other forms of intellectual property. One must not use unpublished data, methods, or results without permission. Authors should give proper acknowledgements/citations and avoid plagiarism.

5. Confidentiality: The author should protect confidential communications such as documents, works, blue-prints, papers, publications, observations, trade secrets and patent records.

6. Social Responsibility: Mitigate social harm through research and public education/advocacy

7. Competence: Improve professional competence and expertise throughout life in education & learning and promote research competence in all aspects of research.

8. Legality: A researcher must know and obey government policies, relevant laws and institutional rules and regulations with regards to IPR issues.

9. Protection of Human Subjects: Minimize harms & risks to human subjects, use special precautions with vulnerable situations and respect human dignity/privacy/autonomy. Equitable distribution of benefits and burdens of R&D.

10. Rules for P1agiaraism: All project/seminar reports, dissertations/thesis, research papers, case studies, and any such documents need to be checked with the standard plagiarism software tool. In case of project/seminar reports, dissertations/thesis, the concerned student needs to submit a plagiarism report generated by a licensed software tool.

- **Relationships with Community**

a. R&D outputs such as data, information, graphs, reports and documents are disseminated to the stakeholders in all possible ways including social media without any loss of confidentiality.

b. Researchers of the institute exercise due diligence and involve judiciously into research activities which are not detrimental to the interests of society/community/environment/stakeholders.

c. Researchers will exercise their rights to academic and scientific research freedom and are accountable to the community.

- **Relationships with Sponsors**

a. The methods, contents, results, reports, documents, designs, publications, etc of research shall be fully disclosed to the funded agencies on final settlement.

b. Researchers shall be honest with sponsors about their research contribution & involvement along with qualifications, research expertise and skills. Researchers should follow standard code of ethics in disclose of content of research and maintain confidentiality with sponsors.

c. Researchers shall utilize sponsor's funds only for the purpose for which it is meant for.

- **Relationships with Research Participants and Research Objects**

a. Researchers should respect their team members with freedom, dignity, privacy and integrity.

b. Researchers shall treat non-human living beings with care, respect, awareness, vulnerability and defenselessness.

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c. No researcher should be harmful to the environment and maintain ecological balance.

d. Researchers should follow standards and norms of global waste management system.

e. In case and if research demands the use of human personal data & observations, the researchers have to obtain a prior consent from the person and their family members.

- **Withdrawal of membership from R&D project**

Researchers can withdraw from the approved research in writing through proper channel and on the consent of sponsoring agency. Researchers should use the approved funds for that project only as per sanctioned heads of budget. Researchers should return the received money/money's worth to the institute if they didn't attend any professional development activities which are contributory to the R&D project.

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