



University of Engineering & Management (UEM), Jaipur

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Research Policy

HANDBOOK

of

**University of Engineering & Management,
Jaipur**

(Established – 2012)

Content of Research Policy Document

Sl No	Details
1.	Introduction and overview
2.	Strategic plan
3.	Structure of R &D activities
4.	Initiations to promote R & D activities
5.	Resource Mobilization
6.	Innovation eco-system and IP policy
7.	Research Publications and Awards
8.	Research Consultancy and Consultancy policy
9.	Code of Research and Ethics
10.	Research Extension and Collaboration activities
11.	Formats and Guidelines

This document provides the Research Policy of University of Engineering & Management (UEM), Jaipur, and is based on the statute and regulations of the University. This document provides policies and practices, to support and enhance research activities. This document should be read in conjunction with the relevant Ordinances and Regulations, and any other policies, procedures or guidance as may be issued by the University from time to time. This document shall be kept under review by the Research Board of the University.

In the present context of the globalized world, the role of research in an academic institution is significant for its sustainability and development. It is imperative to have knowledge-driven growth based on innovation. The quest for knowledge is the basic principle behind the research. The quality of research work directly translates to the quality of teaching and learning processes in the academic institution, thereby benefits the students, the society, and the country at large. The promotion of research in a huge and diverse country like India will help the nation evolve as a knowledge reservoir in the international arena.

However, not many institutes have mandatory research goals for individual faculty, and most do not have adequate systems or infrastructure to support quality research. The lack of an encouraging academic environment, ill-equipped libraries, inadequate labs and equipment, poor infrastructure, lack of funds, faculty crunch, etc. are some of the factors contributing to the dismal picture of research in a typical Indian academic institution. To have research universities that can interact with the top universities in the world, these universities need to be given adequate support to enable them to partake in the global knowledge economy at the same level as that of the top universities. Interaction among world-class universities entails international student mobility, faculty exchanges, research, and teaching programs that require a globally competent academic labour force.

Thus, one needs to emphasize on the necessity of research-oriented teaching. Educators engaged in research are updated with the latest developments in their chosen subjects apart from all that is mentioned in the reference books. Thus, educators familiar with research-based teaching can help students to undertake research activities. This commitment to research is aligned with the national imperative to encourage more postgraduate studies, to increase the production of traditional research outputs (as defined by research articles, books, book chapters, and conference proceedings) and to expand the pool of researchers that can contribute to knowledge production and innovation in our society.

In view of the prevailing academic scenario, the purpose of this **Research Policy Handbook** is to;

- present a policy framework for the management, support and development of research at the UEM Jaipur,
- provide a strategy for achievement of the research goals.

This policy document is expected to address the issues of both applied and basic research, Innovation and Technology development. The policy outlines strategic plan, the guiding principles regarding the management, support and development of research for all those involved in research activities at UEM Jaipur. It is applicable to all the temporary, fixed term contract and permanent employees as well as registered students of the University.

The **aim of the research policy** is to:

- a) Provide a framework for the promotion of research and development;
- b) Provide resources for continued high-level, effective and efficient support for research and affirm research as a priority;
- c) Provide eco-system for innovation and entrepreneurship.
- d) Ensure effective communication (internally and externally) about the principles and policies on which the research activities of the University are founded with the responsible conduct in research
- e) Provide support for consultancy, collaboration and outreach (Extension) activities to enhance the research culture.
- f) Integrate support for both undergraduate and postgraduate research into the main stream research.

The first four sections describe introduction and overview of the university, strategic plan to work to promote the research activities, the structure of the research and development activities, and code of conduct of research. Sections 5 to 10 provide different policies and schemes for a research promotion, resource mobilization, Innovation eco-system, research publications, consultancy, collaborations and outreach (Extension) activities. The last section provides formats and different guidelines for the operational aspects of research and development activities.

The structure and process of research policy document will be reviewed and revised by the Research Board during its ongoing regular meetings. The Research Board will review and amend these policies and guidelines as it deems necessary and appropriate.

2. Strategic plan

The times have changed, and the higher educational institutions need to continually innovate to maintain and enhance their relevance to meet the ever changing demands of global economies. Apart from delivering good quality education, the institutions are expected to develop their capacity in research and innovation. They also need to undergo a fundamental transformation in terms of their role in the society, mode of operation, and economic structure and the scale at which they operate.

The strategic themes are evolved from the university's primary commitment to outstanding learning and student experience, impactful research, and societal engagement. These three interwoven strands of a triple helix; teaching, research and engagement that shape and reinforce one another, define our aspirations and focus. The second theme of Impactful research is provided in this document.

The proposed strategic plan comprises the identification of the strategic research goals and also the resources and actions required to achieve the stated goals. It serves to give effect to the Research Mission statement and the concomitant core value. The proposed strategy has been informed by a range of imperatives both external and internal to the university, and is described within the framework of the National R&D Strategy.

2.1. Goal: impactful Research

As the institutional goal, UEM Jaipur will actively nurture and organize its research efforts and creative endeavors to enhance regional, national and global impact and reputation as a research-intensive University.

Performance improvement in terms of various standard research metrics is a necessary step for obtaining credibility and resources needed to elevate UEM Jaipur in the Indian higher education system. A greater part of the research effort will be aligned / concentrated in the areas of national interest. The plan is to build on these areas to develop substantial research strength by selective strategic investments, research leadership and support. This selective strategic investment will be provided to inter-disciplinary and disciplinary areas.

2.2. Focus

Develop substantial research strengths by aligning the areas of present strengths and areas of national interest by selective strategic investments, leadership and support

- a) Evolve strategic research roadmap for each School of the University by identifying research focus areas (RFAs) that build on present strengths and future opportunities.
- b) Implement an integrated and coherent University-wide approach to planning, delivering, managing, rewarding and funding research across all the Schools.
- c) Enhance research active faculty.
- d) Establish metrics to measure and reflect research output and impact using a range of measures at individual and institutional level.

2.3. Interdisciplinary Research Centers

Build strategic aggregations of people and programs to strengthen interdisciplinary areas of research & development that will enable UEM Jaipur to compete successfully for large funding opportunities and provide the ability to create innovative solutions to societal needs.

- a) Promote and support interdisciplinary research and development centers that leverage breadth of our expertise to address the complex problems faced by our nation and the world.
- b) Ensure that these centers give priority to problems/opportunity-focused projects/products that demonstrate successful interdisciplinary collaboration and address the market needs.

2.4. Funding

Foster a supportive environment for research by facilitating access to internal grants and providing strategic expertise to maximize external grants.

- a) Build University Research Fund for providing internal support to Schools and Centers to enhance their research profile.
- b) Establish appropriate process to provide seed funding for research projects that can be leveraged in obtaining external grants.
- c) Seek funding from governments, research agencies and industries to sustain the research initiatives and enable specific research projects.
- d) Drive the commercialization of research and technology transfer, through mechanisms such as licensing, patents, creating spin-off companies and supporting external entrepreneurs.

2.5. Programs

Enhance quality and relevance of the doctoral research programs to emerge as an institution of choice for researchers.

- a) Continue to invest in research capacity development to attract and support more number of doctoral students in disciplinary and interdisciplinary RFAs.
- a) Strengthen the interconnectivity between research and teaching/learning, including the participation of undergraduate and postgraduate students in the University research programs.
- b) Evolve innovative enrolment strategies to recruit and support full time researchers and personnel from industry

3. Structure of R &D

The research promotion and development activities of the university is supported and managed by the Research and Development (R & D) center of the university and headed by Dean R & D. The cell provide administrative and managerial support for the operation of sponsored research, consultancy and related activities of the Institute. The Cell facilitates interaction with external agencies, both at national and international levels. It also promotes and manages Institute-Industry interactions and all externally funded research and development projects as well as patents. The Cell

acts as a liaison between the Institute and funding agency to undertake sponsored projects.

The Research Board is the regulatory body of the university to formulate policies, guidelines and effectively responding to the challenges of the university towards enhancing research activities.

3.1. Research Board

Research Board, which is the principal research body of the University, shall formulate the research policies and research programmes. Research Board shall review and supervise implementation of research strategies and policies. Research Board shall seek the approval of the Executive Council in all matters.

Objectives of Research Board is to:

- a) Guide the strategic orientation required to advance research profile of the University.
- b) Advise Schools, Departments and Centers to evolve their strategic research roadmap.
- c) Review policies and regulations to enhance quality of Ph.D./ M.Tech. programs
- d) Regularly review research progress of Schools/Departments in terms of appropriate parameters.

The Research Board shall consist of the following:

- (i) The Vice-Chancellor - Chair Person
- (ii) The Pro Vice Chancellor - Member
- (iii) Head of the Department of Innovation - Member
- (iv) Deans of all Faculties – Members and
- (v) Such other members as may be specified in the Statutes.
- (vi) The Dean of Research – Member Secretary

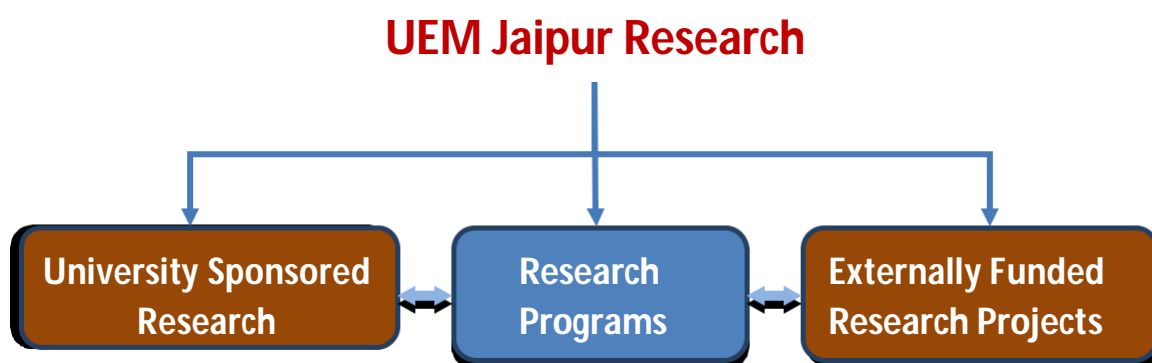
3.2. Funding policy of R & D activities

UEM Jaipur shall provide 5% of total revenue for R & D activities. This policy is presented in the second Research Board and is approved by the university process regarding a funding policy.

3.3. Components of R & D

Research at UEM Jaipur is carried out under 3 different components:

(i) University sponsored research, (ii) Research programs, and (iii) Externally funded projects. Figure shows the components of R & D activities.



- (i) **University Sponsored research:** University promotes the research at individual faculty level, group of faculty at the department or inter-department research. Every Year University identifies, reviews and funds are sanctioned to carry out research at individual faculty level, research groups, research clusters, product design and development groups, etc. The details of these are provided under initiations to promote research.
- (ii) **Research programs:** The schools/departments/centers offer research programs.

Research Center: Research Centre encompasses the research activities at the school/department level. There can be multiple areas of research pertaining to the disciplines based on the faculty expertise available in the department. These centers will also focus on offering of formal degree like M.Tech and PhD. They will also contribute towards imparting research experience for UG and PG students.

- (iii) **External funded projects:** The University has set rules to carry out external funded research and consultancy projects. The faculty as a Principle Investigator (PI) can write and get the external funded research and consultancy projects.

4. Initiations to promote R & D activities

This section provides the details of challenges faced to enhance the research culture, objectives to promote research culture, and initiatives and research promotion schemes of the university to enhance the research culture. The details of courses offered to undergraduate students to enhance the research output is also presented.

4.1. Challenges: As per the strategic plan of the University the university has taken number of initiatives to promote and enhance research culture for faculty, group of faculty and students. These initiatives and research promotion schemes are reviewed by the Research Board every year and appropriate recommendations are provided.

The research initiatives are necessary to address the following challenges:

- Lack of Synergy in research initiative
- Lack of visibility to attract funding
- Lack of experience of funded projects
- No tradition of research and
- Inadequate support facility
- No reward for research

4.2. The Objectives to promote R&D activities are:

The objectives of initiating RCs/RGs or PDDG are to enable focused research, attract funding, IP generation, productization, start-up support, and synergize the efforts of faculty and students to gain greater recognition for the University at National and International level.

4.2.1.1. The identification of faculty groups for RCs/RGs or PDDG will be based upon need of the University, talent, passion and the ecosystem, which will sustain them, and then eventually lead to recognition as CoEs.

4.2.1.2. Human resource: Each RC/RG may recruit Research Associates (junior or senior) to carry out the research activities of the cluster/group.

4.2.1.3. Each RC/RG needs to provide roadmap for 3 years. Fund release for the first year is subject to the acceptance of the roadmap. However, subsequent fund release depends on the success of the roadmap.

4.2.1.4. Faculty or group of faculty applying for PDDG can recruit research associates and the group needs to provide roadmap for 3 years. Fund release for the first year is subject to the acceptance of the roadmap. However, subsequent fund release depends on the success of the roadmap.

4.2.1.5. The budget for each RC/RG or PDDG faculty group is Rs.2L to 10L and can be revised as per the recommendations of the university rules.

4.3. Research promotion Schemes:

To promote research in emerging and high impact areas, the University has undertaken initiatives to identify and nurture research clusters/research groups (RC/RGs) and provide funds for Product Design and Development initiatives. The university also has taken an initiative to provide seed money to individual faculty through capacity building projects. The aim is to develop these clusters/groups to a level of competency that makes them further emerge as Centers of Excellence (CoE).

The Following research promotion schemes are initiated since 2015. Every year the call for proposals are sent to all faculty for the different internal funding schemes of the University. The review committee reviews these proposals and approves the funding. This fund is for one year and faculty or group needs to write fresh proposal for continuation or new proposals.

- Capacity building projects
- Research Groups and Clusters
- Facility creation for Product design
- Incentive for R & D activities

The following section give brief details about these activities.

4.3.1. **Capacity Building fund:** Capacity Building fund is the seed finding provided to the individual faculty to initiate the new areas of research and grow the research activity in an area aligned with focus areas of School/Department.

4.3.1.1. The objectives of these projects are:

- To enhance the research capability of the faculty and research center/cluster/group.
- To provide the experience of carrying out a research project.
- To facilitate the process of applying for funds from external funding agencies.

4.3.2. **Research Cluster (RC):** Research Cluster is theme centered, e.g. energy, material science, ESDM, CVG, data analytics, etc. These centers synergize the efforts and expertise of faculty across the departments and create a platform towards building higher levels of inter-disciplinary research/development /technology-translation/productivity. The aim is to get recognition and visibility in a chosen theme.

4.3.3. **Research Group (RG):** This is similar to RC, wherein collaborating faculty can be from the same department or across departments. Research Group leads to initiation of research clusters in the collaborating area over a period of time.

4.3.4. **Centre of Excellence (CoE):** The identification of RCs/RGs will be based upon the needs of the University, talent, passion and the ecosystem, which will sustain to evolve into Centres of Excellence (CoEs). This will help to identify the clusters of competence, which then go through two phases before emerging as CoEs. In Phase-1, RCs define roadmap, orient research and build capacity. In Phase-2, RCs contribute towards publications, funded research and consultancy projects, patents, etc. before elevating to a CoE. The CoEs

will collaboratively work with University's innovation and entrepreneurship center (CTiE), and product design and development centers (CIPD).

4.3.5. Product Design and Development Grant (PDDG): The Product Design and Development Grant (PDDG) is given to a faculty or a group of faculty who involve in product innovation, design and development activity of the University and supports start-ups and industry. These faculty groups bring together the skill set and expertise of multidisciplinary group of researchers from Schools, Departments, RCs/RGs and industry towards technology translation, design and development activity of a product

4.3.6. Faculty student start-up grant (FSSG): This grant is given to faculty or group of faculties who involve with the startup and students towards a product development and deployment.

4.4. Research Courses for Students: Introduction of a research Courses for undergraduate students to enhance the research culture. Number of research courses are offered to the students of undergraduates. All these courses are 6 credits and Students of B.E. program may register for these courses in place of 2 electives.

4.4.1. Research Experience for Undergraduates (REU): This course has the following details:

4.4.1.1. Objectives:

- To provide real-world, hands-on research experience for students.
- To provide an opportunity to work directly with a faculty member on a bonafide research project.
- To work in research groups in the industry to solve local problems in an innovative way.

4.4.1.2. Faculty Supervisors: Faculty with doctoral degree individually or in a group can submit the research group proposal in the format given by the university.

4.4.1.3. Process of REU: During this course the UG students shall work on a research topic which reflects substantial understanding of the courses and capability to apply the same. At the end of the work the candidate shall submit a dissertation and will be evaluated by a committee of 3

members consisting of Head of the department, guide and an external examiner.

4.4.2. Institute research projects (IRP): Institutional research projects approved by the university R&D center. Typically IRP project goals are defined for 3 to 5 years with objectives for each year.

4.4.2.1. During this course the UG students in team shall work on a research project identified by the university R&D center. At the end of the work the Students team shall submit a report and will be evaluated by a committee of 3 members consisting of Head of the department, guide and an external examiner.

4.4.3. Institutional Sponsored Projects (ISP): Institutional approved projects for funding by the university R&D center. Typically ISP proposals have short term goals for an year and need institutional support.

4.4.3.1. During this course the UG students in team shall work on a research project identified by the university R&D center. At the end of the work the Students team shall submit a report and will be evaluated by a committee of 3 members consisting of Head of the department, guide and an external examiner.

4.4.4. Sponsored Research Projects (SRP): The research projects which have received external funding. The goals and objectives are as per the accepted project proposals.

4.4.4.1. During this course the UG students in team shall work on a research project objective given by the PI of the external funded project. At the end of the work the Students team shall submit a report and will be evaluated by a committee of 3 members consisting of Head of the department, guide and an external examiner.

4.5. Financial assistance for Conference

In order to encourage the faculty, to enhance the research culture and collaborations, UEM Jaipur provides financial assistance towards organizing and attending conferences and Faculty development programs. UEM Jaipur has a process for the review of the policies regarding financial assistance.

The faculty who wish to avail financial assistance under this scheme should submit their proposal to the R&D office. The review committee reviews the proposals and recommends. The Funds once released/sanctioned for organizing a particular activity cannot be utilized for any other Programme.

4.5.1. Organizing and attending Conference: The financial assistance is provided for organizing Conferences at National and International level in various fields of Technical Education. It intends to promote high standards in Technical Education by providing a forum to the academicians and working professionals for sharing their knowledge, experiences, innovations and inventions. Preference shall be given to topics of interdisciplinary nature, emerging and thrust areas in Technical Education.

UEM Jaipur provides financial support for both students and faculty to present their paper/s in the conferences held within India and outside India. UEM Jaipur has policy towards attending conference within and outside India. Faculty are also encouraged to apply for external agency for financial support in attending conferences.

4.5.2. Organizing and attending Faculty Development Programs (FDPs), and Staff Development Programs (SDPs): UEM Jaipur provides financial assistance to conduct and attend FDPs and SDPs. FDPs and SDPs facilitate up-gradation of knowledge, skill and also to provide opportunities for induction training to teachers and staff of the university. The objective of this grant is to enhance the teaching and other skills of the faculty, to make them aware about modern teaching tools and methodologies and to help them acquire knowledge about current technological developments in relevant fields.

5. Resource Mobilization: The University has a transparent and well-planned financial management system in which Government and Management are the main sources of funds. The resource mobilization policy focuses on achieving the goals and target of the institution ensuring accountability and transparency.

6. Innovation eco-system and IP policy

The university has taken concrete steps to establish favorable environment for the creation of innovation eco-system. University has taken number of steps for enhancing the Innovation and Entrepreneurship in the campus. University has a policy towards protection of Intellectual Property Rights and protecting Intellectual Property.

6.1. Innovation Eco-System: University has established UEM Jaipur– Institute Innovation Council (IIC) create an innovation eco-system. IIC has initiated many programs to enhance Innovation and Entrepreneurship activities by the students and faculty of the University.

UEM – Institute Innovation Council (IIC) is a Technology Business Incubator (TBI) recognized by Department of Science & Technology (DST), Government of India and a Technology Incubation & Development of Entrepreneurs (TIDE) 2.0 G2 centre recognized by MeitY, Government of India.

The student front of IIC, has been instrumental in driving the vision of the centre amongst the student community and encouraging them to think entrepreneurial through the events conducted.

Being Entrepreneurial, Thinking Entrepreneurial and Doing entrepreneurship has been the key driver of the incubator.

UEM – IIC attracts entrepreneurs predominantly because of collaboration with University ecosystem that helps the start-ups to get necessary support in terms of manpower, environment to test products, build products and by seeking support from mentors, the start-ups scale up and make a big mark in the industry. It attracts application for potential incubation from students, faculty, alumni, and other entrepreneurs in the making.

As a policy, UEM – IIC's charters are,

1. Enabling student start-ups on campus with end to end support in a conducive business/ technology ecosystem.
2. Create and nurture the culture of innovation leading to India specific products/ services.
3. Leverage student-faculty teams to build world class technology solutions.
4. Support faculty participation in start-ups as a policy.
5. Work with the state/central support system to bring the talent from the tier2/3 cities to the mainstream.
6. Encourage, support women entrepreneurs and female students in all aspects of innovation/entrepreneurship initiatives of UEM-IIC.
7. Making UEM- IIC a model incubator that can be emulated across India.

6.2. IP Policy: UEM Jaipur recognizes the importance of innovations and assists in translating them into products, processes and services for both commercial benefits and achieve the widest public good. The University Patent Policy states the procedure to be followed in the administration of inventions which result from teaching, research, and other intellectual activity performed under University auspices. A patent application can be filed by the faculty and student members of the university with prior permission in the Indian Patent Office, either with provisional specification or with complete specification, along with fees as prescribed in the schedule. The committee reviews the applications and recommends the financial support

depending on the merit of the application. Patent fee and other related fees are permitted for grant of support from the University. UEM Jaipur's IP policy is designed to identify, protect and leverage the bouquet of IPs that is generated from research – patents, copyrights, design rights and trademarks amongst others, that serve the purpose of knowledge diffusion and commercialization. The features of IP Policy aim to meet such needs and enable UEM Jaipur to achieve it's vision. IP policy also eludes to various agreements to transfer, share and monetize IP rights. The following documents are part of the IP policy

6.2.1. Non-disclosure agreement (NDA)

6.2.2. Technology transfer agreement

6.2.3. Joint IP agreement

6.2.4. Invention Disclosure Form

The University has developed IP review and IP filing process which aids inventors to protect their IP rights. The policy is reviewed annually and revised as per the requirements and developments of the University and IP rules and regulations of India.

The organizational structure for IP Eco-system is as follows

1. IP Steering committee (VC, Dean R&D, Registrar etc..)
2. IP Review committee (Technical experts)
3. IP Coordinator
4. IP Departmental coordinator
5. IP Legal counsel

7. Research Publications and Awards:

The University aims to improve overall research performance and promote research activities undertaken by various departments, faculty members and students. The Research Incentive Scheme (RIS) provides the means to assist with research activities or reward to faculty for successful quality publication or presentation of research outputs. The University awards incentives for various research activities like quality publications, for successful completion of external funded research projects and for successful guidance to the doctoral students. The following points gives the details about awards.

- 7.1.1. Research Incentive Scheme guidelines are reviewed and revised during Research Board meeting if necessary or the guidelines are continued until the revised guidelines are provided for every academic year.
- 7.1.2. The application process is also presented in the guidelines, and the information regarding guidelines and formats are shared with all the stake holders after the Research Board meeting.
- 7.1.3. The application process includes, the submission of the award application by a faculty wish to apply for the awards in the format given by the R & D office.
- 7.1.4. All the award applications are reviewed by the Incentive Committee and the awards/incentives are recommended.
- 7.1.5. The awards are provided in the following categories;
 - 7.1.5.1. **Awards for Quality publications:** In order to encourage the faculty of UEM Jaipur towards making high-quality scientific publications, financial incentives will be provided. Authors of International Journal papers, books or book chapters are provided with incentives as per the guidelines of the university.
 - 7.1.5.2. **Awards for External funded research projects:** To encourage and enhance the applications to the external funded research projects, the university has the award scheme for PIs (Principle Investigators) of the external funded projects. The PIs shall apply for the award after the successful completions of external funded research project and submission of the utilization certificate.
 - 7.1.5.3. **Award for supervising the doctoral students:** To encourage faculty with doctoral degree to supervise the doctoral students, University provides awards and incentives to the supervisors of doctoral students, doctoral students need to be working as a faculty in the University. The supervisors can apply after the successful completion and award of doctoral degree to their doctoral students.

8. Research Consultancy and Consultancy policy

- 8.1. **MoUs:** The University has established technological ecosystem for promoting research consultancy and collaboration with other Institutions/Industries of repute operating under various MoUs.

8.2. Consultancy policy: To develop outreach activity, the consultancy is one of the activities. In this regard the faculty of UEM Jaipur has the potential to carryout consultancy. Hence it is proposed to give permission to carry out consultancy and any financial gain out of this may be shared between the institution and faculty & the staff involved. It is proposed that there can be three levels of categories depending upon the financial involvement of institution and the share of distribution of financial gain can be different for different categories

8.2.1. Category I: Here faculty / staff uses the infrastructure like building, electricity, water etc. along with materials for testing, prototyping, material preparation etc.

8.2.2. Category II: Here faculty / staff uses the infrastructure like building, electricity, water etc. only.

8.2.3. Category III: Here faculty visits outside, uses intellectual developments due to the developments in the Institution and gets a duty leave.

Depending upon the categories it is proposed to have the following distribution of financial gain:

Category / party	Category I**	Category II ****	Category III
Institution	50%	30%	20%
Faculty/ Staff*	43%	60%	70%
Administrative cost	7%	10%	10%

- * The internal distribution shall depend on the project and agreement on case by case basis.
- ** In special cases the share may be different depending upon the agreement

Administrative cost: Head of the Institution, Head of Department /School/ office staff*

9. Code of Research and Ethics

The code of research includes two closely related notions: scientific integrity and research ethics. The idea of responsible conduct in research refers to the whole range of behaviors which characterize how professionals in a given field conduct themselves. It is intrinsically linked to behaviors their ethics and standards command in the context

of their professional activities. The responsible conduct in research goes to the very heart of what research is. The values most closely associated with research ethics are: honesty, trust, justice, integrity, intellectual probity, respect, responsibility and benevolence. Responsible conduct in research requires that these values be adhered to and promoted by the scientific community as a whole. The expectations that derive from these values apply to all research activities and concern all relevant actors. They form the backbone of a research ethos which allows different actors to agree, communicate, and collaborate on the advancement of knowledge while reaching pinnacles of research excellence. To reach the latter, one must actually cultivate these values in research environments so that responsible conduct may take root and flourish. However, research actors can at times find themselves in situations where other values come into conflict with research ethics and imperil responsible conduct. This policy wishes to reaffirm the primacy of those values associated with the responsible conduct in research and support researchers, students and the research communities in the pursuit of research excellence.

A statement of the purpose of the Research Code of Conduct and the University's commitment to integrity in research. The University is committed to maintaining the highest standards of rigor and integrity in the conduct of its research. The University expects all those involved in research to observe these standards and to embed good practices in all the aspects of their work, including the training of new researchers. The University also requires that all the students and members of staff conducting research to adhere to the highest levels of research conduct. The University Research Code of Conduct lays out the standards expected from all those carrying out research under its auspices. The Code covers areas such as:

1. Approval procedures
2. Publication and Authorship
3. Research Data
4. Reviewing research for journals or funding bodies or internal purposes
5. Supervision and management of students' or researchers'
6. Intellectual property (to be read in conjunction with the IP policy)

9.1. Principles and Application

- 9.1.1.** University expects all research carried out at the University or in its name to be conducted to the highest standards of integrity. This Research Policy provides a framework for the governance of all research throughout the University. It requires all those undertaking and/or contributing to research

to adhere to the highest standards of performance and ethical conduct, and embed good practice in all aspects of their work. They must operate honestly and openly in respect of their own actions and in response to the actions of others involved in research.

- 9.1.2.** University requires all Staff, Emeritus Professors, Honorary Staff, Visiting Staff and all Registered Students (whether undergraduate or postgraduate) involved in research to abide by this Code. Where any other individual who collaborates in research with UEM Jaipur Staff and Registered Students is not bound by an equivalent Code through their Employer or other organisation, the individual shall be expected to abide by this Code when working with the University unless otherwise agreed. References hereafter to 'researcher or workers' include all Staff (including Emeritus Professors, Honorary Staff and Visiting Staff), Registered Students and external research collaborators who are involved with research in connection with or as part of the University.
- 9.1.3.** This Code is linked to and operates in conjunction with conditions of employment for the relevant Staff groups and other related University policies and procedures. Failure to abide by this Research Policy may lead to the matter being considered under the University's disciplinary procedures.
- 9.1.4.** Any alleged breach of this Code shall be handled in accordance with the appropriate University disciplinary procedures.
- 9.1.5.** The Research Policy and its implementation will be reviewed by the University's Research Committee on an annual basis in consultation as appropriate with relevant individuals or groups. The review will take into account changes and recommendations from external research funders, Acts of Parliament and other regulations. Where any proposed change to this Research Policy would affect Staff Terms and Conditions of Service the University will follow the appropriate normal procedures of consultation and/or negotiation.
- 9.1.6.** All research workers undertaking or involved in research must familiarise themselves with this Research Policy. Heads of Schools/Department/Centers have a responsibility to seek to ensure compliance with the Research Policy. The University will draw attention to the Research Policy in its induction processes for newly appointed Staff and Registered Students. Supervisors of Registered Students will seek to ensure compliance with the Research Policy on the part of students. The University will draw attention to relevant training and development modules to ensure that all research workers are aware of best practice requirements.
- 9.1.7.** The University recognizes and protects the principle of academic freedom in its Ordinances.

9.2. Integrity and Accountability

9.2.1. Everyone involved in research in the University owes a duty of accountability to the University, to all participants in their research, and to their research funders commensurate with their involvement in that research. Individuals must accept responsibility for their own conduct of their part in any research and for providing direction for the activities of any Staff or Registered Student under their supervision.

9.2.2. The Primary Researcher or Principal Investigator in any research should identify clear roles and accountabilities for all those involved in any research project, and should ensure that all involved are informed of their responsibilities. Areas of accountability include:

1. the ethical basis of the research and the research design
2. the safety of all involved in the research,
3. the probity of financial management of all projects and for seeking to provide the optimum value for the public or private funders who have invested in them,
4. effective project management to agreed project plans and appropriate quality standards, including timely delivery of any scheduled, tangible outcomes,
5. management of research data in accordance with the Data Protection Act (DPA), 1998 and university legal provisions,
6. seeking to ensure timely and wide dissemination of research findings,
7. as appropriate undertaking professional development relevant to the research and ensuring that all others involved in the research have received relevant training,
8. maintaining personal records of research progress, including authorised laboratory books, to the recommended or required standards,
9. maintaining confidentiality in order to achieve protection of intellectual property rights where appropriate,
10. ensuring research participants participate in a voluntary way, free from any coercion and are properly informed of any risks, the broad objectives and of the identity of any sponsors of the research,
11. using all best endeavors to avoid unnecessary harm to participants, other people, animals and the natural environment, having taken due account of the foreseeable risks and potential benefits of the research,

9.2.3. When peer reviewing research proposals or results (including manuscripts submitted for publication), research workers must protect the confidentiality of information provided and disclose any conflicts of interest and any areas of limited competence, and must not misuse or misappropriate the content of the material being reviewed.

- 9.2.4.** Research workers must be honest and lawful in respect of their actions relating to research and in response to the actions of other research workers.

This applies to the whole range of research activity, outputs and deliverables, including applying for funding, experimental design, generating and analysing data, publishing results and acknowledging the direct and indirect contribution of colleagues, collaborators and others.

- 9.2.5.** Where a research worker has concerns about whether the obligations of accountability as set out in clause 2.2 can be met or is in doubt about the applicability of provisions of the Code to their part in any research, or about the appropriate course of action to be adopted in relation to it, advice should be sought from a member of the relevant Ethical Review Committee or the Research Governance and Ethics Committee of the Research Committee. All responses from the Committee will be in writing and will be retained for future access as appropriate. A Registered Student who has any questions about this Research Policy should in the first instance raise these with their immediate supervisor.

9.3. Research Data

- 9.3.1.** Research workers must keep clear and accurate records of the research procedures they followed and the results obtained, including interim results.
- 9.3.2.** Research data must be recorded in a durable and auditable form, with appropriate references so that it can readily be recovered.
- 9.3.3.** Unless already regulated by legislation or confidentiality agreements, or where there are valid ethical reasons for not doing so, primary research data and research evidence must be accessible in confidence to other authorised researchers for verification purposes for reasonable periods after completion of the research; data should normally be preserved and accessible for ten years, but for projects of clinical or major social, environmental or heritage importance for 20 years or longer. These periods are in accordance with current University guidelines.
- 9.3.4.** Unless there are particular reasons, including any legal or regulatory requirements (including without limitation the requirements of a research ethics committee), for not doing so, data should be stored in their original form. Storage media such as tapes and disks should not be erased and/or reused, but should be stored securely.
- 9.3.5.** It is the duty of the Principal Investigator in any research project to comply with the DPA. The DPA applies to all processing of personal data.
- 9.3.6.** Some central issues for research workers in relation to personal data include:

1. all Staff and Registered Students using personal data in research have a duty of confidentiality to the individuals concerned,
 2. unless there are ethically or legally justified reasons for doing otherwise, research workers must ensure that they have each study participant's explicit informed written consent to obtain, hold and use their personal data,
 3. data security arrangements must be sufficient to prevent unauthorised breaches of confidentiality or unauthorised disclosure of personal data,
 4. The University, through the Colleges, will develop and implement procedures for complying with the University's Data Protection Policy and the University's Records Management Policy. As appropriate affected groups and individuals will have input to the development of the procedures. Once approved by the University, Heads of Colleges have responsibility to ensure that these procedures are made known to all Staff and Registered Students.
- 9.3.7.** The University is responsible for establishing appropriate procedures for security and retention of research data in a form which would enable retrieval by an authorized third party, subject to any limitation imposed by the confidentiality of personal data.
- 9.3.8.** Specific arrangements should be made to protect the security of research data where there is a contractual requirement to do so.
- 9.3.9.** Research data related to publications should be available for discussion with other research workers, except where confidentiality provisions prevail. Confidentiality provisions relating to publications may apply in circumstances where the University of Birmingham or the researcher has made or given confidentiality undertakings to third parties, including research subjects, or confidentiality is required to protect intellectual property rights. It is the duty of the Principal Investigator to familiarise him/herself with any provisions of confidentiality relating to any particular research grant or contract and to inform research workers under his/her supervision of their duties with respect to these provisions. Advice on individual grant or contract terms may be obtained from Research & Commercial Services.
- 9.3.10.** The Principal Investigator should also ensure that third-party Intellectual Property rights are not breached.

9.4. Publications

- 9.4.1.** Publication is the dissemination of the outcomes of scholarship and research not only in conventional paper form but also in other media, including electronic media. The University encourages its Staff and Registered Students to disseminate the findings of their research through appropriate and timely publication. In this context publication may be taken to include, *inter alia*,

books, chapters, articles, conference proceedings, reviews, patents, catalogues, compositions, the production of creative arts, software and databases.

- 9.4.2.** Ethical considerations apply to the production of all categories of publication and external communications, including web-sites, e-bulletins, press releases, media briefings or other events. The University of Birmingham expects research workers to abide by the University's core principles of openness, transparency and accountability and adopt appropriate ethical and professional standards and responsibilities in their publications as set out below.
- 9.4.3.** Good practice requires that all University Staff include the details of their research outputs in the relevant University research publications databases according to the relevant procedures for recording that information. Staff and Registered Students should also help to ensure wide dissemination of their publications and therefore cooperate in requests from the University to include their outputs in a publicly accessible repository where appropriate.
- 9.4.4.** There is a fundamental ethical obligation on authors to acknowledge and attribute external sources of information. Citation of sources should be carried out in accordance with the Harvard referencing system which has been adopted as standard by the University, or in accordance with the house style of the relevant publisher and/or the normal practices of the discipline concerned. Citation not only gives credit to the work of others, but also enables readers to identify elements in the text and therefore recognize the contribution of the author or authors in the context of previous work. Failure to cite sources could, inter alia, constitute plagiarism and may be subject to disciplinary procedures.
- 9.4.5.** The UEM Jaipur cannot endorse citation arrangements which are contrary to academic conventions (such as citation clubs or the unnecessary use of self-citation). Guidance will be provided by the Research Committee as to acceptable use of self-citation. Membership of Citation Clubs may be regarded as misconduct
- 9.4.6.** It is in the interests of faculty, Registered Students and the University that good practice in the matter of co-authorship is disseminated, understood and followed.
- 9.4.7.** A publication must contain appropriate reference to the contributions made by all those who have made what might reasonably be regarded as a significant contribution to the relevant research. Any person who has materially contributed through conceiving, executing or interpreting at least part of the relevant research should be given the opportunity to be included as an author of a publication derived from that research. Accepting the status

of co-author implies a full commitment to having one's name and reputation fully associated with the content of the publication.

- 9.4.8.** There is a general ethical obligation that the contributory efforts of persons who have helped in the work being reported in a publication should be identified and acknowledged in it. It may, therefore, be appropriate to identify those who have assisted substantively in the work presented in a publication. This may include financial sponsors, colleagues within and outside the University who have given advice and any others who have facilitated the collection of material or data on which the publication is based or who have assisted in producing the publications. Those identified should be approached for permission if it is intended to acknowledge their assistance in the publication, and they should be offered the opportunity of seeing the publication.
- 9.4.9.** A publication which is substantially similar to other publications derived from the same research must contain an appropriate reference to the other publications. A researcher must disclose to a publisher at the time of submission (a) substantially similar work which is being submitted to another publisher at the same time or (b) work which has been previously published.
- 9.4.10.** Authors should be aware that in contract and collaborative research it may be necessary to seek permission for publication from all parties to the contract in advance of submission of the work to a publisher.

9.5. Sponsored research

9.5.1. Sponsored Research Projects

Sponsored project refers to one in which the PI does not charge honoraria/consultation fee. Amount may be used by the PIs as approved in the respective budget head by the funding agency. A faculty may like to approach various national and international funding agencies and industries for sponsored projects in the areas of the desired research interests. For a project sponsored by a government agency, no honorarium in any form can be claimed. The guidelines of the sponsoring agency are used to execute the project.

9.5.2. Collaborative Research Projects

Faculty may also participate in collaborative projects with other domestic or foreign partners. In such projects, even though there may be an overall project, there must be a separate budget and scope of work statement to be done by the faculty and staff of the Institute. The summary statement provided to the Institute should be based primarily on the portion to be done by the Institute. The Institute will treat this like any other sponsored project.

9.5.3. Project execution Guidelines:

- 9.5.3.1.** Project responsibility: The sanctioned projects are headed by a Principal Investigator (PI), and may have Co-Principal Investigators (co-PIs)/ Administrative PI (to operate the project, in case PI is out of station) and the deliverables are the responsibility of the PIs.
- 9.5.3.2.** For each sponsored project, the entire expenditure for the operation of the project is required to be met out of funds provided by the sponsoring agency. The responsibility for operation of the project lies solely with the PI.
- 9.5.3.3.** Preparation and Submission of the Proposal: The project proposal should be formulated according to the format prescribed by the concerned funding Agency and submitted to the R & D Cell of the University for further processing. No proposal shall be submitted by the PI directly to the funding agency without the information to the R & D cell.
- 9.5.3.4. Ethics/ (Intellectual Property Rights) IPRs:** Funding agencies are concerned with ethical issues of the scientific experimentation on humans, animals, etc. PIs are responsible for upholding academic integrity, Non-Disclosure Agreements (NDA), MoU guidelines of the funding agency and the University Research Policy during the execution of the projects. PIs are responsible for the submission of progress reports, statement of expenditures and utilization/completion certificates of the project.

9.6. Ethical Review

The UEM Jaipur requires that all Staff and Postgraduate Registered Students' research projects undergo an ethical self-assessment and, where further scrutiny is required, an ethical review by an Ethical Review Committee of University or external ethical review committee as suggested by the university regulatory committees. Software tools are used for plagiarism check and is followed by all the researchers.

9.7. Additional Requirements

Any special standards of work performance or conduct imposed by law or by the UEM Jaipur in relation to particular categories of research are deemed to be included in this Code in its application to persons engaged in that research in the University.

9.8. Adverse Events

Research workers have a duty to monitor and report any Adverse Events occurring in the course of the research and each School/dept/center must have systems in place to ensure that all such Adverse Events are recorded and, if appropriate, investigated. In this context, an Adverse Event is an event which results in harm to the researcher, the research participants, or the environment.

9.9. Misconduct

- 9.9.1. Misconduct in research is a failure to comply with the provisions of this Code and, without limiting the generality of the foregoing provisions, is taken to include: Fabrication, Falsification, Plagiarism, Misrepresentation, Mismanagement of Data and/or Primary materials etc., and general Misconduct.
- 9.9.2. Researchers and other members of Staff have a duty to report any breach of this Code where they have good reason to believe it is occurring, to the Head of College or some other person in authority.
- 9.9.3. The University considers an accusation of research misconduct to be within its remit and suitable for consideration according to its relevant disciplinary procedures.

10. Research Extension and Collaboration activities

University has s strategic theme for the Societal Engagement. The details are;

- 10.1. *Goal: UEM Jaipur will actively seek out strategic opportunities to contribute to the socio-economic development and benefit of the people of the region. Societal engagement, and regional development, will be a distinctive feature of learning and research endeavors at UEM Jaipur.*

The university will strive hard to enhance quality of life in the region by contributing its expertise, experience and leadership. A more intimate engagement with society will not only enrich the community but will benefit our students as well. It will offer additional opportunities for research, for experiential learning, technology translation, and for development of values of citizenship and social service. We will pursue this agenda through sustained partnership with public, private, non-governmental, professional bodies.

Universities form an important pillar in the competitiveness of the regions in which they are situated. They should create economic value by serving as magnets of talent, as engines of innovation and as incubators of new products, technologies, and ideas. Our work in driving innovation and entrepreneurship in

our region will be grounded on a strong entrepreneurial culture amongst our faculty, students, alumni, and industry.

10.2. Student – Society

Integrate civic engagement and service learning into student learning experience, wherein students can understand and connect to societal needs.

- 10.2.1. Create educational experiences wherein students develop a greater understanding of social issues and take responsibility to evolve innovative solutions to address them.
- 10.2.2. Encourage and support the students to take up projects that have distinctive features of community engagement, and benefit the local and regional communities.
- 10.2.3. Encourage and support students to take up entrepreneurial initiatives of relevance to society

10.3. Institute-Society

Actively engage in advancement of the region through leadership role in the community and emerge as a model for university-society partnership.

- 10.3.1. Be a leader in a strong network of local and regional organizations, government entities, educational institutions and private foundations that link the university to external communities so as to create a positive and meaningful impact.
- 10.3.2. Address the needs, challenges, and perspectives of the region with services, applied research and collaborations with appropriate organizations.
- 10.3.3. Support educational institutions and students in the region through outreach programs and services to enhance quality of education.

10.4. Entrepreneurship

Create an entrepreneurial ecosystem driven by innovation and collaboration for the growth of industries and employment opportunities in the region.

- 10.4.1. Provide and support formal and informal opportunities to students and faculty to participate in entrepreneurial activities leading to start-up company creations and employment.

10.4.2. Engage entrepreneurial communities to create vibrant entrepreneurial ecosystem in the campus and in the region.

10.4.3. Promote and support technological innovation and research by students and faculty leading to solutions that address wide range of societal needs and also create value for the new enterprises.

11. Formats and Guidelines

The formats and guidelines for the various R&D activities as envisaged in the aforesaid provisions made in this document shall be prepared and approved by the competent academic bodies of the University from time to time. The approved guidelines are shared with the faculty time to time.

Vice-Chancellor

University of Engineering & Management, Jaipur, Rajasthan