



R&D VISION, MISSION AND OBJECTIVES
of
Nagarjuna College of Engineering and Technology (NCET)

1. VISION, MISSION AND OBJECTIVES

1.1 Vision

- a) To sensitize faculty members, students & researchers about R&D initiatives of the NCET.
- b) To initiate activities for setting-up of Patent Facilitation Centres, Technology Transfer Cells and to recognize and encourage original and novel research contributions, both from within the NCET and outside, which is expected to add thrust to the Institution's R&D efforts.
- c) To initiate Mentoring Programmes, Internships and Incubation at NCET.

1.2 Mission

To produce high quality Under-Graduates & Post-Graduates in Engineering, Technology, Science, Humanities, Management and Allied Science with a sound theoretical and practical knowledge and civic responsibility, who can contribute effectively to the progress of the country and society in the years to come through their chosen profession.

To establish and develop research and extension activity in Engineering and Technology courses.



Goals and Objectives:

The Goals and Objectives include

- a) To make the NCET a worthy knowledge centre by developing research and extension activities in association with professional bodies/industries/ research establishments;
- b) To create awareness among faculty members and students about the availability and access to research grants, funding formats etc and appropriately hand hold them to get such funds/grants;
- c) To development close collaboration with industry through exchange of personnel and undertaking consultancy projects;
- d) To improve a strong collaboration links with other academic and research institutions in the country and abroad;
- e) To sensitize/motivate the faculty members and students through structured training and inculcating the knowledge of theory of inventive problem solving in such way to adopt creative process of problem solving;
- f) To provide an education and learning experience of the highest quality and value to its students in the chosen disciplines;
- g) To prepare the students in attaining a comprehensive knowledge In order to face the global competition;
- h) To ensure the participation of students in various R&D or Design Competitions/Awards within India and Abroad

1.3 Objectives

- To create an environment for effective teaching-learning by encouraging the students and faculty to nurture the curiosity and scientific and research temper.
- To assist the process of Induction of highly qualified, talented, competent & motivated faculty and training & dedicated supporting the administrative staff
- Establishment of excellent academic research support facilities (laboratory, library, Internet, etc.)
- Provide opportunities for continuous updating the knowledge of faculty through faculty interventions/exchanges from premier institutions and industries/R&D Labs
- Establishment of procedures and methodologies for regular monitoring and control of quality of all academic programmes
- Reforms in regulations and curriculum with greater flexibility to students
- Have strong linkage with industries/Professional Bodies
- Technology up-gradation, development and transfer
- Active participation of alumni in resource generation and planning and development
- Organising and participation of staff and students in in-house and outside training programs, seminars, conferences, workshops on continuous basis.
- Increase research and consultancy activity with options for incentives and encouragement to motivate staff and students to actively involve in research activities in collaboration with industry and R&D Centres
- Increase the number of continuing education programmes/MDPs for Industries

- Exchange of faculty and working personnel from industry
- Increase Institute-Industry interaction/Collaboration
- Entrepreneurship Development/Technology Business Incubation/startups
- Increased interaction with educational and other research establishments/ institutes.

1.4 Methodologies:

- Identify the particular areas of emerging technology/Inter-disciplinary/Multi-disciplinary Approach
- Identify the problems of particular industry/cluster/region
- SWOT Analysis (Examining of the existing faculty members/facilities) for R&D activities
- Sensible Motivation Programmes to distinguish performers and non-performers among faculty members through financial/Non-financial Incentives
- Submit concrete proposals to funding agencies for necessary grant
- Establish/strengthen R&D facilities/Culture at the NCET in collaboration with industries/professional bodies
- Develop more research-oriented labs and centres in association/support of Industries/Professional Bodies
- Involve students in innovative technology projects/Awards/Competitions
- Research & Development oriented interventions/programmes/education Leading to Startups and IPR
- Create national/international collaborative programmes

- Networking among Institutions/Universities for resource and expertise sharing
- Improving in service conditions of faculty members and technical staff commensurate to that of the industry to attract best faculty & staff
- Introduction of award of merit, recognition and sabbatical leave to performing faculty and staff.

1.5 Output Indicators:

- Increase in research publication, patents and technology transfer to industry
- Increase in sponsored research projects and consultancy
- Increase at Ph.D. and post-doctoral research
- Increase in the network of eminent Scientists/Think Tanks to strengthen the R&D activities of NCET
- Increase in state of art laboratories in cutting edge technologies with the support of industries/funding agencies
- Increase in national and international conferences of our own/in association with others
- Increase in qualified (minimum Ph.D.) and talented faculty.
- Substantial increase in the intake quality of students at UG/PG Programmes
- Class rooms and laboratories equipped with latest tools being used meaningfully
- Adjunct / Visiting faculty from the industry/R&D Labs/Professional Bodies
- Faculty Visit/training collaborative ventures with industry, research organizations and other academic institutions in India and abroad

- Increase in intake quality of students at M.Tech. and Ph.D. level (restructuring the existing programmes & introducing new programmes)
- Increase in the departments and Centre of Excellence
- Increase in resource generation through alumni, consultancy fee, etc.
- Increase in community services to payback to the society
- Increase in non-formal training to industry and other educational institute (Executive / Staff Development Programme)
- Lectures by distinguished professionals from industry and academic institute
- National and Global accreditation certification
- Establishment of industry sponsored Chairs
- Nurturing entrepreneurs by creating Technology Business incubators
- Exchange programmes at national and international level.



Nagarjuna College of Engineering and Technology

R&D Advisory Committee

Padmashri Prof. R. M. Vasagam

*Eminent Scientist, ISRO
Former Vice-Chancellor of Anna University and Dr. MGR University*

Dr. L. V. Muralikrishna Reddy

*President, Indian Technology Congress Association (ITCA)
75 Students' Satellites Consortium: Mission 2022*

Dr. K. Ramachandra

*Former Director, Gas Turbine Research Establishment, DRDO
Director, National Design and Research Foundation*

Dr. R. Venkatesan

*Scientist-G, Head, Ocean Observation Systems, National Institute of Ocean
Technology, Visiting Professor, IIT-Madras & IIT-Kharagpur*

Dr. Wooday P Krishna

National President, Indian Institution of Production Engineers

Dr. J. Ramkumar

Professor, Indian Institute of Technology-Kanpur

Dr. K. Gopalakrishnan

*Advisor, Nagarjuna College of Engineering and Technology
Secretary General, ITCA and University Space Engineering Consortium-India
Convener, 75 Students' Satellites Consortium: Mission 2022*

Nagarjuna College of Engineering & Technology (NCET): R&D Intervention Strategies with Timeline and Evaluation Metrics

SI.No.	Roles and Responsibilities of Emeritus Professor/Advisor-R&D
1.	Developing, Implementing and Promoting the Research Strategy (<i>R&D Vision-Policy, IPR Policy, Guidelines etc</i>)
2.	Patents Filed/Published in Patent Journal- 150 to 200 in 2 yrs
3.	Efforts to Launch of Student Satellite Programs in 1-2 Years' Time Frame
4.	R & D Funding: Rs. 50 Lakhs to Rs. 2 Crores in 2 Years (<i>In Cash and/or Kind</i>)
5.	50 to 100 Publications per Year: Both Research Papers (<i>Leading to Impact Factor, "h" Index, "i-10" Index etc</i>); <i>Sensitize the Faculty Members on the Need for More Quantity and Quality of Publications (Scopus/WoS/ICI etc)</i>
6.	Educate All the Faculty Members Publish 50-100 Books in 2 Yrs! And make them to get ISBN Numbers for their Books!
7.	Organise Noteworthy, High Impact, Futuristic Events: 2-3 with Foreign Collaborations-Target School Students
8.	Ensure Google Scholar, ResearcherID, ORCID ID etc for all Faculty Members in 6 months
9.	Establish Network of Eminent Scientists/Academicians and Professional Connections with Global Forums etc
10.	Establish Chapters of Important Professional Bodies & Ensure Sensible Interventions/Events with them: 6-10 in 2 Yrs
11.	Sensitizing the Faculty Members on R&D and Need for Professional Network in India and Abroad
12.	International Collaborations/International Exchange Programmes/ Internships for Students and/or Faculty Members at Foreign Universities/International Summer Schools/International Winter Schools
13.	Introduce Internships for Students at IITs/Foreign Universities /International Summer Schools
14.	Establish 6i Lab : Imagine, Invent, Innovate, Implement, Integrate and Incubate (6i) Lab
15.	Get Scientific and Industrial Research Organisation (SIRO) Status from Department of Scientific and Industrial Research (DSIR) under the Scheme on Recognition of Scientific and Industrial Research Organisations
16.	Managing and Delivering All Research Projects to a High Standard with Sustained Motivation to do so by Faculty!
17.	Organically Building and Developing New Projects, Contacts and Funding Sources
18.	Awareness Program: Minimum 1 Program per Department per Semester
19.	Encouraging Submission of Proposals: Minimum 1 or 2 per Department per Month
20.	Efforts to Establish Technology Business Incubation Centre: Startups: Minimum 25-50 in 2 Yrs
21.	Major Proposals (Rs.10 Lakh and above): Minimum 2 per Department per Annum
22.	Establishment of Centres for Innovation and IPR, Technopreneurship Development etc
23.	Assisting in NIRF/NBA/NAAC/ABET Processes! <i>University Related Documentations/USPs/Priorities, if any!</i> Any other Activities/Responsibilities/Priorities as per Needs as Assigned by the Management