

BAPATLA COLLEGE OF ENGINEERING

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1. PREAMBLE:

Research and knowledge sharing activities are core elements of an Institution as a learning organization. The faculty members have to update their knowledge continuously as the innovations, new paradigms and technology are changing at a higher pace and the students have to be provided with the latest developments in their domain area rather than teaching age-old practices. The College policy on research and knowledge sharing sets out the measures to encourage appropriate behavior to achieve the strategic aims and sets out the direction that the College has to go.

UGC emphasizes research in Universities and Colleges. According to UGC research Policy, UGC is creating major research facilities in the University system with cooperative and autonomous management and use of such facilities. It is also trying to strengthen or create links with other institutions and laboratories to have more national centers of research function in close collaboration of the universities.

In line with the UGC Research Policy, BEC commits to contribute to the research fervor of the Nation by creating research opportunities for faculty and students and by creating centers of research excellence. The purpose of this document is to present a policy framework for support and development of research at the Bapatla Engineering College and to provide a strategy to achieve the research goals.

2. DEFINITIONS:

For purposes of this policy, unless otherwise stated, the following definitions and abbreviations shall apply:

- **Research** is the systematic investigation into existing or new knowledge. Research may be undertaken primarily to acquire new fundamental knowledge (basic research) or to acquire new knowledge for a specific practical objective (applied research).
- **Development** is systematic work directed to producing new or improved materials, products or devices, processes, systems and services.

- **Research and development** or “**R&D**” covers both the work to create new knowledge and use it to improve technologies. R&D is closely linked to **innovation**, which can be defined as the introduction of new ideas, devices, or methods *into use*.
- **Researcher** is a member of the faculty or staff or post-graduate student of Bapatla Engineering College.
- **Sponsor** is any Company. Organization, or Institution, either with in India or abroad, that funds research projects at the Bapatla Engineering College.

3. PURPOSE

The policy outlines the guiding principles to carry out research and development to all those involved in research at the Bapatla Engineering College and also the support system for R & D. It is applicable to all teaching and non-teaching employees, as well as the students of the College.

The purpose of the research policy is to:

- provide a framework for the research development and management;
- provide for continued effective support for research;
- ensure the fair treatment of all researchers - staff and students;
- ensure effective communication to all stakeholders (internally and externally) on the research policy and strategy including research support;
- establish rational, and transparent mechanism for approval of research projects and the allocation of research funds and other kinds of support for research;
- Establish mechanism for collaborative research with public and private organizations and other Institutions, national as well as international.
- integrate support for postgraduate research into the main research system; and
- define roles, responsibilities and functions within the College research system.

4. RESEARCH POLICY

- Bapatla Engineering College supports research that is aligned with the College Mission and Strategic Goals.
- The allocation of research fund in the College is seen as an investment that maximizes the outcomes that the College expects to result from the research of faculty/ staff member and students.
- All the faculty members are required to carry out research either individually or in collaboration with others, and have a freedom to choose the field or topic for their research.
- The College Research Committee (CRC) is responsible for the management of research at the College and to motivate the faculty.
- The non-teaching staff members, such as the Librarian, are also encouraged to participate in the research projects.
- The researchers in the College are encouraged and supported to take up sponsored research projects, funded by private or public organizations, locally and internationally.
- The postgraduate (masters and doctoral) students are provided support in terms of fellowships, material and in-kind support for creating an enabling research environment.
- Requests for support of research projects or activities are judged on the merits of the proposal, the merits of the applicant, the need for research capacity development, and the need to sustain existing research activities or capacity.
- All applicants requesting support for research are advised to seek funds outside the College, and if outside fund is not available, provide a persuasive rationale why this is not feasible, in order for their application to be considered.
- The College allocates a research budget annually to initiate research projects or as a seed money to obtain external funding.

5. RESEARCH STRATEGY

The research strategy identifies the strategic research goals and the resources and actions required to achieve the stated goals. The strategic goals for research, stated below, and the

activities designed to achieve those goals, serve to give effect to the Research Mission statement and the concomitant core value.

5.1 RESEARCH VISION

BEC aims to become a state-of-the-art Research and Development Centre that can serve the industry and the society at large.

5.2 RESEARCH MISSION

The Mission of the BEC Research and Development is to enhance the knowledge base of the society adding to the high quality human and social capital.

5.3 STRATEGIC RESEARCH GOALS

- Encourage faculty, staff and students to quality and useful research
- Create a state-of-the art research centers
- Develop collaborative research on the contemporary local and global issues.
- Maintain and enhance the quality of research undertaken.
- Enhance the institutional research profile.
- Encourage, manage and structure the external and internal funding for research.
- Support national, regional and industry-specific research and development
- Maximize the impact and international recognition of BEC research.
- Commercialize on BEC intellectual property.

6. RESEARCH MANAGEMENT

The CRC is the College research management body. It advises the Researchers on research strategies to be pursued, develops policy and reviews progress in these areas.

6.1 Research Planning

- The College Research Committee (CRC) provides guidance to the Departments on research activities and monitors the research progress twice a year.
- Department Committee is required to develop and implement its own research plan in coordination with the CRC.

6.2 Evaluation and Monitoring of Research Performance

- The research performance of Faculty members is monitored and evaluated as part of the annual appraisal and staff development process.
- Faculty members are required to supply full and accurate details of their research outputs on an annual basis to the Head of the Department to compile the Research Report and submit to the CRC after approval in the Department Committee (DC).
- CRC, after review, forwards it to the College Academic Council and for inclusion in the Annual report of the College.
- The interpretation of this policy, in case of any dispute, rests with the College Academic Council.

6.3 Incentives for Outstanding Research

BECs perception is that the outstanding and quality research contributions of the faculty, research associates and students should be recognized and the incentives should be given.

The incentives can be

- Individual Awards and prizes – both financial and non-financial
- Additional funding for ongoing research Certificates as a measure of due recognition
- Weightage for selection to the higher post or for nominated posts

Governing Body takes decision from time to time on the type of recognition or incentive and the amount in the case of financial incentive.

7. STRATEGIC ACTION PLAN

- The CRC coordinates efficient institutional support systems to researchers to develop and maintain research quality;
- Develop motivational strategies to enhance participation of staff and students in research
- implement peer review processes for selection of research projects and evaluation of research output;
- recognize, encourage and reward research and innovation excellence by incentives
- establish research collaborations and partnerships with national and international universities and research institutions;
- Participate in collaborative research with public and private industries
- Create adequately-resourced research capacity and mentoring for new researchers at both institutional and faculty level;
- attract, retain and provide support for postgraduate students and postdoctoral researchers; and
- promote international exchange of researchers at all levels.
- Publish and Communicate research findings to all stakeholders to attract research funding
- Take up at least one research project in every Department with industry participation
- Publish a minimum of five journal articles a year out of each Department's research
- Involve at least 50 percent of the faculty in research projects at any point of time
- Establish research Chairs

8. STANDARD OPERATING PROCEDURE FOR RESEARCH (SOP)

- The faculty members, staff and students seeking research fund from the College, either individually or as a Team, are required to submit a request in the Application Form for R & D Support to the Principal through the Head of the Department.
- The applicants must have completed at least one semester at the College.
- Principal refers the proposal to the CRC for review for compliance with the research policy of BEC and approves after discussion in HODs Meeting. .
- The researchers must follow the rules and regulations of the College while spending the fund.
- Procurement of hardware or software, if needed, should be done as per the College Procurement Process.
- The researchers should submit a report on the progress of the research twice a year in the last Week of every Semester to CRC through the HOD.
- CRC reviews the progress and if unsatisfactory, may revise the milestones or may recommend for cancelling further support.
- After the completion of the project, and also for discontinued projects, the hardware and/or software purchased must be handed over to the Department for use.
- The entry in the stock registers should be corrected accordingly.
- After completion of the Project, the researcher or the research Team should submit the Final Report to the CRC before submitting to the Sponsor, if any.
- The researcher or the Research Team must obtain permission to publish full or any part of the Project Report or to present a paper based on the research in a Conference/ Symposium/Workshop.
- The Researcher or Research Team that obtained funding from external sources must follow the rules and regulations of both the Sponsor and the College.
- The authority rests with the Governing Body to resolve any dispute in this regard.
- The CRC and the Heads of Department are responsible for compiling and maintaining a research database, containing information about research activities by the staff and students of the College in accurate and comprehensive form and to compile an annual Research Report.
- The CRC. with assistance from the Website administrator are responsible for placing research information on the College website and regularly updating the information.

- College Research committee (CRC) is responsible for driving external funding campaigns and keeping a database of all strategic partnerships with the help of the Departments.

9. KEY PERFORMANCE INDICATORS (KPIs)

The Key Performance indicators stated below are used to measure, monitor and evaluate the research in BEC. The KPIs of the BEC research and development are

- R&D expenditure of BEC is at least 3% of its budget.
- Percent of faculty and staff involved in research and consultancy.
- Number of journal publication output from BEC
- Number of patents & industrial designs filed
- Number of collaborative research projects with industry
- number of joint research projects with regional or international universities
- Number of papers presented in Conferences/Symposiums/Workshops
- Number of participants in regional/international research networks.

10. STATUTORY AND ETHICAL OBLIGATIONS

All the Researchers of the College are required to carry out their research in compliance with all statutory ethical and contractual obligations.

- Researchers should be honest in respect of their own actions in research and in their responses to the actions of other researchers.
- This applies to the whole range of research work, including field study design, generating and analyzing data, applying for funding, and publishing results.
- They should maintain highest integrity and acknowledge the direct and indirect contribution of colleagues, research students, collaborations and others.
- All researchers must refrain from plagiarism, deception or the fabrication or falsification of results or other forms of research misconduct.
- Researchers are encouraged to report cases of suspected misconduct and to do so in a responsible and appropriate manner.

11. PUBLICATION AND INTELLECTUAL PROPERTY

- BEC encourages and provides support to the researchers to obtain patents for their work and the copyright.
- BEC is committed to support its employees in publishing their research in appropriate venues such as Journals, Books, Monographs, Project Reports, Conference Proceedings, and Working Papers.
- The Researchers are required to observe any contractual, confidentiality or privacy obligations entered into in respect of the research and need to ensure protection of any intellectual property arising out of the research.
- The Researchers should observe BEC policies regarding Intellectual Property Policy.