DZhMWViOWVmMTEyZDA2NjNmNmZhYWFiZDJlNzU4MTZlMjJlODc2MDYxMDZjMzVmYzM2NSIsInRhZyI6IiJ9)

INSTITUTIONAL ASSESSMENT AND ACCREDITATION
(Effective from July 2017)

Accreditation - (Cycle -2)

PEER TEAM REPORT ON

INSTITUTIONAL ACCREDITATION OF
NAGARJUNA COLLEGE OF ENGINEERING AND
TECHNOLOGY
C-1407
Karnataka
Bengaluru
562164

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
An Autonomous Institution of the University Grants Commission
P.O. Box No. 1075, Nagarbhavi, Bengaluru - 560 072, INDIA

Section I:GENERAL INFORMATION	
1.Name & Address of the institution:	NAGARJUNA COLLEGE OF ENGINEERING AND TECHNOLOGY Bengaluru Karnataka 562164
2.Year of Establishment	2001
3.Current Academic Activities at the Institution(Numbers):	
• Faculties/Schools:	2
• Departments/Centres:	9
• Programmes/Course offered:	10
• Permanent Faculty Members:	163
• Permanent Support Staff:	93
• Students:	1818
4.Three major features in the institutional Context (As perceived by the Peer Team):	1. Four UG programs are accredited by NBA and also ranked under ARIIA in B-Band (26-50) 2. The College is autonomous and impart value driven and Skill building engineering education. 3. Good infrastructure with lush green campus.
5.Dates of visit of the Peer Team (A detailed visit schedule may be included as Annexure):	Visit Date From : 20-06-2022 Visit Date To : 21-06-2022
6.Composition of Peer Team which undertook the on site visit:	
Chairman:	Sundararajan Mahalingam

Member Co - ordinator:	Prof Sivasankar P R
Member:	Upendra Patel
NAAC Co - ordinator:	Dr. N R Mohan

Section II:CRITERION WISE ANALYSIS

*Observations (Strengths and/or Weaknesses) on each qualitative metrices of the key Indicator under the respective criterion***(This will be a qualitative analysis of descriptive nature aimed at critical analysis presenting strength and weakness of HEI under each criteria)**

	Criterion1 - Curricular Aspects (Key Indicator and Qualitative Metrices(QlM) in Criterion1)	
1.1	**Curriculum Design and Development**	
1.1.1 QlM	**Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific Outcomes(PSOs) and Course Outcomes(COs) of the Programmes offered by the Institution.**	
1.2	**Academic Flexibility**	
1.3	**Curriculum Enrichment**	
1.3.1 QlM	**Institution integrates crosscutting issues relevant to Professional Ethics ,Gender, Human Values ,Environment and Sustainability into the Curriculum**	
1.4	**Feedback System**	

Qualitative analysis of Criterion 1

The institution has received Autonomous status from UGC, VTU & GoK since 2016-17. Institution has strong focus on OBE and courses have well-defined objectives and learning outcomes aligned with vision and mission of the institution. The institution is taking care in the design and development of curriculum involving all stake holders through their participation in Board of Studies and Academic Council meetings. The Institute follows the guidelines and regulations of UGC, AICTE and VTU. CBCS system through the electives offered in the curriculum is implemented in all the programs. Internships, Project Based Learning, mini and major project works are part of the curriculum. Two new UG programs viz. Artificial Intelligence & Machine learning and Data Science are introduced besides existing 4 UG programs. Online learning is promoted through credit based NPTEL/SWAYAM courses & Online Courses from Indian Institute of Remote Sensing. Seminars, Workshops, and Training programs from industry experts are arranged to make the students industry ready to enhance the employability skills. The institute has introduced various types of courses in the curriculum to combine cross-cutting issues relevant to gender, environment and sustainability, human values, and professional ethics. The effective feedback system is in existence. Feedback from stakeholders such as students, staff, alumni and employer provide valuable inputs for designing value added courses, review of programs curriculum and formulated and practiced for effective design and development of the curriculum.

Criterion2 - Teaching-learning and Evaluation (Key Indicator and Qualitative Metrices(QlM) in Criterion2)	
2.1	**Student Enrollment and Profile**
2.2	**Catering to Student Diversity**
2.2.1 QlM	**The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners**
2.3	**Teaching- Learning Process**

2.3.1 QlM	**Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences**
2.3.2 QlM	**Teachers use ICT enabled tools including online resources for effective teaching and learning process.**
2.3.4 QlM	**Preparation and adherence of Academic Calendar and Teaching plans by the institution**
2.4	*Teacher Profile and Quality*
2.5	*Evaluation Process and Reforms*
2.5.3 QlM	**IT integration and reforms in the examination procedures and processes including Continuous Internal Assessment (CIA) have brought in considerable improvement in Examination Management System (EMS) of the Institution**
2.6	*Student Performance and Learning Outcomes*
2.6.1 QlM	**Programme and course outcomes for all Programmes offered by the institution are stated and displayed on website and communicated to teachers and students.**
2.6.2 QlM	**Attainment of programme outcomes and course outcomes are evaluated by the institution.**
2.7	*Student Satisfaction Survey*

Qualitative analysis of Criterion 2

The enrollment of students to the Institution is based on regulations and guidelines of AICTE, Government of Karnataka and VTU. Students' admission in the institute is around 75%.

The institution has qualified (39 with Ph.Ds.) and experienced faculty to enhance the process of Teaching & Learning using the ICT tools in addition to traditional chalk and talk pedagogy. Students are given a right blend of traditional and modern methods to make learning

student-centric and a rewarding experience. Experiential learning, participative learning and problem-solving methodologies are well adopted to ensure the holistic development of students.

The practice of identifying slow learners and advanced learners based on their Continuous Internal Evaluation (CIE) and grades in semester end exams, participation in departmental activities and in classroom performance is recently implemented. The extra classes are arranged for Slow learners.

The academic calendar is notified well in advance, which includes the schedule of various academic activities such as registration of the students, commencement of the classes, CIE, SEE, sports day, cultural day, holidays, etc.

The Internal Assessment tests are conducted in a transparent manner and the students are informed the syllabus well in advance and CIE & SEE question papers are prepared by indicating CO's and the Revised Bloom's Taxonomy. The evaluated blue books are distributed to students in the classroom within one week for taking and giving feedback. The institution provides knowledge enhancing & self-learning programs, such as e-learning, language lab, digital library, virtual labs, value added courses, technical quiz, cultural and technical fests.

Mentoring system is in place. Student: mentor ratio is 15 to 20:1 (15 to 20 students for one teacher) to counsel the students in their studies as well as co-curricular activities.

The Outcome Based Education (OBE) is followed to focus on measuring student performance through learning outcomes and parameters like CO's, PO's, PSO's and PEO's and the Graduate Attributes defined by the NBA. Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are available in the website. The assessment of **POs** is adequate. Nearly 83% the students have cleared the examinations.

Criterion3 - Research, Innovations and Extension ***(Key Indicator and Qualitative Metrices(QlM) in Criterion3)***	
3.1	***Promotion of Research and Facilities***

3.1.1 QlM	**The institution's Research facilities are frequently updated and there is a well defined policy for promotion of research which is uploaded on the institutional website and implemented**
3.2	*Resource Mobilization for Research*
3.3	*Innovation Ecosystem*
3.3.1 QlM	**Institution has created an eco system for innovations, creation and transfer of knowledge supported by dedicated centers for research, entrepreneurship, community orientation, Incubation etc.**
3.4	*Research Publications and Awards*
3.5	*Consultancy*
3.6	*Extension Activities*
3.6.1 QlM	**Extension activities are carried out in the neighbourhood community, sensitising students to social issues, for their holistic development, and impact thereof during the last five years**
3.7	*Collaboration*

Qualitative analysis of Criterion 3

The institution has received 4-star rating from Institute's Innovation Council from Ministry of Education during 2020-21. The college constituted the R&D cell to promote research and innovative activities. The R&D cell focuses on mini and major projects of the students along with funding agencies that to be carried out during the course of study. Seven departments have been recognized as research centers from Visvesvaraya Technological University, Belgaum to offer Ph.D. programs and 55 research scholars are pursuing Ph.D.

The institution has one unregistered Incubation Centre for innovation practices carried out by the students. The institution has been granted few Indian and foreign patents. Few pilot projects have been displayed by the UG and PG students. MoUs with Industry for innovation and knowledge transfer are available but needs to be activated. Infrastructure and activities of Incubation Center needs improvement. Student startups through Incubation Centre are not shown.

The college has Signed MoU with ISRO as a part of Student Satellite project "STUDSAT" launched by ISRO-PSLV C15 and also building its own "Nagarjuna UNITY Satellite" with 75 Students' Satellites Programme initiated to Celebrate India's 75 years of Freedom viz, "Azadi ka Amrut Mahotsava".

The college has signed MoUs with various MNCs/industries such as Amazon, Salesforce, NASSCOM, e-Yantra IIT-Bombay robotics lab, etc. including Texas Instruments for students training. The faculty members have undertaken research projects funded by BRNS, VGST, GTRE, AICTE, VTU & KSCST. The faculty is encouraged to publish papers in SCOPUS listed journals. The R&D policy is recently implemented wherein a provision is made to incentivize the faculty publishing in SCOPUS listed journals. Seed money is given to faculty to initiate their research; however, the policy for seed money needs to be revamped.

The college established Entrepreneur Development Cell (EDC) to motivate the students to take up a career of self-employment. Consultancy works are undertaken by staff members and revenue is distributed among the faculty and the institution. .

Two NSS units are in place, which successfully conducted various programs such as an awareness on AIDS prevention, Environmental Pollution, Electoral Literacy Program, Blood Donation, etc.

Criterion4 - Infrastructure and Learning Resources **(Key Indicator and Qualitative Metrices(QlM) in Criterion4)**	
4.1	**Physical Facilities**
4.1.1 QlM	**The Institution has adequate infrastructure and physical facilities for teaching- learning. viz., classrooms, laboratories, computing equipment etc.**
4.1.2 QlM	**The institution has adequate facilities for cultural activities, yoga, games and sports (indoor & outdoor); (gymnasium, yoga centre, auditorium, etc.,)**
4.2	**Library as a Learning Resource**
4.2.1 QlM	**Library is automated using Integrated Library Management System (ILMS)**
4.3	**IT Infrastructure**
4.3.1 QlM	**Institution has an IT policy covering wi-fi, cyber security, etc., and allocated budget for updating its IT facilities**
4.4	**Maintenance of Campus Infrastructure**
4.4.2 QlM	**There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.**

Qualitative analysis of Criterion 4

The campus is spread over 14.36 acres of land, with built up area of 50113 Sq. Mts. with lush green campus which facilitates excellent infrastructure for teaching-learning process. The Institution has spacious and well-ventilated classrooms and laboratories besides, Academic Buildings, Auditorium with seating capacity of 400 equipped with Overhead Projector, Seminar Halls, ICT enabled classrooms, Digital Classrooms, DG sets, roof top solar panels (100 kW), and RO Water supply etc.

The college has 540 Computers Systems with licensed operating and application software, 25 LCD projectors, and Wi-Fi internet leased line connectivity with a bandwidth of 600 Mbps throughout the campus and hostels. Digital writing pads are used and Learning Management System (LMS) using Moodle platform is implemented.

The central library facility with well stacked books, journals, E-Journals (through VTU consortium) and E-books are made available to the students and staff. EDUSAT is provided for interactive two-way communications. Web OPAC is in place and Library is automated with LIBSOFT software for book circulation and stacking.

The Institution is provided 10 acres of land for outdoor games like Basketball, Cricket, Football, Handball, Kabaddi, Throw ball, and Volleyball. Separate Gymnasiums with modern equipment are available for boys and girls.

Separate Hostels for Boys and Girls with all necessary facilities, Staff quarters and Automated laundry to the staff and students are available. Sewage Treatment Plant is installed and operational, Solar Water heating and solar street lights and CCTV surveillance are in the campus. Transport and Banking facility with two ATM are available in the campus.

The repair and servicing of equipment are carried out after obtaining statutory approval of the concerned Head of the Departments, Principal, and Secretary. The maintenance and upkeep of all classrooms, seminar halls, etc. come under the purview of the Principal and with their team of technicians and housekeeping staff.

Criterion5 - Student Support and Progression
(Key Indicator and Qualitative Metrices(QlM) in Criterion5)

5.1	Student Support

5.2	**Student Progression**
5.3	**Student Participation and Activities**
5.3.2 QlM	**Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution**
5.4	**Alumni Engagement**
5.4.1 QlM	**The Alumni Association / Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services.**

Qualitative analysis of Criterion 5

Government scholarships are provided for the eligible SC/ST/OBC students. The college also offers some free-ships to the bright students. Anti-Ragging and prevention of Sexual Harassment Committee, Grievance Redressal Committees have been formed and effectively prevent any untoward incident in the college. The Placement Cell organizes several skill development & career guidance programs.

The student representatives are chosen as members of various academic and administrative bodies such as IQAC, Anti Ragging Committee, Class Committees, Cultural Committees, Sports Committees, etc. The involvement and participation of students in these committees needs to be enhanced. Sports & Cultural festivals both at the College and Inter collegiate levels are held annually. Students have participated and won prizes at various levels in sports events. Classes for learning German language have been recently started.

The college has a registered Alumni association. The alumni are invited to deliver guest lectures and also as the resource persons for workshops and seminars.

Criterion6 - Governance, Leadership and Management (Key Indicator and Qualitative Metrices(QlM) in Criterion6)

6.1	*Institutional Vision and Leadership*
6.1.1 QlM	**The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the Institution**
6.1.2 QlM	**The effective leadership is reflected in various institutional practices such as decentralization and participative management.**
6.2	*Strategy Development and Deployment*
6.2.1 QlM	**The institutional Strategic / Perspective plan is effectively deployed**
6.2.2 QlM	**The functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules and procedures, etc.**
6.3	*Faculty Empowerment Strategies*
6.3.1 QlM	**The institution has effective welfare measures for teaching and non-teaching staff and avenues for career development/ progression**
6.4	*Financial Management and Resource Mobilization*
6.4.1 QlM	**Institution conducts internal and external financial audits regularly**
6.4.3 QlM	**Institutional strategies for mobilisation of funds and the optimal utilisation of resources**
6.5	*Internal Quality Assurance System*
6.5.1 QlM	**Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes visible in terms of –** **Incremental improvements made for the preceding five years with regard to quality (in case of first cycle)** **Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives (second and subsequent cycles)**

6.5.2 QlM	**The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms and recorded the incremental improvement in various activities**
	(For first cycle - Incremental improvements made for the preceding five years with regard to quality
	For second and subsequent cycles - Incremental improvements made for the preceding five years with regard to quality and post accreditation quality initiatives)

Qualitative analysis of Criterion 6

The Governing Body functions subject to the existing provision in the by-laws of the college and the rules laid down by the state government, UGC/AICTE. The Principal of the college is the head of the institution providing the required leadership to the institution and its system.

The Academic Council is constituted in accordance with the guidelines issued by UGC & VTU. The principal ensures that all provision of the university by-laws, statutes and the regulations are observed. He convenes the meetings of the Advisory Councils, Finance Committee, Planning and Monitoring Board, Selection Committees. The GB reviews and approves the minutes of Academic Council meetings, as well as financial, disciplinary and other matters. The Institution promotes a culture of decentralization and participative management involving all stakeholders in the process of decision making.

CPF contributions by Management are given to all the staff members. ESI is given to non-teaching staff. Unpaid Maternity Leave are given to female employees. Gratuity, Group Insurance, Covid Insurance, TA/DA reimbursement, etc are provided to all the staff. Sixth-pay scale is implemented. However, several faculty are on fixed consolidated pay though they have completed the probation period.

Internal Audit Committee verifies the income and expenditure details of the college as per the balance sheet. There will be statutory external financial audit by a qualified Chartered Accountant. The institute's major source of funding is the various fees collected from the students.

The Internal Quality Assurance Cell (IQAC) conducts academic audit of the department annually. Constructive criticism is offered by the audit committee that includes external members also. Based on the recommendations in the last NAAC report and the academic audit, specific measures have been taken by the college to improve teaching, learning and evaluation.

Criterion7 - Institutional Values and Best Practices (Key Indicator and Qualitative Metrices(QlM) in Criterion7)	
7.1	**Institutional Values and Social Responsibilities**
7.1.1 QlM	**Measures initiated by the Institution for the promotion of gender equity during the last five years.**

7.1.3 QlM	**Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 500 words)** • **Solid waste management** • **Liquid waste management** • **Biomedical waste management** • **E-waste management** • **Waste recycling system** • **Hazardous chemicals and radioactive waste management**
7.1.8 QlM	**Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and other diversities (within 500 words).**
7.1.9 QlM	**Sensitization of students and employees of the Institution to the constitutional obligations: values, rights, duties and responsibilities of citizens (within 500 words).**
7.1.11 QlM	**Institution celebrates / organizes national and international commemorative days, events and festivals (within 500 words).**
7.2	*Best Practices*
7.2.1 QlM	**Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual.**
7.3	*Institutional Distinctiveness*
7.3.1 QlM	**Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words**

Qualitative analysis of Criterion 7

The institution promotes gender sensitization through co-curricular activities like workshops, seminars, guest lectures, street plays, poster exhibitions, counseling, etc. The institute considers safety and security of the girl students as paramount and has initiated many fool-proof measures. The sanitary napkin incinerators as well as sanitary napkin vending machines are installed for the health and hygiene of the girls. Entire campus including hostels is under CCTV surveillance. Rain Water Harvesting and Wastewater recycling through STP is implemented. The landscape of the institute has enough provision for pedestrian-friendly roads/tracks. Important commemorative days are celebrated by the students and faculty. Regular financial and academic audits are conducted. E-waste is disposed of through registered vendors. Significant efforts are made to keep the campus green and clean. Green audit and energy audit are conducted.

BEST PRACTICES:

1. Since 2017, the college is involved in the Saansad Adarsha Gram Yojana (SAGY) for the development of the villages by coordinating with the sitting Member of Parliament (MP). Students survey the village and understand the problems of the villagers and prepare an action plan which is submitted to the local Member of Parliament.
2. The college provides career counseling for the rural students for better placements with the help of various awareness and training programs. By implementing this, the college is progressing towards the mission of 100% placement of eligible students.

INSTITUTIONAL DISTINCTIVENESS

The institution has obtained various ISO certifications to upkeep their day-to-day administration. It has also entered into MoUs with several agencies to provide various skills/training to students to make them industry ready and easily employable.

Section III:OVERALL ANALYSIS (based on Institutional strengths.Weaknesses,Opportunities & Challenges(SWOC)(up to 500 words))

Overall Analysis
- Qualified and experienced faculty, several of them having Ph.D.   - Use of Software for attaining Outcome-Based Education   - Excellent, spacious Infrastructure with Solar power and water heating system, and automated laundry.   - Good student-staff ratio   - ICT enabled class rooms

Section IV:Recommendations for Quality Enhancement of the Institution
(Please limit to ten major ones and use telegraphic language) (It is not necessary to indicate all the ten bullets)

- • Faculties should make more efforts in taking up funded research projects.

- • Active participation of faculty and students in Entrepreneurship projects is recommended

- • Interaction of students and faculty with other institutions and R&D labs both within the country and abroad should be explored

- • Alumni services should be utilized to get internship and placement for the students.

- • Efforts to motivate students to participate in academics and sports events at national level

- • Publication in high impact factor journals, and patents should be enhanced.

- • Students' participation and involvement in decision making process need to be improved.

- • Incubation center may be registered and its functioning be strengthened.

- • Advanced equipment should be made available in labs for better research output.

I have gone through the observations of the Peer Team as mentioned in this report

Signature of the Head of the Institution
Seal of the Institution

Signature of the Peer Team Members:

Sl.No	Name		Signature with date
1	Sundararajan Mahalingam	Chairperson	
2	Prof Sivasankar P R	Member Co-ordinator	
3	Upendra Patel	Member	
4	Dr. N R Mohan	NAAC Co-ordinator	

Place: Date