



# **G PULLAIAH COLLEGE OF ENGINEERING & TECHNOLOGY**

## **(Autonomous)**

(Approved by AICTE | NAAC Accreditation with 'A' Grade |  
Accredited by NBA (CIV, CSE, ECE & EEE) | Affiliated to JNTUA)  
Nandikotkur Road, Venkayapalli (V), Kurnool - 518452, Andhra Pradesh

### **1. INTRODUCTION**

In the light of the changing economic scenario and increased thrust towards building design, manufacturing and support services capability within the country, the role of research and development is taking on greater significance. Research and development is eventually targeted towards developing new technologies meeting societal and global requirements. In addition to fundamental research in engineering and sciences, great emphasis is being given to the development of product and systems that meet these requirements.

The National Institutional Ranking Framework (NIRF), approved by the MHRD outlines a methodology to rank institutions across the country. Research is one of the major parameters outlined in the framework covering publications (in particular their quality), patents (filed, published, granted and licensed), projects, professional practice and executive development programs. A total of 100 marks are awarded for research alone out of the total of 500 with a 30% weightage. Even within the 100 marks, publications and their quality accounts for 75% of the marks. It is very important to gradually establish a strong foundation for research, development and innovation in the institution to address the requirements of the next decade.

GPCET is poised at the threshold of a major forward shift in terms of capabilities given the plethora of opportunities that have been thrown up following the bifurcation of the state. In this context, there is a need for concerted R&D effort to better position the institution to meet these challenges.

Faculty of the institution play a vital role in making this transition from a teaching-only' institution to a world-class institution that fosters research and development inter- twined into teaching and learning. While faculty have to handle their regular requirements of teaching and learning, they are also increasingly being required to take up quality research and development work. Quality research and development work requires time, concerted effort and a focussed environment. The institution is committed on its part to provide the necessary environment to take up this task. This document puts forth the policy of the institution towards research and development activities. In order to enthuse and motivate faculty to spend quality time in a concerted manner, the institution also feels it necessary to incentivise all such R&D efforts as most often the time and effort spent in research extends way beyond the confines or the operating hours of the institute.

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## **2. OBJECTIVES**

The following are the objectives of the institution in the arena of research and development:

- To create an environment that fosters a culture of innovation and research leading to development of processes, tools, products or services
- To enthuse faculty to pursue and complete their PhD thereby increasing the total number of doctorates in the institution
- To motivate faculty to carry out quality research leading to publication in reputed journals such as SCI, SCIE, ESCI, Scopus etc.
- To motivate faculty and staff to continue learning further through live/on-line courses/skill training programs and thereby significantly enhance their capabilities and exposure
- To motivate faculty to actively guide scholars towards their PhD work
- To motivate faculty to build strong industry-institute partnerships
- To motivate faculty to become a sought-after resource in the country

## **3. OUTCOMES**

With the above objectives in place, the institute aims at focussed efforts on the part of the administration and faculty to achieve significant and quantifiable results in the area of research and development over the coming years. The following outcomes are envisaged:

- Recognition by Department of Scientific and Industrial Research as Research Institution.
- Increasing the number of faculty members in the institution with PhD to a total of approximately 1/3<sup>rd</sup> the strength.
- Ensuring that at least 50% of the publications made by faculty are in reputed international journals with valid Thomson Reuters impact factor and all publications are at least in journals listed in the journal citation report
- Ensuring that at least 50% of the faculty (around 125 faculty members) actively pursue courses or certification courses leading to significant enhancement in subject knowledge and course content development
- Ensuring that at least 20% of the non-teaching staff take up additional skill development training and certification
- Ensuring that at least 20% of the faculty (around 50 faculty members) are actively guiding scholars (internal or external) towards their PhD

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- Ensuring that at least 20% of the faculty (around 50 faculty members) build strong networking with industry as demonstrated through joint projects/case studies/consultancy etc.
- Ensuring that at least 10% (around 25 faculty members) of the faculty build strong connectivity leading to their being invited as resource persons

### **4. RESEARCH POLICY**

With the above mission in perspective, the policy of the institution with regard to conduct of research and development activities is presented herein.

#### **4.1 Publications**

Although there are several different outlets for publication of one's research work, there are a few avenues that are internationally recognised as being benchmarks for quality of publication. One of these is the Web of Science, which through the Science Citation Index, gives a list of journals under its umbrella. Several of these journals also carry a Clarivate Analytics Impact Factor that represents high quality of research work.

- All faculty who have been awarded PhD shall publish at least 2 paper per year in a journal with a Clarivate Analytics Impact Factor.
- All faculty who are currently pursuing their PhD shall publish at least 2 papers per year in journals listed in the Science Citation Index. At least 1 of these papers should be in a journal with a Clarivate Analytics Impact Factor.
- All faculty guiding M.Tech dissertations shall ensure that their students publish at least 2 paper in a journal listed in the Science Citation Index and carrying a Clarivate Analytics Impact Factor.

#### **4.2 Projects**

In order to ensure qualitative publications, there is need for creating a favourable ambience primarily in terms of equipment and facilities for carrying out cutting edge research. Extra-mural funded projects are a major source of funding for establishment of such research infrastructure.

- All faculty who have been awarded PhD shall handle at least one extra-mural funded project at any point of time.
- In addition to the above, heads of department shall put up proposals for purchase of specialised research equipment for their respective departments. Such equipment shall be versatile to carry out effective research leading to good publications. The institution will review the proposals received and approve them on a merit basis.

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- Heads of department shall put forward detailed research vision document identifying the following:
  - Research objectives envisioned by the department
  - The areas of research pursued by the department
  - Available research infrastructure in these areas
  - Utilisation of these equipment and outcomes achieved
  - Proposed additional equipment requirement and its justification in the light of the research objectives of the department

### **4.3 Patents**

One of the key metrics being adopted for ranking institutions in the number of patents published and granted. The institution has been actively collaborating with established IPR Academies, in its efforts to provide patenting service. In order to ensure that a steady stream of ideas are generated and developed upon possible leading to patentable technologies, the following approach shall be adopted:

- The institution shall establish an Innovation Centre. This centre will serve as a central facility for all innovation related activities
- Sensitisation programs will be conducted in all the departments in collaboration with IPR Academies
- Students will innovative ideas and project works that can possibly lead to patenting opportunities will be short-listed
- Active support and mentoring shall be provided to the short-listed students or student group to convert their ideas into patentable products
- Heads of department shall nominate one faculty member to coordinate the innovation activities from each department The faculty member, along with the student coordinators shall identify potential projects and coordinate with the innovation centre for achieving successful outcomes.

### **4.4 Consultancy Work**

Yet another metric for assessing institutional performance is the level of consultancy undertaken. Consultancy can range from routine testing or certification works to technical design and project implementation work. In order to initiate efforts in the direction of consultancy, each department shall undertake a minimum level of consultancy work in terms of testing or job works etc. Such work shall be executed primarily with the help of non-teaching staff under the direction of a faculty team. The following approach shall be adopted:

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The heads of department shall put forward a consultancy vision document identifying the following:

- Objectives envisioned by the department
- The areas of consultancy being pursued by the department or proposed to be pursued
- Available research infrastructure in these areas and/or the need for additional support
- Competence of the non-teaching staff in taking up the research.
- Action plan for skill enhancement of the non-teaching staff to meet the requirements of the consultancy work

### **5. INCENTIVE SCHEMES**

#### **RPI-1: Incentive on Extra-mural Funding Received**

- Any faculty who submits and is sanctioned a funded project as Principal Investigator from any central funding agency will be eligible for a cash award amounting to 2% of the total project sanction.
- Any faculty who submits and is sanctioned a funded project as Principal Investigator for any private agency shall include a head for remuneration to the PI in the project proposal itself after due approval by the Principal.
- The award will consist of a medal of honour, a citation and the above cash incentive

Note: Faculty claiming incentive under the above scheme shall submit the following documents:

- Form duly filled
- Copy of Sanction Order

#### **RPI-2: Incentive on Publications**

- On publishing a research paper in refereed INTERNATIONAL JOURNAL with a valid Thomson Reuters (TR) impact factor (as listed in the latest version of the Journal Scitation Report), faculty (not pursuing PhD) will be eligible for an incentive of Rs. 5,000/- for each publication..

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- For all publications that do not carry TR impact factor but which are published in journals listed in the latest Science Citation Index issued by Clarivate Analytics, the same faculty will be eligible for an incentive of Rs.2000/- for each publication.
- For publication in reputed peer-reviewed journals that are neither listed in the JCR nor carry a TR impact factor but have been in existence for more than 75 years, the same faculty shall be eligible for an incentive of Rs. 5,000/- (being treated on par with a paper having TR impact factor in excess of 1.0 for engineering journals and 2.0 for science-related journal). The Board of Studies for each stream shall shortlist and ratify all such journals. The collated list will be available with Dean (R&D). Only publications in these listed journals will be considered for the above incentive.
- For publication in reputed INTERNATIONAL CONFERENCE, the same faculty will be eligible for full registration fees and partial travel support (to be decided on case-to-case basis). All such support and incentives shall only be valid for well-established and reputed conferences as listed in the International Council of Scientific Unions (ICSU). No international conference held in India will be considered for the incentive. The concerned faculty should have attended and presented the paper at the conference for being eligible for the incentive.
- Mandatory publication by M.Tech student under guidance of faculty is not eligible for incentive. However, any additional publication arising out of the M.Tech work shall be eligible for incentive as above
- The amount of cash award will be for the first two authors only. Beyond fourth authorship, no consideration will be given for award of incentive.

### **RPI-3: Incentive on Continuing Education**

- Faculty who register, complete and get certified for in any continuing education program (either online or in person) at the national or international level will be eligible for the registration and certification fees incurred by the faculty will be reimbursed by the institution.
- The duration of the course (national or international) shall not be less than 40 hours to be considered for incentive.
- The assessment for the course should have been carried out through a formal examination system prior to certification and the faculty must score a minimum of 75% to be eligible for claiming incentive.
- Any faculty shall be eligible for incentive for only ONE course per semester directly in-line with the subject being taught in that semester or the following semester.
- Following the completion of the course, the faculty should have developed qualitative study material that can supplement student learning as well as form the basis for

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compilation into a book in future. The learning outcomes of the course should reflect in enhanced course structure and content development.

- A detailed report shall be submitted by the faculty along with the application addressing all of the above in order to be considered for the incentive along with the course material developed.
- For all non-teaching staff who undertake skill development training leading to significant up gradation of their skills enabling them to take up external fabrication or consultancy works will be eligible for the registration and certification fees incurred by the staff member will be reimbursed by the institution.
- The duration of the skill development program shall not be less than 30 hours to be considered for incentive. In addition, the staff member should also submit a draft proposal in collaboration with an external agency or industry or other such body seeking to take up jointly some fabrication or development work. An expression of interest to this effect needs to be submitted from the external agency. The staff member will be considered for the incentive only subject to fulfilling the above.
- For all non-teaching staff who undertake skill enhancement training in tools vital for the functioning of the institution such as Tally, ERP, MS Office, Oracle Database etc. leading to demonstrated competence in the same will be eligible for the registration and certification fees incurred (if any) by the staff member will be reimbursed by the institution.

### **6. TERMS AND CONDITIONS**

- In order to be considered for incentive, faculty and staff are requested to fill in the corresponding application form and submit all required documents.
- Incomplete applications will strictly not be processed and will be returned.
- Faculty/staff submitting applications for incentive shall carefully check and ensure that the same has not been awarded incentive earlier.
- The decision of the scrutinising committee chaired by Principal will be final and binding on all claims for incentives. No correspondence for consideration of rejected applications will be entertained.

  
PRINCIPAL  
G.Pullaiah College of Engg & Tech.  
Nandikotkur Road, VENKAYAPALLI  
KURNOOL-518 452 (A.P)