

## **BMSIT&M RESEARCH POLICY**

### **PREAMBLE**

Reputation of any educational institution depends on scholarship, research productivity and innovation. The success of an Institute in attaining its objectives is greatly depends upon the alignment of the faculty with all the aspects of research initiatives being undertaken at the Institute. Therefore, the present research policy aims to help BMSITM and faculty achieve excellence and contribute to organizations and society.

### **OBJECTIVES**

This policy provides a broad framework to guide research and integrity of scholarly inquiry at the Institute. The objectives of policy are as follows:

- To promote research, innovation and intellectual capital,
- To ensure integrity, quality and ethics in research,
- To integrate teaching and research through translational and instructional research, and;
- To incentivize the generation of intellectual capital.

### **PROMOTION OF RESEARCH**

The Institute believes that researchers are free to choose the subject of their research, to seek support from any funding source for their research work, and to report their findings and conclusions. However, research shall be available for scrutiny to the Institute and constructive criticism of peers. Research techniques used by the researchers shall not violate established professional ethics, pertaining to the health, safety, privacy, and other personal rights of human beings or to the infliction of injury or pain on animals.

The Institute shall create conducive environment for research. Due to limited resources, the Institute may not support fully all research likely to be undertaken, but it shall allocate the space, facilities, partial funding, and other resources for research programmes based on the scholarly and educational merits of the proposed research. It shall also provide development opportunities to researchers for writing research proposals and reports, publications, patent filing, etc.

### **IDENTIFICATION OF THRUST AREAS**

Although the researchers have the freedom to choose their own areas of research, it is highly desirable to make research socially relevant. The Institute expects the different departments to prepare a list of research areas, with a view to be focussed in their efforts. Under each discipline and department, there shall be an exhaustive list of such areas, which can be called a bank of thrust areas. It shall be utilized for the following research activities and 80% of the areas shall be chosen from this Bank with frequent updates:

- i) The Bank can be made available to the research scholars who may use it for their doctoral thesis.
- ii) Similarly, the faculty shall also avail the Bank for identifying the subject for their minor research projects and even for major research projects.

iii) Even for industry-sponsored projects or for collaboration with other institutions, the Bank shall be utilized.

#### **RESEARCH AT UG AND PG LEVEL**

Teaching and research are equally important in an Institute. On the establishment of the Institute, it was thought that to promote creativity among the undergraduate and post-graduate students, some research component in the curricula, especially in the final or pre-final year of the bachelors programme and final year in the master's programme, is necessary. Accordingly, in the pre-final final year of the bachelors programme the Minor Research Project and Major Research Project are inducted where the students under the guidance of the faculty work on the decided area of the dissertation and submit the findings periodically. The final project is submitted to the institution and also University to conduct the viva. Similarly, in the postgraduate programme, research was emphasized emphatically and students were trained for robust research skills. The Institute shall further reinforce research training in both undergraduate and postgraduate programmes in the future.

#### **IDEA LAB**

Students have many ideas on which they want to work, but in the absence of the infrastructure, including the place and space, they are unable to work on them. Therefore, the Institute would encourage an Idea Lab in each department and in due course of time at the Institute level, where the students can research on an idea. The Idea Lab also provides the opportunity to the students to ask questions in different areas of knowledge. It shall equip them with an ability to think, concretize the idea, design research study, work on it and report the findings. It shall also encourage research scholars to publish and patent their research work.

#### **MSc (ENGINEERING BY RESEARCH) AND PhD. PROGRAMME**

The Institute also thought that being a self-financed Institute it had limited resources for conducting research and also in the development of the rich infrastructure for conducting research in different fields; therefore, it was decided to have collaboration with different prominent National institutions where they have requisite research infrastructures and also have expertise in different areas. The Institute shall continue to encourage faculty and research scholars to get funding for attending International conferences from external agencies as a matching share so that the quality in research paper can be maintained. It shall urge research scholars to publish and patent their research work.

#### **MINOR RESEARCH PROJECTS**

From the very beginning, the Institute encouraged young faculty to conduct research. Thus, it has developed a scheme for providing financial assistance to Minor Research Project. According to this scheme, a faculty member prepares Minor Research Project, which is submitted to a committee at Institute level and on the recommendations of this committee the Institute gives financial assistance to the faculty concerned. To have the periodical assessment for all such research projects and with an aim to guide the researcher, the institutions level committee is constituted. It is also mandatory to send a quarterly progress report of such Minor Research Project to the Institute. For this purpose, every year the Institute

earmarks financial budget under each department. The Minor Research Project Scheme helps young faculty think about research, prepare the proposal, conduct research and write a research report. It also assists them in preparing proposals for major research projects. The Institute shall continue to encourage young faculty to take up minor research projects and shall earmark appropriate budget for this purpose.

#### **MAJOR RESEARCH PROJECTS**

The Institute has identified a list of more than 150 funding agencies. Faculty can submit Major Research Project proposals to these agencies. These proposals are scrutinized before submitting the same to a funding agency. The Institute provides all kinds of infrastructure facilities available for conducting a Major Research Project. The Institute plans to evolve a mechanism through which it shall monitor the progress of Major Research Projects funded by an external agency, maintain its accounts and submit the utilizing certificate in time to the funding agency as per the requirement of the funding agency. The Institute shall provide funding on its own to certain important Infrastructure Projects where the funding from the outside agency is not possible. It shall earmark appropriate budget for this purpose.

#### **COLLABORATIVE RESEARCH PROJECTS**

The Institute-Industry Interaction is the demand of the day. If we want to contribute to the society at large, the Institute has to closely work with industries and different organizations. Industries and business organizations are facing different kind of problems and many of them would like to have the help from the Institute with an aim to find the solutions to their problems. For that, the Institute has planned to have the following activities:

- **Industry Sponsored Research Project:** An organization can sponsor a project and the experts of the institution concerned can conduct research on this project for which the financial support will come from the organization. As a result, if any patent is registered, then there shall be a sharing of income coming out of the patent among the industry, researcher and Institute. This will lead to three kinds of benefit: a) the researcher will get exposures to the concerned area of research; b) the industry will get solutions to its problem; and, c) the researcher, Institute and Industry can earn money and at the end, the society ultimately will benefit. (ii) **Interdisciplinary Research:** The interdisciplinary research is a must nowadays. No department, institution, researcher or a scholar can address a research problem in which more than one discipline is involved and unless they get together and conduct interdisciplinary research no fruitful findings can be arrived at. Therefore, the Institute has decided to have exercise in interdisciplinary research activities for which the following steps will be taken:
  - a) Identify the interdisciplinary area.
  - b) Identify the different experts from concerned disciplines who can work together.
  - c) Study the requirement of the infrastructure to conduct the concerned interdisciplinary research.
  - d) Explore possibilities to find resources for such interdisciplinary research.

## **COLLABORATIVE INTERNATIONAL RESEARCH**

Collaborative international research is essential to facilitate mutual learning and expertise sharing. The Institute plans to have the MoUs with prominent research institutions abroad, for conducting research jointly in the areas of common interest. For this purpose, a Task Force shall be constituted that will constantly explore the possibilities of having such collaborative or joint research in terms of thrust areas, decide the modus operandi of conducting such research and attend to other relevant aspects.

## **TRAINING FOR RESEARCH AND PUBLICATIONS**

Generally, faculties are eager to conduct research, but because of the lack of expertise to write a research proposal or having insufficient research skills, they are unable to channelize their efforts effectively. Hence, in many cases, a research proposal is rejected by a funding agency. Even for publication of papers because of the lack of knowledge about how to write a paper and under which format it should be submitted, sometimes the papers are not accepted. Therefore, the Institute shall organize rigorous training programmes for researchers in the identified areas.

## **PUBLICATION OF PAPERS AND JOURNALS**

Publication of papers is critical for the effectiveness of the Institute. Faculty must publish continuously in journals. Therefore, the Institute plans to encourage the publication of papers by the faculty with a targeted aim. A faculty member shall be expected to publish a certain number of research papers in journals at national and international levels. Research papers to be published in journals and to be presented at national and international conferences shall be scrutinized and guided by a committee of senior professors. Each department shall be encouraged to publish a journal and organize research conference, from time to time to boost research activities in the Institute and to contribute to the existing body of knowledge.

## **PATENT AND INTELLECTUAL PROPERTY RIGHTS**

The Institute would like to strengthen the research, leading to filing of patents for which the guideline will be developed. If any innovation is done, the Institute shall encourage the researchers and scholars to patent it. However, when a scholar files for a patent, a thorough scrutiny will be carried out and for that a mechanism is already evolved at three levels namely:

1. Department at the institution level
2. At the committee level, which has experts
3. At the Institute level committee where even a lawyer in the concerned field is associated

The Institute also bears all expenditure for filing application for patent. If the patent is commercialized the sharing of earning is to be done between researcher and the Institute as per the guideline developed from time to time. The Institute shall create awareness about intellectual property rights among faculty, researchers and scholars from time to time.

## **B.S. NARAYAN CENTERS OF EXCELLENCE**

The Institute would like to create an environment for each department where they work in a specific research area and be known as a specialist organization. This will focus on specific research activities in the specialized areas. Through these efforts, the Institute shall promote a particular department as the B.S. Narayan Centre of Excellence in due course for a specialized thrust area.

## **INCENTIVES FOR OUTSTANDING RESEARCH**

The Institute would like to encourage quality research in different thrust areas. For this purpose, outstanding research contributions done by faculty, researcher, and research scholar shall be recognized. Therefore, the Institute shall prepare a scheme for providing incentive to researchers and scholars. The incentives are identified as under:

- a) Incentive in terms of money
- b) Incentive in terms of awards/prizes
- c) Incentive in terms of more funding for the ongoing research
- d) Incentive in terms of certificate or giving more weightage for the career advancement scheme, etc.

## **ESTABLISHMENT OF RESEARCH CHAIRS**

The Institute shall create research chairs and a scheme for appointment of Professor Emeritus for a particular term, where very senior scientists or professors shall be appointed for chairs and they shall conduct research on an important topic. The research chair professors shall take some teaching load in line with the principle of integrating the research and teaching.

## **ESTABLISHMENT OF OFFICE OF RESEARCH**

To promote, monitor and incentivize research, the Institute shall have an exclusive and dedicated office of Research, led by a senior academician. The office shall take care of day-to-day monitoring of all above activities, generating ideas about the conduct of research in different areas, implementing the ideas, meeting the requirement of funding, monitoring the activities and assessing the outcomes constantly and periodically. Therefore, the Office of Research shall be an essential component for any research endeavor. The office shall have the functions to disseminate the findings of research to the society and also to integrate the research with teaching.

## **B.S. NARAYAN RESEARCH PARK**

This idea a Research Park is a relatively recent one where collaborative research can be conducted. Under this scheme, the infrastructure and ambience will be created in the concerned field for conducting research where the Institute and the industries invest money and the experts working in the industry and the Institute can work together and find solutions to the problems of industry or create new knowledge, which ultimately will benefit the society. In the Park, different institutions of the department can conduct the research jointly.