

FOR 1st CYCLE OF ACCREDITATION

A.R.ENGINEERING COLLEGE

VADAKUCHIPALAYAM, KAPPIYAMPULIYUR (POST), VIKRAVANDI - TK, VILLUPURAM - DT, TAMILNADU.

605601

www.arenggc.com

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Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL BANGALORE

May 2024

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

1.1 INTRODUCTION

A.R. Engineering College functions under the aegis Sri Venkatachalapathy Educational Trust which was founded in the year 1998. The trust had stated a polytechnic during 1998 followed by our college namely A.R Engineering College during 2008 and an International school by name Villupuram Vidhyalaya International School (CBSE) during 2022. Hailing from a remote village in the state of Tamilnadu the Chairman of the trust Shri.G.Mahadevan had a vision to establish educational Institution in the area of Villupuram district which is located in the southern part of Tamilnadu. All the educational institutional are located on the national highway NH-45C. As on date around 12700 students have passed out of the portals of the colleges since inception raising the downtrodden families, most of them being first graduate to a higher pedestal. The yeoman service offered to the public in and around the village of Villupuram district is highly commendable and speaks volumes about the visionary management who have mobilized funds from their agricultural income to build the citizen of tomorrow. The management believes in investing in sound infrastructure and quality facilities to create and facilitate the perfect learning environment.

The A.R .Engineering college (AREC) is affiliated to Anna University Chennai and approved by AICTE New Delhi. AREC visualize higher and faster growth in the field of technical education and involve itself in the preparation of students with personality, attitude and skills to ensure effective delivery of the knowledge gained by them. The AREC offers 6 UG Program with a current intake of 300. The college has participated in the NIRF Ranking during last two years.

Vision

To be world class nodal centre committed to advanced learning, research and training to serve the nation, meeting the national / international standards.

Mission

To be a premier Engineering College, much sought after by the industries and society offering professional education and training blended with ethical values to convert student resource into strong assets of our nation.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

AREC is a model college that helps the industry and society by achieving academic excellence through.

- Quality education to the students.
- Good infrastructure with ICT class rooms and well-equipped laboratories

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- Qualified, experienced faculty members and committed workforce
- Student-friendly environment safe and secure learning communities and students' associations
- Providing Outcome-Based Learning with defined objectives
- Excellent digital library
- Incubation facilities and innovation centers
- High-speed fiber optical internet connectivity with Wi-Fi
- Training and motivating the learners to become entrepreneurs
- Conducting motivational, technical, skill based and value added courses
- NPTEL remote learning centre for university approved online courses
- Transparent and decentralized governance with defined roles and responsibilities
- Obtaining financial assistance for students' projects
- Providing 100% placement opportunity
- Effective involvement of alumni in placement activities.
- Obtaining support from Industries in and around Pondicherry.
- Safe and Secured Environment for girl students.

Institutional Weakness

AREC has the following weaknesses:

- Industry-Institute interaction needs improvement.
- Less registration for professional society bodies
- Shortfall of getting larger research projects
- Lack of out of state students' admission
- Students' enrolment with low cut-off

Institutional Opportunity

The tangible opportunities include:

- Offering pre-placement internship and continuous training
- Supplementing online learning through SWAYAM and NPTEL
- Providing system with net facilities for online courses
- Offering Value Added Courses in the emerging areas
- Promoting Intellectual Property Rights culture among students and staff
- Giving teaching-learning opportunities to all stakeholders such as students, staff
- Availing facilities for research activities
- Signing MoU with industries and institutions
- Encouraging industrial and in-house projects
- Utilizing the library in extended working hours
- Implementing Naan Mudhalvan Scheme in addition to the curriculum
- Elevating the standard of the college through accreditation (NACC, NBA, Permanent Affiliation)

Institutional Challenge

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- Increasing students' admission
- Educating the slow learners to Anna University standards
- Managing the overhead cost and maintain the available resource
- Inadequate financial support from the Central and State Government for self-financed institutions
- Tangible gaps between existing curriculum and industry expectations
- High affiliation fee
- Inability to pay high tuition fee for doing Ph.D.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

A.R. Engineering College (AREC) is affiliated to Anna University, Chennai. AREC is approved by AICTE, New Delhi. AREC offers 6 UG programs in engineering streams. The syllabus of the programs is prescribed by Anna University, Chennai. The curriculum and syllabi for all UG programs are rigorously followed by AREC. The University-level programs (UG) cover detailed Program Educational Objectives (PEOs), Program Specific Outcomes (PSOs), and Program Outcomes (POs) and their mapping. As per 2017 Regulation (2017-R), students have access to the Choice-Based Credit System (CBCS) curriculum. Based on the academic calendar and internal evaluation schedule given by Anna University, an academic calendar is generated provisionally and revised for each and every semester. To ensure an efficient planning and execution, the university's deadlines are closely followed. According to the university timetable, attendance and internal assessment results are submitted in the Controller of Examination (COE) online portal. Three CIAT for 2017-R and two CIAT for 2021-R are to be conducted as directed by the COE regularly and will be used as internal marks for grading. For the students to become socially responsible, academically excellent, technically skilled, physically diligent, psychologically disciplined, spiritually enlightened, and socially liable to serve the nation at large, the institution is committed to instilling in them human, environmental, and professional values and ethics.

Every academic year, each department offers at least one value-added course in addition to the curriculum to help the students advance in their careers. The institutional has offered six value added program during the last five assessment years and a total number of 1492 students have benefitted out of it. As per curriculum followed it is mandatory for all final year students to take a project work internships have been allotted credited in all the branches of study it is ensured that all the students take up internship fields work and project work as stipulated in the curriculum. Additionally, feedback is obtained from students, staff, employers and alumni in

order to enhance the teaching and learning process and the overall development of the institution. The HoD will evaluate the feedback and take remedial action in the upcoming semester. The Internal Quality Assurance Cell (IQAC) guarantees that the faculty members are ready to present the program effectively. Three internal assessments are given to students during the semester to gauge their performance. The class committee meets to discuss performance, and reports are sent to the parents. Whether it's through adding new courses that might improve students' employability or addressing any other pertinent concerns, the institution constantly aims to meet the requirements of its students.

Teaching-learning and Evaluation

AREC has been admitting students through Anna University counseling right from its inception during the last five years, the Enrollment percentage is 30% as against the sanctioned intake from AICTE for each of the

assessment years. The percentage of seats reserved for various categories like SC, ST, OBC is 69% as per Tamilnadu Government reservation policy. The percentage of students actually admitted against the Earmarked for Reserved Category is 73% for the last five years.

The student faculty ratio has been consistently maintained less 20:1 and it is precisely 1:15 for the latest completed academic year i.e 22-23 as per the sanctioned intake. The percentage of full time teacher against sanctioned post during the last five years is above 90%. The total 16.37 percentage of our faculty members are PhD degree holders. The college has been practicing student's centric methods for its teaching learning process by way of experiential learning, participative learning and problem solving methodologies using ICT tools.

The institution has a transparent mechanism for internal and external assessment strictly following the regulations stipulated by Anna University. Grievance Redressal system is very effective and efficient and ensures timely redressal. The institution has been following outcome based education since 2015. The programme outcomes are displayed and disseminated to all the concerned stake holders in the website and otherwise. The CO's and PO's are evaluated by a well structured procedure consisting of direct and indirect methods. Pass percentage of students for the last year is 60%.

Research, Innovations and Extension

A.R. Engineering College has created a Culture for research amongst students by offering various facilities to undertake research related activities Workshops, Seminar and Conferences are planned and conducted on Research Methodology, Intellectual Property Rights on Entrepreneurship regularly.

The total number of 51 Workshops/seminars has been conducted during the last five Assessment years. The Institution has received project funding to the tune of 15Lakhs from Non-Government agencies Industries and corporate.

The faculty members have published their research finding in 269 papers Various National &International journals with high Impact factors and Citations. Our Faculty members have also published 15 books and

269 papers in National and International Conference Proceedings during the five Assessment years. Numerous extensions Activities have been Organized in which both students and Faculty members Participate through forums like NSS.

Activities include tree Plantations, Village adoption cleaning and Awareness campaign, In the Neighborhood villages and Communities, Blood donation camps etc., A total of 60 extensions and outreach programs have been organized during last five assessment years.

21 Memorandum of understandings are functional in the institutions for activities related to internships, placement trainings and research. The Institution has received 6 recognitions for extensions activities from Government and Non Government bodies for Activities related to blood donation camps, cleaning Activities.

The College has created an ecosystem for Innovation and creativity. Facilities are being provided for students to take up Innovative research projects keeping in view the need of the Nation for establishing startup innovation. Various programmers are Organized for creating Awareness on the opportunities provided for Entrepreneurs. Necessary space and Equipment are arranged as per the need of the particular projects. In order to inculcate the culture for research students are motivated to participate in workshops, seminars and Hackthons with

handholding by faculty members. Faculty members are also provided with incentives for promoting research related activities.

Infrastructure and Learning Resources

AREC has lush green, calm and beautiful campus with 9.44 acres of land with built up area of 38202 m2 covered with green shady trees. A.R. Engineering College strongly believes that adequate infrastructural facilities are the key element and it will provide ample opportunities for both the faculty and students. It has established an exceptional and cutting-edge infrastructure with cutting-edge amenities and educational resources in accordance with the standards set by statutory agencies like the AICTE and Anna University. For a successful teaching-learning process, all departments' classrooms are equipped with furniture, a board, marker with chalk box, LCD projectors and screens, white boards, and computers with internet access.

They also have fans and lighting. The college offers an air-conditioned seminar hall for hosting a variety of extracurricular events in addition to two lecture rooms with LCD projectors, PCs with internet access, and Public Address systems. All laboratories of our institutions are outfitted with the most up-to-date technology to perform experiments in accordance with AICTE and Anna University guidelines. For the students' safety, adequate safety precautions have been implemented and are visible in the laboratories.

AREC has sophisticated IT facilities which include 342 Computers which are connected through LAN, printers, Legal System Software and Legal Application Software along with Wi-Fi connectivity access points at prominent places.

The expensive digital library is furnished with 20 PCs that are connected via LAN for quick and easy access to the newest books and journals, the internet, the reading room, and reprographic equipment. In addition, it is a member of DELNET allowing its users access to e-resources.

On special occasions like Independence Day, Republic Day, Hostel Day, and other significant occasions, cultural events are held in lecture rooms and the auditorium. Institution provides opportunities for students to compete in sports and games at the college, university, zonal, and state levels. Students make good use of the indoor and outdoor gaming facilities. The college features with well-equipped gyms for boys and girls, as well as a yoga centre that is utilized by both students and staff, promoting a stress-free and healthy environment.

The institution also has the following amenities: a well-maintained ramp, a wheelchair for students with physical disabilities, a RO water plant, a fire extinguisher, a vending machine for sanitary napkins, a water purifier, CCTV surveillance, solar plants, gen sets and rainwater harvesting structures.

Student Support and Progression

The institution provides an engaging environment for students to continually improve in academic, cocurricular, and extracurricular activities. In many academic and administrative bodies, students have equal representation and participate in decision-making. More than 85% of the students receive financial aid from the government, and non-government organizations. Our students receive guidance for life skills, competitive examinations, soft skills training, ITC/Computing Skills Yoga, physical fitness, and meditation sessions. A total number of 30 program have been conducted during the last five years for the development of students.

If there are any complaints, the institute's Internal Compliance Cell, Anti-Ragging Committee, and Grievance Redressal Committee handle them with care. Any academic or non-academic concern on campus may be brought to the attention of students via online register form and suggestion and complaint boxes.

Averages of 95% of the students are placed through campus, and the college has an excellent placement track record. Many of our students also decide to continue their study at prestigious universities in India and abroad.

In order to make it simpler for students to participate in co-curricular and extracurricular activities, several organizations and groups are now operating. Each year, the congregations more than 25 competitions, sports competitions, and other events. A total of 41 awards have been won by our student during last five assessment years, 182 students have participated in various sports and cultural events organized both internally and by other institution during the last five year.

The institutions' officially recognized alumni association actively promotes the expansion of the institutions. The teaching learning process and placement training activities are much improved by alumni.

Governance, Leadership and Management

The governance of A.R. Engineering College is open and effective, following its vision and objective. Every year, the governing body and the governing council meet to discuss and organize the administrative and academic operations. The governance of the institution is open, inclusive, and decentralized with a number of functional committees. Various institutional entities are operating successfully and effectively while adhering to their own policies and strategic/perspective goals. Utilizing Enterprise Resource Planning (ERP) e governance in administration, finance and accounting, student admission and support, and examination is implemented.

Employer provident fund (EPF), incentives, maternity / medical leave, and other employee welfare programs are offered. Through an open faculty assessment method, the Academic Performance Indicator (API) assesses the performance of the faculty.

Many instructors have received financial aid to attend conferences and Faculty Development Programmes (FDPs) in order to advance their expertise. 93.45% of the personnel participated in professional development and FDP programs. External resources are used to mobilize funds, while internal and external financial audits are used to periodically maintain amount usage. With the aid of its standardized processes and procedures, the well-established Internal Quality Assurance cell (IQAC) considerably contributes to the quality assurance of AREC. It improves the quality of its teaching and learning through regular audits, the gathering, analysis, and use of feedback, collaboration with national networks, and initiatives with Anna University, the International Organization for Standardization (ISO), the All India Council for Technical Education (AICTE), and the National Assessment and Accreditation Council (NAAC).

Internal Audit is performed by Accounts Manager deputed from Sri Venkatachalapathy Educational Trust office periodically. All necessary procedures are conducted during the Internal Audit to regularize the accounts, acquire confirmations for the credit balances, gather documentary proof wherever necessary in regard to payments, and ensure Tax Deducted from the Source (TDS) compliance. The Institutions with Trust Office's

results have been combined, and the yearly returns have been sent to the appropriate income tax authorities and other relevant agencies.

External Audit is performed by the Auditors at the conclusion of each fiscal year. Prior to completing the external audit, which is typically done after the accounts have been closed in all respects, the reports are collected. A copy of the internal audit report that covers every aspect of account maintenance is kept on file. The auditors next perform the External Statutory Audit, and they then present the Management with the final audit report and audit findings.

Institutional Values and Best Practices

AREC has a strong precedence to safe and secure environment for all the staff and students irrespective of the gender by rendering all sorts of requirements. AREC have initiated to promote gender equity by organizing various national and international commemorative days and events. The institution has adopted an eco-friendly approach to maintain the lush green campus with continuous attention towards tree plantation, implementing water harvesting methods, commissioning renewable energy resources for street light, pertaining waste management system etc. For the differently abled students, facilities like ramps are provided. Various quality audits are initiated and analyzed for the continuous upliftment of the campus to keep the environment clean, green and comfortable workplace. AREC has a notable contribution in creating a responsible citizen always by conducting most of regional celebration such as Swatch Bharat activities, blood donation camps and vaccination camps through National Service Scheme (NSS). In addition, the students are introduced to the managerial skills, ethical behavior and being sustainable towards the environment via the curricular subjects like Environmental science. AREC has the best practices to enumerate the success of the students in holistic development.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the College			
Name	A.R.ENGINEERING COLLEGE		
Address	VADAKUCHIPALAYAM, KAPPIYAMPULIYUR (POST), VIKRAVANDI - TK, VILLUPURAM - DT, TAMILNADU.		
City	VILLUPURAM		
State	Tamil Nadu		
Pin	605601		
Website	www.arenggc.com		

Contacts for Communication						
Designation	Name	Telephone with STD Code	Mobile	Fax	Email	
Principal	R.PANNEER DHASS	04146-232121	9025526483	-	arec.svet@gmail.co m	
Professor	S.RAMAMO ORTHY	04146-232131	9944489400	-	arecnaac2024@gm ail.com	

Status of the Institution	
Institution Status	Private and Self Financing

Type of Institution		
By Gender	Co-education	
By Shift	Regular	

Recognized Minority institution	
If it is a recognized minroity institution	No

Establishment Details		

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State	University name	Document
Tamil Nadu	Anna University	View Document

Details of UGC recognition			
Under Section	Date	View Document	
2f of UGC			
12B of UGC			

Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)						
Statutory Regulatory Authority	Regulatory oval details Instit year(dd-mm- months					
AICTE	View Document	23-03-2024	12			

Recognitions	
Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	No
Is the College recognized for its performance by any other governmental agency?	No

Location and Area of Campus						
Campus Type	Address	Location*	Campus Area in Acres	Built up Area in sq.mts.		
Main campus area	VADAKUCHIPALAYAM, KAPPIYAMPULIYUR (POST), VIKRAVANDI - TK, VILLUPURAM - DT, TAMILNADU.	Rural	9.44	38202.32		

2.2 ACADEMIC INFORMATION

Details of Pro	Details of Programmes Offered by the College (Give Data for Current Academic year)					
Programme Level	Name of Pro gramme/Co urse	Duration in Months	Entry Qualificatio n	Medium of Instruction	Sanctioned Strength	No.of Students Admitted
UG	BE,Civil Eng ineering,CIV IL ENGINE ERING	48	HSC (or) Dipolma	English	30	1
UG	BE,Compute r Science And Enginee ring,COMPU TER SCIENCE AND ENGI NEERING	48	HSC (or) Dipolma	English	60	33
UG	BE,Electrical And Electronics E ngineering,E LECTRICAL AND ELEC TRONICS E NGINEERIN G	48	HSC (or) Dipolma	English	30	4
UG	BE,Electroni cs And Com munication E ngineering,E LECTRONI CS AND CO MMUNICA TION ENGI NEERING	48	HSC (or) Dipolma	English	60	21
UG	BE,Mechanic al Engineerin g,MECHANI CAL ENGIN EERING	48	HSC (or) Dipolma	English	60	11
UG	BTech,Artifi cial Intelligence And Data Sci	48	HSC (or) Dipolma	English	60	22

ence,ARTIFI			
CIAL INTEL			
LIGENCE			
AND DATA			
SCIENCE			

Position Details of Faculty & Staff in the College

	Teaching Faculty											
	Profe	Professor				Associate Professor			Assistant Professor			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0	·			0			0				
Sanctioned by the Management/Soci ety or Other Authorized Bodies	6				6				50			
Recruited	4	2	0	6	2	4	0	6	25	25	0	50
Yet to Recruit	0			0			0					

	Non-Teaching Staff									
	Male	Female	Others	Total						
Sanctioned by the UGC /University State Government				0						
Recruited	0	0	0	0						
Yet to Recruit				0						
Sanctioned by the Management/Society or Other Authorized Bodies				20						
Recruited	10	10	0	20						
Yet to Recruit				0						

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	Technical Staff									
	Male	Female	Others	Total						
Sanctioned by the UGC /University State Government				0						
Recruited	0	0	0	0						
Yet to Recruit				0						
Sanctioned by the Management/Society or Other Authorized Bodies				9						
Recruited	5	4	0	9						
Yet to Recruit				0						

Qualification Details of the Teaching Staff

	Permanent Teachers											
Highest Qualificatio n	Professor			Associate Professor			Assistant Professor					
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total		
D.sc/D.Litt/ LLD/DM/M CH	0	0	0	0	0	0	0	0	0	0		
Ph.D.	4	2	0	2	4	0	0	0	0	12		
M.Phil.	0	0	0	0	0	0	1	2	0	3		
PG	0	0	0	0	0	0	24	23	0	47		
UG	0	0	0	0	0	0	0	0	0	0		

	Temporary Teachers											
Highest Qualificatio n	Professor			Associate Professor			Assistant Professor					
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total		
D.sc/D.Litt/ LLD/DM/M CH	0	0	0	0	0	0	0	0	0	0		
Ph.D.	0	0	0	0	0	0	0	0	0	0		
M.Phil.	0	0	0	0	0	0	0	0	0	0		
PG	0	0	0	0	0	0	0	0	0	0		
UG	0	0	0	0	0	0	0	0	0	0		

	Part Time Teachers											
Highest Qualificatio n	Professor			Associate Professor			Assistant Professor					
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total		
D.sc/D.Litt/ LLD/DM/M CH	0	0	0	0	0	0	0	0	0	0		
Ph.D.	0	0	0	0	0	0	0	0	0	0		
M.Phil.	0	0	0	0	0	0	0	0	0	0		
PG	0	0	0	0	0	0	0	0	0	0		
UG	0	0	0	0	0	0	0	0	0	0		

Details of Visting/Guest Faculties								
Number of Visiting/Guest Faculty	Male	Female	Others	Total				
engaged with the college?	0	0	0	0				

 $Provide \ the \ Following \ Details \ of \ Students \ Enrolled \ in \ the \ College \ During \ the \ Current \ Academic \ Year$

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	59	0	0	0	59
	Female	33	0	0	0	33
	Others	0	0	0	0	0

Provide the Following Details of Students admitted to the College During the last four Academic Years								
Category		Year 1	Year 2	Year 3	Year 4			
SC	Male	8	9	7	1			
	Female	0	0	4	1			
	Others	0	0	0	0			
ST	Male	0	0	0	0			
	Female	0	0	0	0			
	Others	0	0	0	0			
OBC	Male	36	35	30	5			
	Female	15	17	9	2			
	Others	0	0	0	0			
General	Male	0	0	0	0			
	Female	0	0	0	0			
	Others	0	0	0	0			
Others	Male	0	0	0	0			
	Female	0	0	0	0			
	Others	0	0	0	0			
Total	1	59	61	50	9			

Institutional preparedness for NEP

1. Multidisciplinary/interdisciplinary:	Designing an integrated curriculum that combines
	elements from various disciplines encourages
	students to make connections between different fields
	of study. Incorporating interdisciplinary projects,

case studies, and seminars into the curriculum helps students develop critical thinking skills and promotes a holistic understanding of complex issues. Encourage collaboration between different departments and faculties to offer interdisciplinary courses and programs. Facilitate joint research initiatives, workshops, and extracurricular activities that bring together students and faculty from diverse academic backgrounds. Provide experiential learning opportunities such as internships, co-op programs, and community engagement projects

2. Academic bank of credits (ABC):

In our college, the Academic Bank of Credit (ABC) serves as a dynamic mechanism to recognize and value diverse learning experiences beyond the traditional classroom environment. Through the ABC system, students have the opportunity to earn academic credits for their proficiency in subjects or skills gained through avenues such as internships, research projects, industry certifications, and entrepreneurial ventures. One key aspect of the ABC system in our engineering college is its flexibility in acknowledging the practical application of engineering principles in real-world scenarios. For instance, students who have completed internships at engineering firms or participated in industrysponsored projects can demonstrate their understanding and competence in specific technical areas, thus earning credits that count towards their degree requirements. Moreover, the ABC system encourages students to engage in interdisciplinary learning and pursue their interests outside of the standard curriculum. For example, students with a passion for sustainable energy may earn credits by participating in renewable energy initiatives or environmental conservation projects. Additionally, the ABC system promotes lifelong learning by recognizing prior learning experiences and allowing students to build upon their existing knowledge and skills. This not only accelerates the completion of their degree but also enhances their overall academic and professional development. Furthermore, the ABC system fosters a culture of innovation and entrepreneurship within the engineering college by providing credits for students who successfully launch startups, develop prototypes, or contribute to technological advancements.

3. Skill development:

Skill development in Our engineering college

encompasses a comprehensive approach aimed at preparing students for the challenges and opportunities in the ever-evolving field of engineering. Through a blend of theoretical knowledge, practical experience, and soft skills cultivation, our engineering colleges strive to equip students with a diverse skill set essential for success in their future careers. Firstly, technical skill development forms the cornerstone of engineering education. Students engage in rigorous coursework covering fundamental principles in mathematics, physics, and engineering disciplines. They participate in laboratory experiments, design projects, and computer simulations to apply theoretical concepts and develop hands-on proficiency in areas such as circuit analysis, structural mechanics, programming, and materials science. Additionally, specialized technical skills pertinent to specific engineering domains, such as robotics, renewable energy systems, and data analytics, are often emphasized to align with industry trends and emerging technologies. Critical thinking, problem-solving, and creativity are fostered through challenging assignments, design competitions, and research projects, fostering a mindset of innovation and continuous improvement. Moreover, engineering colleges provide opportunities for practical skill development through internships, co-op programs, and industry collaborations.

4. Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course):

Mapping Indian Knowledge to Engineering Disciplines: Identify intersections where traditional Indian knowledge systems can enhance engineering education. For instance: Civil Engineering: Study of ancient Indian architecture and sustainable construction practices. Mechanical Engineering: Traditional metallurgy and ancient Indian manufacturing techniques. Electrical Engineering: Study of ancient electrical systems and devices mentioned in historical texts. Environmental Engineering: Traditional Indian practices in water conservation, waste management, and sustainable agriculture. Computer Science: Contributions to algorithms and mathematics from ancient Indian texts. Multilingual Course Content: Offer courses in regional languages along with English to make them more accessible. Cultural Context: Incorporate regional examples and case studies that reflect local culture and practices. Interactive Storytelling: Use

traditional stories and folklore to illustrate engineering concepts. 5. Focus on Outcome based education (OBE): In Our engineering college, the focus on outcomebased education (OBE) ensures that students acquire the knowledge, skills, and competencies necessary to succeed in their engineering careers. OBE shifts the emphasis from traditional teaching methods to a student-centric approach that prioritizes measurable learning outcomes and real-world application of knowledge. The cornerstone of outcome-based education in an engineering college is the alignment of curriculum, teaching methods, and assessment strategies with predefined learning outcomes. These outcomes are typically defined in terms of knowledge, skills, and attitudes that students are expected to demonstrate upon completion of their studies. For example, learning outcomes may include the ability to analyze and solve engineering problems, communicate effectively, work collaboratively in teams, and demonstrate ethical and professional behavior. The curriculum in an outcomebased engineering program is designed to scaffold students' learning experiences towards achieving these outcomes. Courses are structured to progressively build upon foundational concepts and develop higher-order thinking skills through handson projects, laboratory experiments, and real-world case studies. Additionally, interdisciplinary coursework and industry partnerships provide students with opportunities to apply their knowledge in practical settings and gain exposure to contemporary engineering practices. Assessment in an outcome-based engineering program focuses on evaluating students' attainment of the predefined learning outcomes.

6. Distance education/online education:

Online education in engineering has become increasingly prevalent, offering students the flexibility to pursue their engineering studies remotely while still gaining access to high-quality educational resources and opportunities for hands-on learning. One of the key benefits of online education in engineering is accessibility. Students from around the world can enroll in online engineering programs offered by reputable institutions without the need to relocate or commute. This opens up opportunities for individuals who may have geographical constraints or work commitments that prevent them from

attending traditional on-campus programs. Online engineering education also promotes flexibility in learning. Students can access course materials, lectures, and assignments at their own pace and convenience, allowing them to balance their studies with other responsibilities such as work or family commitments. Virtual laboratories, simulation software, and multimedia resources provide students with opportunities to conduct experiments, analyze data, and solve engineering problems in a virtual environment. Collaborative tools and discussion forums enable students to engage with peers and instructors, fostering a sense of community and collaboration in the online learning environment.

Institutional Initiatives for Electoral Literacy

1. Whether Electoral Literacy Club (ELC) has been set up in the College?

In our college there is fantastic electoral literacy club to initiative and to promote awareness and engagement in the electoral process among students. Here's a step-by-step guide to help you set it up The establishment of an Electoral Literacy Club within the college signifies a significant step towards promoting civic engagement and democratic participation among students. This initiative aims to enhance students' understanding of the electoral process, their rights and responsibilities as voters, and the importance of informed decision-making in a democratic society. Through various activities such as workshops, seminars, voter registration drives, and discussions on political issues, the club seeks to empower students to become active and responsible citizens. By fostering a culture of electoral literacy and civic awareness, the club aspires to contribute to the development of informed and engaged young leaders who will play a crucial role in shaping the future of their communities and nation.

2. Whether students' co-ordinator and co-ordinating faculty members are appointed by the College and whether the ELCs are functional? Whether the ELCs are representative in character?

Yes, students co-ordinator and coordinating faculty members are appointed by the college and it is functional. The Effective Learning Center (ELC) serves as a pivotal hub within a college ecosystem, facilitating academic success and personal growth among students. Functioning as a multifaceted resource, the ELC offers a range of services tailored to meet diverse student needs. These may include

tutoring sessions, study skill workshops, academic counseling, and access to supplemental learning materials. By fostering a supportive environment and providing targeted interventions, the ELC empowers students to overcome academic challenges, enhance their learning strategies, and achieve their educational goals. Its presence not only bolsters individual student performance but also contributes to the overall academic vibrancy and success of the institution.

- 3. What innovative programmes and initiatives undertaken by the ELCs? These may include voluntary contribution by the students in electoral processes-participation in voter registration of students and communities where they come from, assisting district election administration in conduct of poll, voter awareness campaigns, promotion of ethical voting, enhancing participation of the under privileged sections of society especially transgender, commercial sex workers, disabled persons, senior citizens, etc.
- ELCs undertake a variety of initiatives and programs aimed at enhancing student learning and success. These may include peer tutoring programs, where experienced students provide guidance and support to their peers in specific subject areas. Workshops and seminars on study skills, time management, and exam preparation are also common, equipping students with essential tools for academic success. Additionally, ELCs may offer access to online resources, such as interactive learning modules and digital libraries, to supplement traditional classroom instruction. Furthermore, mentorship programs connecting students with faculty or staff mentors provide valuable guidance and encouragement outside of the classroom. By implementing these initiatives, ELCs play a crucial role in fostering a culture of academic excellence and empowering students to reach their full potential.
- 4. Any socially relevant projects/initiatives taken by College in electoral related issues especially research projects, surveys, awareness drives, creating content, publications highlighting their contribution to advancing democratic values and participation in electoral processes, etc.
- Our College often undertake various projects and initiatives within their Effective Learning Centers (ELCs) to enhance student learning outcomes and academic success. These initiatives may include the implementation of innovative teaching methods, the development of tailored academic support programs, and the integration of technology into learning environments. For instance, colleges might launch initiatives to promote active learning through flipped classrooms or collaborative projects that encourage student engagement and critical thinking. Additionally, ELCs may spearhead initiatives to address specific student needs, such as providing support for students with learning disabilities or offering workshops on stress management and mental health. By continuously innovating and adapting to evolving educational landscapes, colleges demonstrate their commitment to fostering a culture of excellence and student-centered learning within

their ELCs.

5. Extent of students above 18 years who are yet to be enrolled as voters in the electoral roll and efforts by ELCs as well as efforts by the College to institutionalize mechanisms to register eligible students as voters.

Efforts by colleges to engage students in clubs like the Electronic and Computer Science (ELCS) club for those above 18 typically include promoting the club through orientation sessions, flyers, social media, and campus events. They might also organize workshops, guest lectures, and hands-on activities to showcase the benefits and opportunities within the club. Additionally, colleges often have dedicated faculty or student leaders who actively recruit and mentor new members. Colleges employ a variety of strategies to engage students aged 18 and above in joining clubs like the Electronic and Computer Science (ELCS) club. These efforts typically involve comprehensive promotional campaigns encompassing orientation sessions, flyers, and social media outreach. Campus events, including workshops, guest lectures, and hands-on activities, serve to showcase the club's benefits and opportunities for personal and professional growth. Moreover, colleges often designate faculty members or experienced students to actively recruit and mentor new members, fostering a supportive environment that encourages participation and fosters a sense of belonging within the ELCS club. These combined efforts aim to attract and retain students, promoting active involvement and collaboration within the club's community.

Extended Profile

1 Students

1.1

Number of students year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
213	201	227	256	302

File Description	Document
Upload Supporting Document	<u>View Document</u>
Institutional data in prescribed format	View Document

2 Teachers

2.1

Number of teaching staff / full time teachers during the last five years (Without repeat count):

Response: 139

9	File Description	Document
	Upload Supporting Document	View Document
	Institutional data in prescribed format	View Document

2.2

Number of teaching staff / full time teachers year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
62	53	50	55	67

3 Institution

3.1

Expenditure excluding salary component year wise during the last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
34.27	22.96	46.69	55.31	62.33

File Description	Document
Upload Supporting Document	<u>View Document</u>

4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curricular Planning and Implementation

1.1.1

The Institution ensures effective curriculum planning and delivery through a well-planned and documented process including Academic calendar and conduct of continuous internal Assessment

Response:

The A.R Engineering College started in 2008, situated on the National Highways NH45 in Kappiyampuliyur, villupuram. Our College is affiliated to Anna University, Chennai and approved by AICTE, New Delhi. Currently, we offer six undergraduate programme such as B.E. Computer Science and Engineering, B.E. Electrical and Electronics Engineering, B.E. Electronics and Communication Engineering, B.E. Mechanical Engineering, B.Tech Artificial intelligence and data science which comprises of well experienced teaching and non-teaching staff members. Our enthusiastic faculty members make themselves up to date to current technology and trends by attending national and international conferences, workshops and seminars. Our faculty motivates our students to take up NPTEL courses, add on courses in order to make them more competitive to the current scenario. The faculty also motivates our students to participate in technical events such as paper presentations, project presentations, quiz, design challenge, which makes our students a happy learning environment in our college.

Our Institution strictly adapts the curriculum and syllabi as prescribed by the Anna University, Chennai. With the help of academic schedule prescribed by the Anna University, the various academic activities were planned by the academic council members of our college and it will be published as an institution academic calendar. This academic calendar comprises of various activities such as schedule of internal assessment tests, class committee meeting, completion of syllabus, so that a teacher can plan their cocurricular work accordingly. Faculty are allotted with theory and practical courses based on their qualification, expertise and willingness. Faculty once allotted with theory and practical subjects they will be preparing the course plan adhering to the institution academic calendar and class timetable. Our institution follows a well systematic examination process, where standard question papers setting incorporated using Bloom's taxonomy, which will be prepared by the subject handled faculty, a wellplanned hall arrangements for internal assessment tests, circulation of attendance sheets during the test, well prompt evaluation process by the subject handled faculty and dispatch of evaluated answer sheet to students and test report to parents were followed. Every subject handled faculty will be maintaining the Log Book for attendance, Course file for subject which includes, Students name list duly signed by class tutors, HoD and Principal, Syllabus copy, Course Objectives, Course Outcomes, CO-PO mapping, Course delivery plan, Time Table (Class Timetable, Individual Faculty Timetable), Internal Assessment QPs, Internal Assessment Test Mark Analysis, Weak Students List, Internal Assessment Test QP for Weak Students, Weak Students Test mark Analysis, Question Bank, Previous year question papers, final end semester question paper, QP feedback. Then course file for laboratory course which includes, Log Book for attendance, Students name list duly signed by class tutors, HoD and Principal, Syllabus copy, Batch Details and Practical plan.

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File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

1.2 Academic Flexibility

1.2.1

Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. (where the students of the institution have enrolled and successfully completed during the last five years)

Response: 33

File Description	Document
List of students and the attendance sheet for the above mentioned programs	View Document
Institutional programme brochure/notice for Certificate/Value added programs with course modules and outcomes	View Document
Institutional data in the prescribed format	<u>View Document</u>
Evidence of course completion, like course completion certificate etc. Apart from the above:	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

1.2.2

Percentage of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

Response: 62.14

1.2.2.1 Number of students enrolled in Certificate/ Value added courses and also completed online courses of MOOCs, SWAYAM, NPTEL etc. as against the total number of students during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
167	134	168	141	135

File Description	Document
Upload supporting document	<u>View Document</u>
Institutional data in the prescribed format	View Document

1.3 Curriculum Enrichment

1.3.1

Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum

Response:

All departments in the institute have courses in their curriculum that integrate cross-cutting issues relevant to Gender, Environment and Sustainability, Human Values, and Professional Ethics. The institute arranges various programs that contribute to sensitizing students to these cross-cutting issues.

Gender-equality:

Institute encourages boys, and girls to participate in sports and cultural activities. MOUs with hospital provider. Common medical facility to boys and girls hostel. College has functional Women's empowerment Cell headed by senior faculty members who look into the problems of girl students, regarding academics and personal. Girls and Boys rooms are available in the institute with all amenities. Internal complaints committee has been established for Counselling of students on received grievances. The cell has been organizing various programs for girls. Students such as Women's safety, health checkup, personality development for boys and girls. Girls and boys, hostels, are available within college campus and common rules are made for both.

Environment and Sustainability:

In the R2017 and R2021 curriculum all the students have to undertake a course on Environmental science and Engineering GE8291& GE3451.In concern to the depleting energy sources and Pollution, College has installed own solar power plant of 1KW. A detailed energy audit of Institute is carried out on regular basis. College have been conducting various social events such as tree plantation, rallies in nearby villages, energy conservation, save water rallies, seminars. College has NSS cell which conducts various environment related activities.

Human Values:

A course on human rights is part the curriculum of B.E program in CSE, EEE&ECE. Sociology is the study of human social life. Because human social life is so expansive, sociology has many sub-sections of study, changing from the analysis of conversations to the development of theories to try to understand how the entire world works. A necessary part of curriculum is to inculcate good Human values among students. Our institute always believes to ensure that our students are to be a good human being and good engineer. Students teach not only respects teachers, seniors but also to respects themselves. College has Anti Ragging Cell to ensure ragging free environment. Internal complaints committee and discipline

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committee headed by senior faculty take care of human values. College has constructed ramp near staircase for physically challenged students. Lift facility is also made available to the students

Professional Ethics:

A course on professional ethics is part the curriculum of B.E program in ECE, EEE, CSE, and MECH & CIVIL. Institute has given equal importance about professional ethics along with academics because knowingly and willingly students, should not do wrong things. Professional ethics encompasses personal and corporate standards of behaviour expected by professional. Ethics is a branch of philosophy 'that addresses the concepts of right and wrong or good and evil. 'Soft skills course related to professional ethics is included as a part of the curriculum of the University. College has organized various personality development programs through training & placement cell to increase the employability of students. Industrial visits and internships are made compulsory and experts from corporate are invited to share their views with students to understand corporate standards and culture. It is observed that there is a huge difference in the behaviour and attitude of students.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

1.3.2

Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year)

Response: 85.92

1.3.2.1 Number of students undertaking project work/field work / internships

Response: 183

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

1.4 Feedback System

1.4.1

Institution obtains feedback on the academic performance and ambience of the institution from various stakeholders, such as Students, Teachers, Employers, Alumni etc. and action taken report on

the feedback is made available on institutional website

Response: A. Feedback collected, analysed, action taken& communicated to the relevant bodies and feedback hosted on the institutional website

File Description	Document
Feedback analysis report submitted to appropriate bodies	<u>View Document</u>
At least 4 filled-in feedback form from different stake holders like Students, Teachers, Employers, Alumni etc.	View Document
Action taken report on the feedback analysis	<u>View Document</u>
Provide Links for any other relevant document to support the claim (if any)	View Document
Link of institution's website where comprehensive feedback, its analytics and action taken report are hosted	View Document

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1

Enrolment percentage

Response: 30.44

2.1.1.1 Number of seats filled year wise during last five years (Only first year admissions to be considered)

2022-23	2021-22	2020-21	2019-20	2018-19
100	128	48	9	62

2.1.1.2 Number of sanctioned seats year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
300	210	210	210	210

File Description	Document
Institutional data in the prescribed format	<u>View Document</u>
Final admission list as published by the HEI and endorsed by the competent authority	View Document
Document related to sanction of intake from affiliating University/ Government/statutory body for first year's students only.	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.1.2

Percentage of seats filled against reserved categories (SC, ST, OBC etc.) as per applicable reservation policy for the first year admission during the last five years

Response: 71.32

2.1.2.1 Number of actual students admitted from the reserved categories year wise during last five years (Exclusive of supernumerary seats)

2022-23	2021-22	2020-21	2019-20	2018-19
100	73	42	9	57

2.1.2.2 Number of seats earmarked for reserved category as per GOI/ State Govt rule year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
103	72	73	73	73

File Description	Document
Institutional data in the prescribed format	<u>View Document</u>
Final admission list indicating the category as published by the HEI and endorsed by the competent authority.	View Document
Copy of communication issued by state govt. or Central Government indicating the reserved categories(SC,ST,OBC,Divyangjan,etc.) to be considered as per the state rule (Translated copy in English to be provided as applicable)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.2 Student Teacher Ratio

2.2.1

Student – Full time Teacher Ratio (Data for the latest completed academic year)

Response: 3.44

2.3 Teaching- Learning Process

2.3.1

Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT- enabled tools including online resources for effective teaching and learning process

Response:

EXPERIENTIAL LEARNING

- State-of-art laboratories have been established for students to impart the experiential learning from Theory to Practice Lectures.
- Mini project are part of the curriculam for the students of BE Mechanical, Civil, Cse.
- Field visits, In-plant trainings have been organized to make the students acquaint with industry standards and work ethics
- Industry based projects are being carried by the students.

PARTICIPATIVE LEARNING:

- Our Institution is in collaboration with MHRD Institution Innovation Council to promote creativity and critical thinking among students through active participation in webinars, project competitions.
- A pedagogical approach involving students of different cognitive levels was made to learn in a collaborative manner in mini projects as well as major projects' to accomplish an assigned task. The students learning methodology is further tuned by peer-to-peer learning so that students would involve in sharing their views and come out with apt solutions for the defined problems.
- Role play and Brainstorming are practiced for feasible content to learn the concepts in an easy way. The students are promoted for handling technical topics, which allow them to think broadly and come up with their opinions & suggestions in finding better solutions..
- Group discussions are conducted during the final year for every program Group discussions can help increase students attention and help maintain their focus by involving them in the learning process

PROBLEM SOLVING METHODOLOGIES:

- Our academic time table inculcates technical seminar hours to enrich students' in presenting the concepts which would train them to get confidence to solve the problem- solving skills.
- Assignments in higher level of thinking are given to the students to breakdown ideas into simpler parts and find evidence to support self-learning abilities.
- Students are encouraged to find out the solutions for real time problems via case studies, hackathon and field/industrial projects.
- Tutorial classes are being conducted for analytical courses in which modern pedagogical tools like group tutorial, collaborative learning are practiced by the students for improving their problem solving ability.
- Mock Interview provides students an opportunity to practice, receive feedback and improve their skills. A mock interview also helps you develop interview strategies, enhance student's communication skills, answer challenging questions, and ease the nerves that many experiences before an actual job interview.
- Placement training is focused on giving students the skills, knowledge, and perspectives they need to be successful in the job. Skill development Programs for placement training provide students with the chance to improve a variety of employability skills.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

2.4 Teacher Profile and Quality

2.4.1

Percentage of full-time teachers against sanctioned posts during the last five years

Response: 98.29

2.4.1.1 Number of sanctioned posts year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
62	55	50	57	68

File Description	Document
Sanction letters indicating number of posts sanctioned by the competent authority (including Management sanctioned posts)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.4.2

Percentage of full time teachers with NET/SET/SLET/Ph. D./D.Sc. / D.Litt./L.L.D. during the last five years (consider only highest degree for count)

Response: 16.38

2.4.2.1 Number of full time teachers with NET/SET/SLET/Ph. D./ D.Sc. / D.Litt./L.L.D year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
12	10	8	7	10

File Description	Document
List of faculties having Ph. D. / D.Sc. / D.Litt./ L.L.D along with particulars of degree awarding university, subject and the year of award per academic year.	View Document
Institution data in the prescribed format	<u>View Document</u>
Copies of Ph.D./D.Sc / D.Litt./ L.L.D awareded by UGC recognized universities	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.5 Evaluation Process and Reforms

2.5.1

Mechanism of internal/ external assessment is transparent and the grievance redressal system is time-bound and efficient

Response:

A.R. Engineering College exhibits novel and adaptive mechanism for exam reformation and grievance redressal process. The total examination process is divided and categorized into Internal and External Examination process.

Our College has its affiliation in Tamil Nadu Government run Anna University, Chennai and it is adapting and following the regulations of Anna University. Currently the regulations adapted as per Anna University rules are R2021 and is firmly followed to assessment procedure. The college follows internal and external assessment as per the Anna University norms following

Internal Examination	40%
External Examination	60%

Transparency Mechanism in Internal Examinations

The time frame of internal assessments for a particular academic year for the students in our college are informed to students and staff in the commencement of the semester via academic calendar as per University Regulations. (Sample calendar is attached).

Three internal tests (IAT) (IA-1 Exams, IA-2 Exams, and Model Exams) are adapted for each Program. Attendance in Internal Assessment is Compulsory. Portions for Internal Assessment Tests are divided according to the unit based on the syllabus completed as follows

Internal Assessment	Portions	Marks
Internal Assessment - I	Unit I & II	100
Internal Assessment - II	Unit II & III	100

The internal exams are governed by the centralized Exam cell

- Time table for exams, Hall arrangements and Supervisors list for every Internal Examinations.
- Preparation of the question paper (QP) for the test in the specified format along with CO Indicated. The question papers will also be authorized by Principal. Scrutiny of QP is carried out by HoD/Subject exports to ensure quality.
- After the finishing point of the internal tests, within three days, staff members are instructed to evaluate and distributed to the students. If any queries in answer script students can asked to particular staff members.
- Marks entered in the log book and Authorized by HoD/Principal.
- After the corroboration by the HoDs and the Principal, indicated on the notice board. Class committee meetings are conducted with faculty, HoD and Principal for remedial actions for improvements and necessary grievances are addressed. One Example to cite at AREC is conduction of coaching class to weak students as per student's request. (Grievances Redressed)
- Uploading of marks in University web portal and subsequently informed to parents though Whats app

Transparency in External Examination

The schematic of the process involved in external evaluation is provided herewith.

The main speciality of this process is the adaptation of COE portal and the entire exam related and grievance related processes are followed and categorized. Some of the procedures and processes involved in COE portal are

- 1. Internal Marks Entry
- 2. Grievances Reporting
- 3. Guidelines for Date of Exam and Attendance due
- 4. Applying External revaluation
- 5. Receiving Transcripts
- 6. Receiving final result through portal

Collection of Grievances

Internal Exams

1. Through Formal Letters

External Exams

1. Through COE portal login

All the grievances are addressed in A.R. Engineering College through transparent and efficient member. Also, Regular class committees Meetings are conducted to collect and address the grievances.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

2.6 Student Performance and Learning Outcomes

2.6.1

Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website

Response:

In strict compliance with the objectives of Outcome Based Education (OBE), the Program Outcomes (POs), Program Specific Outcomes (PSOs) and Course Outcomes (COs) are framed by the department offering the concerned program after rigorous consultation with all faculty and the stakeholders. After attainment of consensus, the same are widely propagated and publicized through various means such as display and/or communication specified here under.

- Website
- Curriculum /regulations books
- Class rooms
- Department Notice Boards
- Laboratories
- Student Induction Programs
- · Parents meetings
- Faculty meetings
- Alumni meetings
- Library Notice Boards

While addressing the students, the HODs create awareness on POs, PSOs and COs. The faculty members, class teachers, mentors, course coordinators, program/ISO coordinators also inform the students and create awareness and emphasize the need to attain the outcomes.

Program specific outcomes (PSOs) are the specific skill requirements and accomplishments to be fulfilled by the students at micro level and by the end of the program. The programme co-ordinators prepare the PSOs, usually two to four in number, in consultation with course coordinators. The Head of the Department and subject experts, of the individual departments will discuss the same and approve it after endorsement by the Principal.

Program Outcomes (POs) are broad statements that describe the professional accomplishments which the

program aims at, and these are to be attained by the students by the time they complete the program. POs incorporate many areas of inter-related knowledge, skills and personality traits that are to be acquired by the students during their graduation.. The Course Outcomes are prepared by the course coordinator in consultation with concerned faculty members teaching the same course. The course coordinator will verify it. Finally, they are discussed in the concerned department's meeting course-wise and approved.

The POs/PSOs of the programme are published through electronic media at individual Department site located on the college website. The COs of the courses are also published through electronic media at the Department site located on the college website. In all the interactions with the students awareness on POs, PSOs and COs is consciously promoted.

Attainments of POs and PSOs are evaluated through direct and indirect methods. Direct attainment is achieved by IA marks, assignments and end-semester examination marks, whereas indirect attainment is calculated by course exit survey. The calculation of CO attainment and mapping the COs with POs and PSOs are compared with the predefined target value. Every CO attainment is carried out at the end of the semester.

The Principal fixes a target value and approved by governing council for each batch of students. Based on the assessment procedure, the CO articulation matrix is calculated for each course. The average mark for each CO is calculated and attainment is determined.

The difference between the average mark of COs and the target is identified. The gap is reviewed and analysed, thereby revising the teaching-learning methods. If the target is achieved, it is inferred that CO is achieved for that period. Similar procedure is followed for all the courses. Finally, POs are mapped with COs for each course at the end of the program.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

2.6.2

Attainment of POs and COs are evaluated.

Explain with evidence in a maximum of 500 words

Response:

AREC has its own procedure to calculate the POs and COs attainment. Attainment of outcomes is evaluated by the following method:

COs are mapped with POs and PSOs on a different correlation level, such as strong, moderate and light.COs are mapped with continuous internal assessment (IA) question papers prepared by course instructors. Faculty members are familiarized with the outcomes by participating in faculty development

programmes (FDPs) on Outcome-Based Education (OBE).

Attainments of POs and PSOs are evaluated through direct and indirect methods. Direct attainment is achieved by IA marks, assignments and end-semester examination marks, whereas indirect attainment is calculated by course exit survey. The calculation of CO attainment and mapping the COs with POs and PSOs are compared with the predefined target value. Every CO attainment is carried out at the end of the semester.

Steps to calculate the COs attainment are as follows:

The Principal fixes a target value and approved by governing council for each batch of students.Based on the assessment procedure,the CO articulation matrix is calculated for each course. The average mark for each CO is calculated and attainment is determined.

The difference between the average mark of COs and the target is identified. The gap is reviewed and analysed, thereby revising the teaching-learning methods. If the target is achieved, it is inferred that CO is achieved for that period. Similar procedure is followed for all the courses. Finally, POs are mapped with COs for each course at the end of the programme; i.e., CO PO Mapping Matrix. If the POs/PSOs attainment is less than the target, reform the teaching and learning method in order to improve students performance in consultation with the course instructor.

DIRECT ASSESSMENT:

INTERNAL ASSESSMENT:Refers to evaluation through internal assessments which majorly include Continuous Internal Assessments (IA1,IA2,IA-3(Model)) in terms of Internal Assessment Tests.

EXTERNAL (END SEMESTER EXAM):Refers to evaluation through End Semester Examination (ESE)

INDIRECT ASSESSMENT:

Refers to the exit feedback survey taken by students/faculty. The exit feedback survey must be taken up before the end of the semester. The exit survey may be based on a marking scheme (1-3) for each CO.

Further steps to follow for the calculation of Course Outcome attainment (COA) level:

- Assign the attainment level (3 for>70%/2 for >60%/1 for>50%) for Direct Assessment(INTERNAL ASSESSMENT,EXTERNAL(ESE)) and Indirect Assessment.
- Attainment based on internal assessment (IA) = Average of [IA-1,IA-2(a) and IA-3MODEL(b)]
- Direct CO Attainment Level (DA) = 20% IA + 80% End Semester Exam (c)
- Indirect CO Attainment Level (ICOA)=Exit Survey (d)

Finally, Course Outcome Attainment (COA) level = 80% of DA and 20% of ICOATheoverall process of calculating COs, POs, and PSOs are explained in the flow chart given below

File Description	Document
Upload Additional information	View Document
Provide Link for Additional information	View Document

2.6.3

Pass percentage of Students during last five years (excluding backlog students)

Response: 62.54

2.6.3.1 Number of final year students who passed the university examination year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
9	38	94	17	24

2.6.3.2 Number of final year students who appeared for the university examination year-wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
15	41	109	71	55

File Description	Document
Institutional data in the prescribed format	<u>View Document</u>
Certified report from Controller Examination of the affiliating university indicating pass percentage of students of the final year (final semester) eligible for the degree programwise / year-wise.	View Document
Annual report of controller of Examinations(COE) highlighting the pass percentage of final year students	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

2.7 Student Satisfaction Survey

2.7.1

Online student satisfaction survey regarding teaching learning process Response: File Description Document Upload database of all students on roll as per data template View Document

Criterion 3 - Research, Innovations and Extension

3.1 Resource Mobilization for Research

3.1.1

Grants received from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)

Response: 16

3.1.1.1 Total Grants from Government and non-governmental agencies for research projects / endowments in the institution during the last five years (INR in Lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
5	5	3	0	3

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	<u>View Document</u>

3.2 Innovation Ecosystem

3.2.1

Institution has created an ecosystem for innovations, Indian Knowledge System (IKS),including awareness about IPR, establishment of IPR cell, Incubation centre and other initiatives for the creation and transfer of knowledge/technology and the outcomes of the same are evident

Response:

A.R.Engineering college provides acongenial atmosphere for the promotion of innovation and incubation. The college has established an incubation centre with the requisite facilities

Necessary support is being provided for documentation, publication of research papers and for obtaining patents. The college organizes awareness programmes, workshops, seminars and guest lectures on entrepreneurship, opportunities are provided to the students to directly interact with outstanding entrepreneurs who excel in their chosen fields.

Financial support is extended to the deserving students for their models at the Institution Innovation Council. Competitions are held by the organisation. Students are given opportunities to acquire skills for

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communication of their products. The local entrepreneurs are invited to address and inspire the students.

Objective of the Incubation Centre:

The main objective of the Incubation Centre is to help the students to materialize their ideas into technological innovation. Students are encouraged to assemble prototypes needed for national development through the application of technology.

Trendy expos are held time and again to instill the spirit of research and development among the students who range from different walks of the society. Students are fittingly rewarded and they are given hands on training in our well-equipped state-of-the-art laboratories.

Research Activities:

The college has well-developed and research promotion policies. A handful numbers of faculty members pursue Ph.D.programme in different leading universities. Research fairs are organised in the campus where all research scholars across the nation demonstrate their research work. The Research and Development cell implements wide range of activites to establish centre of excellence, honing and cultivating appropriate research skills of faculty by deputing for Ph.D. studies, conference, workshops, and short term training programs, promoting faculty member to submit research proposal for different funding agenicies such as All India council for Technical Education (AICTE), University Grant Commission (UGC), Department of Science and Technology (DST), etc

To achieve the quality research ambience at our A.R.Engineering college the following policies have been undertaken. A Research & Develoment cell has been established to prepare and implement the document for research and development activities within the institute.

- To motivate students to carry out innovative and creative projects.
- To creat awareness among faculty members about intellectual property Rights(IPR).
- To motivate our faculty members and students to apply for patents.
- To protect and Commercialize the Institutes intellectual property.
- To develop infrastructure conducive to promoting the quality and quantity of research and development.
- To monitor the research and development performance of individuals and groups.
- To oversee the application of the Code of Research Ethics for the responsible practice of research.
- Faculty publications (Affiliation must be A.R.Engineering college in either SCI or WEB indexed journals are appreciated.

CODE OF RESEARCH ETHICS

The following are the codes of research ethics which express the ethical values to be practiced by all the staff engaged in academic and research activities at A.R.Engineering college.

- To maintain security of the research findings/technical information and to avoid communication of any official document or information to others without permission.
- To commit no form of plat-of-work and preparatio and dissemination of reports and research articles.
- To practice and promote justice in research

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	<u>View Document</u>

3.2.2

Number of workshops/seminars/conferences including on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship conducted during the last five years

Response: 51

3.2.2.1 Total number of workshops/seminars/conferences including programs conducted on Research Methodology, Intellectual Property Rights (IPR) and entrepreneurship year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
10	10	10	10	11

File Description	Document
Upload supporting document	<u>View Document</u>
Institutional data in the prescribed format	<u>View Document</u>

3.3 Research Publications and Awards

3.3.1

Number of research papers published per teacher in the Journals notified on UGC care list during the last five years

Response: 1.75

3.3.1.1 Number of research papers in the Journals notified on UGC CARE list year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
26	70	49	63	35

File Description	Document
Link to the uploaded papers, the first page/full paper(with author and affiliation details)on the institutional website	View Document
Link to re-directing to journal source-cite website in case of digital journals	View Document
Links to the papers published in journals listed in UGC CARE list or	View Document
Institutional data in the prescribed format	<u>View Document</u>
Provide Links for any other relevant document to support the claim (if any)	View Document

3.3.2

Number of books and chapters in edited volumes/books published and papers published in national/international conference proceedings per teacher during last five years

Response: 0.11

3.3.2.1 Total number of books and chapters in edited volumes/books published and papers in national/international conference proceedings year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
3	3	3	3	3

File Description	Document
List of chapter/book along with the links redirecting to the source website	View Document
Institutional data in the prescribed format	<u>View Document</u>
Copy of the Cover page, content page and first page of the publication indicating ISBN number and year of publication for books/chapters	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

3.4 Extension Activities

3.4.1

Outcomes of Extension activities in the neighborhood community in terms of impact and sensitizing the students to social issues for their holistic development during the last five years.

Response:

A.R.Engineering College organizes and participates in various extension activities to promote College-Neighbourhood-Community network. Major emphasis is given on studentengagement, service orientation and holistic development of students contributing to goodcitizenship.

The institution provides the student with an opportunity to extend their classroom knowledge into practical experience and to sensitize students towards social issues.

Through its diverse community oriented programmes and activities focused at holistic development of students with community.

The awareness programmes are organized around the institution with the help of students and Faculty members .

In addition to this, the institutition undertake the camp in order to help the villagers through various activities such as advocating cleanness, lectures, and seminars on social aspects.

The institution is organizing various community development activities in order to maintain a good relation with the neighbourhood community.

Institution regularly conducted the following programmes through NSS:

- Tree plantation Drives
- General Health/Dental/ Eye related Medical camps
- Clean Drive Programmes
- Awareness Programmes/ Rallies/ Campaigns
- Blood Donation camps.
- Regular blood camps bring awareness to students on the value of life and their own contribution in saving the same.
- Important day's celebration in and outside of the institute.
- Flood Relief Programmes.
- Old age Home Visit

The institution also adopted a village near Kappiyampuliyur, called Vadakuchipalayam and a special camp in the Village for about 3 days. All the volunteers actively participated in the Special camp and delivered their duties very well. A blood donation camp was organized through which many patients in the Radhapuram Primary Hospital were benefited. In the special camp volunteers cleaned the village temples and Schools and also conducted Medical Camp, General Camp and Eye camp. More than 150 people from the village participated and were benefitted.

The institution also celebrates "Engineers Day" Science Day" honoring Moksha Gundam Visvesvaraya & Sir. C.V.Raman and conducted "Science Expo" for nearby school and college students. The theme of the competitions was related to social issues. The best presentations were awarded prizes to encourage the students.

Participation of students in such activities develops the knowledge of students regarding social issues, improves their leadership qualities, skill's level and their self-confidence.

As a result of the above programmes conducted through NSS, we strive to develop a sense of social and civic responsibility. Utilize their knowledge in finding practical solutions to individual and community problems. Develop competence required for group-living and sharing of responsibilities.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

3.4.2

Awards and recognitions received for extension activities from government / government recognised bodies

Response:

AR Engineering College encourages staff and students to active participate in programs involving social issues, for their holistic development. Our Institute works with neighboring community and carries out a range of extension programmes to help on the needs of neighborhood under various schemes.

National Services Scheme (NSS)

In recognitions to in various extension activities recognized by our NSS volunteers the college has received certificate of appreciation for Blood donation camps during the years 2020-2021,2022-2023 from Ditrict Collecor of Villupuram District and Villupuram Blood Centre Services.

The institution also received certificates of appreciation for organizing the medical camp for the welfare of Vadakuchipalayum peoples of village Kappiyampuliyur Panchayt.

The certificates of appriciations has been received from Village president of Thirumangalam Village during the year 2022 for cleaning the temple located in that village.

The college is received the certificate of appreciation from the headmaster of Government Higher Secondary School in villupuram district for cleaning and white washing services.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

3.4.3

Number of extension and outreach programs conducted by the institution through organized forums including NSS/NCC with involvement of community during the last five years.

Response: 60

3.4.3.1 Number of extension and outreach Programs conducted in collaboration with industry, community, and Non- Government Organizations through NSS/ NCC etc., year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
14	14	9	11	12

File Description	Document
Photographs and any other supporting document of relevance should have proper captions and dates.	View Document
Institutional data in the prescribed format	<u>View Document</u>
Detailed report for each extension and outreach program to be made available, with specific mention of number of students participated and the details of the collaborating agency	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

3.5 Collaboration

3.5.1

Number of functional MoUs/linkages with institutions/industries in India and abroad for internship, on-the-job training, project work, student / faculty exchange and collaborative research during the last five years.

Response: 21

File Description	Document
Summary of the functional MoUs/linkage/collaboration indicating start date, end date, nature of collaboration etc.	View Document
List of year wise activities and exchange should be provided	View Document
List and Copies of documents indicating the functional MoUs/linkage/collaborations activitywise and year-wise	View Document
Institutional data in the prescribed format	<u>View Document</u>
Provide Links for any other relevant document to support the claim (if any)	View Document

Criterion 4 - Infrastructure and Learning Resources

4.1 Physical Facilities

4.1.1

The Institution has adequate infrastructure and other facilities for,

- teaching learning, viz., classrooms, laboratories, computing equipment etc
- ICT enabled facilities such as smart class, LMS etc.

Facilities for Cultural and sports activities, yoga centre, games (indoor and outdoor), Gymnasium, auditorium etc (Describe the adequacy of facilities in maximum of 500 words.)

Response:

A.R. Engineering College is a green campus with scenic beauty, attractive architecture, and an ecofriendly environment spread across a build-up area of 38216.21 sq m (including a hostel, canteen, and sports). The campus has sophisticated classrooms, highly equipped laboratories, and high-standard infrastructure for supporting teaching and learning facilities with smart class rooms, seminar halls, tutorial rooms, a digital library, and computing facilities like high-configuration computer laboratories and high-speed Wi-Fi connectivity to make teaching and learning more effective. Additionally, for the benefit of students, the institution has facilities such hostel facilities for boys and girls, a reprographic facility, a transport facility, sports facilities such as indoor and outdoor games.

SALIENT FEATURES OF AREC FOR TEACHING-LEARNING

CLASSROOMS

All the classrooms are well furnished; rooms are well ventilated and are well equipped for optimal visibility and audibility. Their size is tentative according to AICTE norms. All the classrooms are furnished with enough furniture, fans, lighting, a green board, a white board, and amplified power outlets.

LAB

As per regulations, the lab facilities are established in two lab blocks (A and B) and offer engineering courses. Each lab is equipped with safety equipment such as fire extinguishers, first aid kits, dos and don'ts awareness boards, a detailed list of experiments, and computing facilities. The internal speed of 150 Mbps is available.

It is comprised of three CSE labs with 180 computers. The digital library and smart class rooms have 10 computers with more than 150 Mbps of internal speed for enhancing the teaching and learning processes of students' faculty members. Power backup from UPS and a power generator of 10 kilowatts are available.

SEMINAR HALL AND AUDITORIUM

The seminar hall and auditorium are equipped with ICT facilities, like projectors, wireless microphones, and a public address system with internet facilities to conduct lectures, seminars, webinars, conferences, guest lectures, and workshops.

FACILITIES FOR SPORTS AND GAMES

Both genders of students have access to suitable sports and game facilities at the institution. Both indoor and outdoor games are well served at the institution. We have a well-equipped play ground and play courts for outdoor games such as kabadi, volley ball, throw ball, cricket, foot ball, and 400-meter track for athletics. Indoor games like carom, Chess, table tennis.

GYM FACILITIES

The institution includes a large gym named A.R. Fitness Center, which has a variety of equipment for students and staff to improve their physical fitness with the help of trained personnel.

YOGA CENTER

Yoga practices every day on campus for mutual pupils' young brains and other events ever conducted throughout the year, students are encouraged to participate in Independence Day, Republic Day, and cultural events both inside and outside campus.

FACILITIES FOR CULTURAL ACTIVITIES

The institution contains an indoor auditorium, an open-air auditorium, and a practice area with well-equipped equipment for both male and female students. With a seating capacity of more than 500 students, students are encouraged to participate in many cultural events around Tamil Nadu such as dancing, singing, drawing, painting, and so on.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

4.1.2

Percentage of expenditure for infrastructure development and augmentation excluding salary during the last five years

Response: 23.98

4.1.2.1 Expenditure for infrastructure development and augmentation, excluding salary year wise during last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
9.92	6.39	9.90	12.56	14.36

File Description	Document
Institutional data in the prescribed format	View Document
Audited income and expenditure statement of the institution to be signed by CA for and counter signed by the competent authority (relevant expenditure claimed for infrastructure augmentation should be clearly highlighted)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

4.2 Library as a Learning Resource

4.2.1

Library is automated with digital facilities using Integrated Library Management System (ILMS), adequate subscriptions to e-resources and journals are made. The library is optimally used by the faculty and students

Response:

The Central Library is located on the second floor of the Block–B in centrally air conditioned. The library has separate and standard library-automation package–AutoLib Integrated Library Management software for its effective library services such as Issue, Return and Renewal of resources.

The library is housed in a spacious area of about 468.17sq.m. which is fully computerized, and presently 18269 volumes, 4567 titles of books and reference volumes are stacked for the benefit of students and staff.

The Library has its Institutional Membership in DELNET. Constant addition of titles and volumes in all the fields of Engineering, Management, Basic Science and Humanities is the regular feature of the library.

LIBRARY RULES AND REGULATIONS:

- Membership is open to all the staff and the students of the college using the Barcode on their College ID Card.
- Each Registered Member can borrow books as given below

Members	Books	Period of Borrowing for Books

Students	3	2 Weeks
Faculty	6	6 Months

- Toppers are given two additional books based on their academic performance.
- Renewal of book will be permitted, if there are no reservations against the book. Loss of books, if
 any, should be reported to the Librarian immediately and it should be replaced by new edition of
 the book with same title and author.
- Strict silence should be observed inside the Library.
- A member shall be held responsible for any damage done by him/her to the book and property.

LIBRARY HOURS:

The Library Works on:

Working Days: 8.30 AM to 6.45 PM Holidays: 9.30 AM to 4.30 PM

RESERVATION SERVICE:

Members can reserve books, which are already issued. The reserved books, after their return, will be kept at the counter for two days for issue to those who have reserved them. If they fail to collect the reserved books within two days, those books will be issued to the members in the wait list.

INTERNET SERVICE:

In addition to the Internet facilities available in the in the Library for learning E-Resources. Ten computers are allotted for this purpose alone.

BARCODE IDENTITY CARD:

The members of the Library can use the barcode on their college ID card for quick and easy transaction.

LIBRARY RESOURCES:

Sl. No.	Name of the Resource	QTY
1	Books	18269
2	No. of Titles	4567
3	No. of Journals	36

LIBRARY ONLINE JOURNALS: Total No. of Online Journals 407

Sl. No.	Name of the E Journal	No. of Journals
	Publisher	
1	DELNET	407

DIGITAL LIBRARY:

Digital Library has 10 Computers for Students and Staff members With an Internet Speed of

100 Mbps

Sl. No.	Publisher	URL Address	Subject Area

1	DELNET	https://delnet.in/	General Engineering &
			Reference

LIBRARY UNIQUE FEATURES:

- All the library transactions are computerized and bar-coded.
- 30 to 40 books are issued every day.
- More than 50 members visit/use the library every day.

Students, Faculty, and Researchers can send their feedbacks, and suggestions for the improvement of the library services to:libraryarec@gmail.com

QUICK LINKS:

DELNET Link: https://delnet.in/

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

4.3 IT Infrastructure

4.3.1

Institution frequently updates its IT facilities and provides sufficient bandwidth for internet connection

Describe IT facilities including Wi-Fi with date and nature of updation, available internet bandwidth within a maximum of 500 words

Response:

- A.R Engineering College has adequate facilities of the information technologies including Wi–Fi
 and the internet connections is well spread through the campus and it is updated frequently. The
 institution is equipped with 342 internet connected computers and LCD projectors installed in all
 various department class rooms.
- All the computers in the campus are provided with LAN facility. The college has well-equipped smart class rooms with projectors and internet connections. Conference and seminar halls also consist of computers with internet and LCD Projectors.
- The entire college campus is connected through optical fiber network which ensures reliable connections by 24x7. Internet Facility is also available in the entire campus like hostel rooms, library, placement cell and all the laboratories and speed of the internet connectivity is 150 Mbps

(Fibernet).

- The college has more than 20 Wi-Fi hotspots with extenders provided to cover the wireless range throughout the college. All computers in the campus are connected to the internet as it is essential for them to work. Also surplus Ethernet ports are provided for laptops or other devices in need of internet connectivity.
- A separate team with in-house staff is formed to take care of the IT & related needs of the campus such as Software Development, Hardware & Networking, Website designing & hosting, Email solutions, SMS solutions etc. The entire campus including Hostels has Wi-Fi connectivity.
- Name of the Internet provider: Fiber net
- Available Bandwidth: 150 Mbps (Fiber net)
- Wi Fi Availability: Yes,
- Campus including Hostels Upload / Download: 82.43 Mbps (leased optical fiber line)
- Internet Access in Labs, Classrooms, Library, Office, Departments, Hostel: Yes
- Availability in Faculty Cabin with College email ID: Yes,
- Individual Network Security Arrangements: Yes, Sophos Hardware firewall

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

4.3.2

Student – Computer ratio (Data for the latest completed academic year)

Response: 0.69

4.3.2.1 Number of computers available for students usage during the latest completed academic year:

Response: 310

File Description	Document
Purchased Bills/Copies highlighting the number of computers purchased	View Document
Extracts stock register/ highlighting the computers issued to respective departments for student's usage.	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

4.4 Maintenance of Campus Infrastructure

4.4.1

Percentage expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, during the last five years (INR in Lakhs)

Response: 76

4.4.1.1 Expenditure incurred on maintenance of infrastructure (physical facilities and academic support facilities) excluding salary component year wise during the last five years (INR in lakhs)

2022-23	2021-22	2020-21	2019-20	2018-19
24.35	16.56	36.78	42.74	47.956

File Description	Document
Institutional data in the prescribed format	<u>View Document</u>
Audited income and expenditure statement of the institution to be signed by CA for and counter signed by the competent authority (relevant expenditure claimed for maintenance of infrastructure should be clearly highlighted)	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1

Percentage of students benefited by scholarships and freeships provided by the institution, government and non-government bodies, industries, individuals, philanthropists during the last five years

Response: 83.65

5.1.1.1 Number of students benefited by scholarships and freeships provided by the institution, Government and non-government bodies, industries, individuals, philanthropists during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
185	161	181	215	261

File Description	Document
Year-wise list of beneficiary students in each scheme duly signed by the competent authority.	View Document
Upload Sanction letter of scholarship and free ships (along with English translated version if it is in regional language).	View Document
Upload policy document of the HEI for award of scholarship and freeships.	View Document
Institutional data in the prescribed format	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.1.2

Following capacity development and skills enhancement activities are organised for improving students' capability

- 1. Soft skills
- 2. Language and communication skills
- 3. Life skills (Yoga, physical fitness, health and hygiene)
- 4.ICT/computing skills

Response: A. All of the above

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File Description	Document
Report with photographs on Programmes /activities conducted to enhance soft skills, Language and communication skills, and Life skills (Yoga, physical fitness, health and hygiene, self-employment and entrepreneurial skills)	View Document
Report with photographs on ICT/computing skills enhancement programs	View Document
Institutional data in the prescribed format	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.1.3

Percentage of students benefitted by guidance for competitive examinations and career counseling offered by the Institution during the last five years

Response: 23.94

5.1.3.1 Number of students benefitted by guidance for competitive examinations and career counselling offered by the institution year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
17	48	78	75	69

File Description	Document
Upload supporting document	View Document
Institutional data in the prescribed format	View Document

5.1.4

The institution adopts the following for redressal of student grievances including sexual harassment and ragging cases

- 1. Implementation of guidelines of statutory/regulatory bodies
- 2. Organisation wide awareness and undertakings on policies with zero tolerance
- 3. Mechanisms for submission of online/offline students' grievances
- 4. Timely redressal of the grievances through appropriate committees

Response: A. All of the above

File Description	Document
Proof w.r.t Organisation wide awareness and undertakings on policies with zero tolerance	View Document
Proof related to Mechanisms for submission of online/offline students' grievances	View Document
Proof for Implementation of guidelines of statutory/regulatory bodies	View Document
Details of statutory/regulatory Committees (to be notified in institutional website also)	<u>View Document</u>
Provide Links for any other relevant document to support the claim (if any)	View Document

5.2 Student Progression

5.2.1

Percentage of placement of outgoing students and students progressing to higher education during the last five years

Response: 76.71

5.2.1.1 Number of outgoing students placed and / or progressed to higher education year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
15	33	78	53	45

5.2.1.2 Number of outgoing students year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
15	41	110	71	55

File Description	Document
Number and List of students placed along with placement details such as name of the company, compensation, etc and links to Placement order(the above list should be available on institutional website)	View Document
List of students progressing for Higher Education, with details of program and institution that they are/have enrolled along with links to proof of continuation in higher education.(the above list should be available on institutional website)	View Document
Institutional data in the prescribed format	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.2.2

Percentage of students qualifying in state/national/international level examinations during the last five years

Response: 8.82

5.2.2.1 Number of students qualifying in state/ national/ international level examinations year wise during last five years (eg: IIT/JAM/NET/SLET/GATE/GMAT/GPAT/CLAT/CAT/ GRE/TOEFL/ IELTS/Civil Services/State government examinations etc.)

2022-23	2021-22	2020-21	2019-20	2018-19
1	2	1	1	1

File Description	Document
List of students qualified year wise under each category and links to Qualifying Certificates of the students taking the examination	View Document
Institutional data in the prescribed format	<u>View Document</u>
Provide Links for any other relevant document to support the claim (if any)	View Document

5.3 Student Participation and Activities

5.3.1

Number of awards/medals for outstanding performance in sports/ cultural activities at University / state/ national / international level (award for a team event should be counted as one) during the last five years

Response: 41

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
10	5	7	7	12

File Description	Document
Upload supporting document	View Document
list and links to e-copies of award letters and certificates	View Document
Institutional data in the prescribed format	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

5.3.2

Average number of sports and cultural programs in which students of the Institution participated during last five years (organised by the institution/other institutions)

Response: 36.4

5.3.2.1 Number of sports and cultural programs in which students of the Institution participated year wise during last five years

2022-23	2021-22	2020-21	2019-20	2018-19
48	44	5	40	45

File Description	Document
Upload supporting document	<u>View Document</u>
Institutional data in the prescribed format	View Document

5.4 Alumni Engagement

5.4.1

There is a registered Alumni Association that contributes significantly to the development of the institution through financial and/or other support services

Response:

Our college has registered the association for our alumni on registered with Registration Department, Government of Tamil Nadu. The Alumni Association of A.R ENGINEERING COLLEGE (AREC) office bearers of our association are as follows.

Sl. No.	Name and Address	Occupation	Designation in the Society	Aadhaar /Cell Number
1.	Dr. R.PANNEER	PRINCIPAL	President	310193994025 /
	DHASS			9025526483
	S/o.Ramachandran			
2.	Mr.	Asst. Professor	Vice President	712922344857 /
	D.MANIKANDA			9789591432
	NS/o.Dhashnamo			
	orthy			
3.	Miss.	Asst. Professor	Secretary	338825631578 /
	N.SAVITHA			8940976179
	D/o.Nagarajan			
4.	Mr. S.RAMAMO	Asst. Professor	Treasurer	264770526047 /
	ORTHY			9944489400
	S/o.Sundararasu			
5.	Mr. B.LASAR	Ex.Student	Executive	875386812026 /
	VIJAY		Members	9003652840
	S/o.Benjamine			
	Vanaraj			
6.	Mr. R.SATHISH	STAFF	Executive	512709372164 /
	S/o. Rajendiran		Members	7601979735
7.	Mr.	Ex.Student	Executive	790662579433 /
	S.SASIKUMAR		Members	6385464939
	S/o.Sathishkumar			
8.	Mrs.BHUVANES	Ex.Student	Executive	847181105839 /
	HWARI		Members	9677687721
	W/o. Manikandan			
9.	Mr. RUTHRA	Ex.Student	Executive	623127739998 /
	VINAYAGAM		Members	7639342259

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2	S/o. Ravi		

Our college organizes Alumni meet regularly and the alumni take part actively. Many events are organized during the alumni meet for all the alumni to participate enjoy and recollect the memories. They don't stop with the participation alone; they contribute by several means to the alma mater.

The main objective of Alumni Association are as follows

- 1. They contribute technically for the content development of value added courses.
- 2. They help in identifying companies for recruitment for their juniors
- 3. Delivering guest lectures and Teck Talk to the students to widen their knowledge of current technologies and trends.
- 4. Volunteering to offering internships to pre-final and final year students.
- 5. They eagerly participate during the inauguration of first year and share their memories to the budding engineers who step into our college. Our institution does not fail to honor our distinguished alumni frequently. Interaction and bonding between college and alumni through association grooms daily.

Non-Technical Support

Alumni support in curricular, extracurricular and co-curricular activities like sports/cultural/workshop/seminar/books donation. As they have organized many events while they studied, this experience helps the juniors a lot in conducting programs. Regular seminars will be organized by inviting alumni as resource person to deliver latest technologies by many departments.

Distinguished alumni are regularly invited as chief guest in college events and honored. Some of the alumni are employed as faculty members in various departments and are contributing to the growth of the institution.

File Description	Document
Upload Additional information	View Document
Provide Link for Additional information	View Document

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

6.1.1

The institutional governance and leadership are in accordance with the vision and mission of the Institution and it is visible in various institutional practices such as NEP implementation, sustained institutional growth, decentralization, participation in the institutional governance and in their short term and long term Institutional Perspective Plan.

Response:

A.R. Engineering College is one of the institutions of Sri Venkatachalapathy Educational Trust which was started on 1996 at Vadakuchipalayam and A.R Engineering College, which was set up in 2008, has laid the foundation of modern engineering education. Kappiyampuliyur post, Villupuram with the goal to stress the prime values like Integrity, Transparency, Accessibility, Equity, and Quality. The college is affiliated with Anna University of Technology, Chennai. The college has grown considerably under the dynamic leadership of its Chairman Shri.G.Mahadevan, Vice Chairman Shri.M.Kuberan, Secretary sri.M.Prabhu and Principal Dr.R.Panneerdhass, spear heading all academic and non academic activities.

In this technological age, knowledge is just a click away and we ensure that every student of the college has only the best of technology at his/her disposal. The college provides excellent infrastructure, well equipped labs, workshops and libraries, qualified staff and enormous facilities like food served in the spacious mess, canteen, anti-ragging campus, safety buses, separate hostel for boys& girls as to feel at home, indoor and outdoor for every sport and games and academics placements.?

The Principal, who is the academic head of the institution, is aided by: dean, heads of the departments, finance officer, section heads, and chairpersons of other institute-level committees. The various Committees that direct the day-to-day functioning of the Institute include: Governing Body; College Academic Committee, Planning, Finance and Development Committee. Other bodies that take part in governance include: Internal Quality Assurance Cell (IQAC), Approvals committee, Accreditation committee, Admissions committee, Examinations committee; Research and Consultancy Cell, Mentoring committee and Training and Placement Cell.?

The administration is overseen by the strategic Plan, Vision & Mission, and the Budget based on the Institutional needs and growth strategy. The GC ensures that all decisions on the matters such as admissions, new programmes, infrastructure, Teaching & Learning Process and Placements are arrived based on the fundamental concerns of the Institution.

NEP implementation To ensure the effective implementation and continuous monitoring of NEP in engineering colleges and to promote excellence in innovation and inclusivity in engineering education our college has been following outcome based education and also onsuring students practise yoga regularly.

Sustained institutional growth of the institutional in development of faculty member, modernization of outcome based engineering programs .the global competition in planning innovative product development, testing, improving and maintenance has created many challenges in the institutional culture

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and institutional developments.

Short term Institutional Perspective plan

- To adopt efficient and effective modes of delivery of curriculum.
- To commence PG courses in the institution.
- To motivate students to complete online courses on the platforms like NPFEL, SWAYAM, E-PG Pathshala.
- To set standards for achieving learning outcomes for better outcome based learning.
- To increase the number of quality publication.
- To purchase more reference books and other study material in the library.

Long term Institutional Perspective plan

- Construction of fully fledged hostel for girls
- To start skill development courses in collaboration with the industries like TCS, Infosys ,etc .
- To upgrade the qualifications of faculty members
- to become an autonomous instituition

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

6.2 Strategy Development and Deployment

6.2.1

The institutional perspective plan is effectively deployed and functioning of the institutional bodies is effective and efficient as visible from policies, administrative setup, appointment, service rules, and procedures, etc

Response:

AREC has well-defined structure of governance to promote effective and efficient functioning of cells, clubs and committees. Each member in the structure has clear and transparent roles and responsibilities that are documented and implemented by the guidelines of the Society and the Institution.

AREC has the following policies and procedures for effective implementation of participative governance.

- 1. Sports policy
- 2. Planning and monitoring policy
- 3. Admission policy
- 4. Institutional freeship policy

- 5. Human resource policy
- 6. Examination policy
- 7. Research policy
- 8.IT policy
- 9. Purchase policy
- 10. Maintenance policy
- 11. Green campus and environment policy
- 12. Internship policy
- 13. Grievance policy
- 14. Training policy
- 15. Placement policy
- 16. Library policy
- 17. Alumni policy
- 18. The planning and evaluation of the committees are done regularly and policies are also reviewed and revised if necessary.

Appointment and service rules

For Promotion and Services, AREC follows Anna University norms. Human Resource (HR) policy articulates about appointment, Promotion, reliving and Career development of the staff.

Deployment of Strategy Plan

The strategic plan deployed under 8 verticals as follows

S.No	Strategic Plan	Sub Plans	
1	Enhance engagement with	NSS, YRC, Various Clubs,	
	Society	Professional Societies Students	
		Chapter	
2	Diverse Student learning	ICT based TL, Value Added,	
	environment	Finishing School Courses.	
3	Enhance engagement with	Guest Lectures, Internship,	
	Industry	MOUs, Industrial Projects,	
		Industry Support, etc	
4	Improve internal support	LMS, Effective Implementation	
	systems	of Moodles, etc	
5	Enhance alumni engagement	Registered Alumni Association,	
		Alumni Meet, Alumni	
		Contributions, etc	
6	Develop a cleaner and greener	Solar, LED, All type of Waste	
	campus	Management, Green	
		Landscaping campus	
7	Enhance Research Culture	R&D Policy, Paper in UGC and	
		other SCI, Scopus Advanced	
		Centres for Research / Future	
		tech Labs.	

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The Governing council is the final approving body on malteve related to a academics and administrations. The Principal of the college is the ex-officio secretary of the Governing Council who presents the budget, staff requirement, introduction of new programmers administrative and academic activities plan and any other relevant malteds. On obtaining the approval from the GC it is translated to the HOD's and functional heads for effective implementation of the decisions. The HOD in turn conducts department meeting and deploy the various responsibilities to the faculty members who in turn are support of respective non teaching technical and non technical staff.

File Description	Document
Upload Additional information	View Document
Provide Link for Additional information	View Document

6.2.2

Institution implements e-governance in its operations

- 1. Administration
- 2. Finance and Accounts
- 3. Student Admission and Support
- 4. Examination

Response: A. All of the above

File Description	Document
Screen shots of user interfaces of each module reflecting the name of the HEI	View Document
Institutional expenditure statements for the budget heads of e-governance implementation ERP Document	View Document
Annual e-governance report approved by the Governing Council/ Board of Management/ Syndicate Policy document on e-governance	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

6.3 Faculty Empowerment Strategies

6.3.1

The institution has performance appraisal system, effective welfare measures for teaching and non-teaching staff and avenues for career development/progression

Response:

Performance Appraisal System:

Performance appraisals for teaching and non-teaching staff are taken once a year in a prescribed format to evaluate the progress and performance of staff. Teaching staff performance is evaluated on the basis of academics as well as contributions to co-curricular activities and other achievements. The principal evaluates the self-assessment forms, analyzes the student feedback on staff, and takes a review of the appraisal. Self-appraisal is done on the basis of four parameters: teaching, learning, and evaluation-related activities; co-curricular, extension, and professional development; research and academic contribution and others.

The Faculty Appraisal System (FAS) is divided into Personal Data and Self-Assessment and Report, Review, and Assessment to be filled by the reporting authority, reviewing authority, and accepting authority, respectively. FAS are obtained from the concerned program coordinator or section heads and reviewed and accepted by the accepting authorities. After the completion of the evaluation process, the duly accepted performance reports are retained with the concerned custodian. In cases of adverse remarks in the FAS, the employees are counseled and provided training to improve. The annual performance review and subsequent rating of an employee are important factors in the grant of annual increments, performance awards, and career benefits.

Existing welfare measures for teaching and non-teaching staff are given below:

Welfare measures taken towards the staff reflect the output and selfless contribution towards the tremendous growth of our institution. In our institution, staff welfare is given foremost importance. In connection with this,

- Medical leave and maternity leave for eligible staff members.
- Faculty members are eligible for earned leave.
- The gym is also accessible for the staff.
- Medical centre.
- Free Transport provided for teaching and non teaching faculty.
- Free Accomodation for Teaching and Non Teaching faculty.
- Recreation centers are established for staff staying on campus.
- Internet and free Wi-Fi facilities are also available on campus for staff.
- The Teaching and Non-Teaching Staff Club organizes tours and sports activities for the staff.
- Faculty members and non teaching can also obtain admission for their wards at Villupuram Vidhyalaya International School (VVIS) and Sri Venkatachalapathy Polytechnic College (SVPTC).
- Employees get a fee concession for their ward for both teaching and non-teaching faculty.
- 30 days of summer and winter vacations for faculty members.
- Employee Provident Fund (EPF).

Career Development/Progression

- Sponsorships to attend and present papers at conferences both in India and abroad.
- Faculty Development Programs (FDP) for faculty members on a regular basis.
- Skill development courses are organized for non-teaching staff to enhance their skills in the work environment.
- All the faculty members who upgrade their research work through quality publications during the academic year are honored by management and the institute through the research incentive scheme every year.
- Financial assistance will be provided for attending FDPs, Workshops, Professional and administrative development programs, along with on-duty (OD) within India and financial assistance will be provided for book publishing.
- Providing financial support towards membership fees of professional bodies.
- On-Duty will be provided for attending programs and Ph.D research works.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

6.3.2

Percentage of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies during the last five years

Response: 63.07

6.3.2.1 Number of teachers provided with financial support to attend conferences/workshops and towards membership fee of professional bodies year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
31	30	33	40	47

File Description	Document
Policy document on providing financial support to teachers	View Document
Institutional data in the prescribed format	View Document
Copy of letter/s indicating financial assistance to teachers and list of teachers receiving financial support year-wise under each head.	View Document
Audited statement of account highlighting the financial support to teachers to attend conferences / workshop s and towards membership fee for professional bodies	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

6.3.3

Percentage of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years

Response: 77.31

6.3.3.1 Total number of teaching and non-teaching staff participating in Faculty development Programmes (FDP), Management Development Programmes (MDPs) professional development /administrative training programs during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
88	81	78	43	44

6.3.3.2 Number of non-teaching staff year wise during the last five years

2022-23	2021-22	2020-21	2019-20	2018-19
29	29	29	29	29

File Description	Document
Refresher course/Faculty Orientation or other programmes as per UGC/AICTE stipulated periods, as participated by teachers year-wise.	View Document
Institutional data in the prescribed format	View Document
Copy of the certificates of the program attended by teachers.	View Document
Annual reports highlighting the programmes undertaken by the teachers	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

6.4 Financial Management and Resource Mobilization

6.4.1

Institution has strategies for mobilization and optimal utilization of resources and funds from various sources (government/nongovernment organizations) and it conducts financial audits regularly (internal and external)

Response:

A.R Engineering College has initiated efforts to mobilize funds through viable sources and consultation efforts. It ascertains that these resources are utilized for the welfare and developmental purpose of the Institution. Optimal utilization of resources is undertaken through the enhanced human resources of the Institution-both students and faculty and spatial resources like labs, auditorium, seminar halls, sports ground etc.

Optimum Utilization of Resources:

The resources generated have been optimally utilized for

- Promoting Entrepreneurship in the college campus.
- Conducting Extension activities
- Sports, games, academic and cultural activities
- Development of an inclusive and green campus.

The manpower and infrastructural resources of the College have been put to productive use periodically for the conduct of major events, inter collegiate competitions which are both academic and non-academic, research-oriented activities, programmes targeted towards inclusivity and societal problems, health camps and activities inculcating the values of our Indian Knowledge System.

Institution conducts internal and External Financial Audits regularly

Internal and external audits

A.R Engineering College regularly conducts internal and external audits. These audits ensure financial transparency, compliance, and accountability. The institution recognizes the significance of maintaining a robust financial management system and has implemented a comprehensive auditing framework to achieve these objectives. Its prime objective is to ensure the optimum utilization of financial resources for the betterment of the Institution and its future prospects.

Internal Financial Audit

The college conducts internal financial audits annually with the purpose of encompassing various financial processes, including budgeting, expenditure, revenue collection, payroll, and financial reporting. College Financial Officer Mr. Sathya raj reviews adherence to accounting principles and assesses the effectiveness of internal controls.

Internal audit reports are shared with the College management and Finance committee. The reports provide insights into the efficiency of internal controls and may include recommendations for improvement. The college management and the finance committee engage with audit findings to enhance financial processes and maintain best practices.

External Financial Audit:

A.R Engineering College conducts external financial audits annually. External Chartered Accountant Mr. Janarthanan and CO Chartered Accountants-FRN-013977S reviews financial statements, transactions, and accounting practices to ensure accuracy and adhering to regulatory requirements and accounting standards. The Audit objections, if any will be raised by the Auditor through an excel template format. The specific items under consideration will be clarified duly with the respective proofs attached for further concurrence.

External audit reports are submitted to the institution's College management, Finance Committee and other relevant stakeholders. The reports provide a fairness of financial statements and may include recommendations for improvements in financial reporting practices. The institution is committed to addressing external audit recommendations promptly.

The college recognizes the pivotal role of internal and external financial audits in maintaining financial integrity and accountability. The institution remains dedicated to continuous improvement, utilizing audit findings to enhance internal controls, financial processes, and reporting practices for holistic growth.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

6.5 Internal Quality Assurance System

6.5.1

Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes. It reviews teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals and records the incremental improvement in various activities

Response:

As per the guidelines of NAAC, the Internal Quality Assurance Cell of A.R. Engineering College was established on 2022 as a quality sustenance and enhancement measure with Prof. S.Ramamoorthy as the coordinator. IQAC is driven by a competent team comprising Principal, Senior Professors, Alumni, Industry Experts, and also students. Chairman / Coordinator of IQAC is part of all major committees and other bodies and extends support to all the academic activities and recommends student centric procedures. The main focus of IQAC is to establish quality metrices consistently in all the initiatives of academic and administrative activities for overall growth of the college.

VISION

Improving AREC's academic and administrative performance consciously and consistently.

MISSION

Employing novel methods in the teaching-learning and evaluation process. Ensuring that the systems that support employees and students continue to operate smoothly. Establishing connections with stakeholders. Keeping strong governance in place to achieve success in academic and administrative activities.

The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms

The institution reviews its teaching learning process, structures & methodologies of operations through Academic Departments. The IQAC is responsible for developing coordinating and monitoring academic assessment activities to effect improvement in student learning outcomes through:

- Program assessment for the graduation batch. The learning outcomes of program (POs) are assessed through curricular and co-curricular activities.
- Regular monitoring of individual student's attendance is submitted to the Principal every day.
- Separate students counsellors was available which advices each student individually.
- Detailed course handout is prepared in unit wise order, as per the prescribed syllabus.
- Lab manuals are prepared by the faculty and made available to the student in printed format.
- Special training programs are organized for the students to improve their communication skills, soft skills, leadership qualities etc.,
- The performance of the students in the periodical tests and remedial measures for the slow learners was discussed and Participation of National and International technical events.

OUTCOMES

- Exit survey has helped in revising the curriculum according to the needs of the present day.
- Alumnifeedbackhashelpedinrefinementofcurriculum.
- Inclusion of value added courses and training programs, better placements.
- The revised curriculum has enabled the students to gain admission in Premier Institutions.

File Description	Document
Upload Additional information	View Document
Provide Link for Additional information	View Document

6.5.2

Quality assurance initiatives of the institution include:

- 1. Regular meeting of Internal Quality Assurance Cell (IQAC); quality improvement initiatives identified and implemented
- 2. Academic and Administrative Audit (AAA) and follow-up action taken
- **3.** Collaborative quality initiatives with other institution(s)
- 4. Participation in NIRF and other recognized rankings
- 5. Any other quality audit/accreditation recognized by state, national or international agencies such as NAAC, NBA etc.

Response: A. Any 4 or more of the above

File Description	Document
Quality audit reports/certificate as applicable and valid for the assessment period.	<u>View Document</u>
NIRF report, AAA report and details on follow up actions	View Document
List of Collaborative quality initiatives with other institution(s) along with brochures and geo-tagged photos with caption and date.	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document
Link to Minute of IQAC meetings, hosted on HEI website	View Document

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1

Institution has initiated the Gender Audit and measures for the promotion of gender equity during the last five years.

Describe the gender equity & sensitization in curricular and co-curricular activities, facilities for women on campus etc., within 500 words

Response:

The principles of impartiality, integrity, and inclusivity underpin the work culture of A.R. Engineering College. equitable opportunity for firms who respect diversity and understand the importance can be to advance gender equity in particular.

Gender Equity

Women's Grievances Redressal Cell of our Institution is responsible for safeguarding and advancing the welfare of all female employees and students within the organization. It handles all workplace sexual harassment allegations and the actions taken to address them. It also addresses any behavior by an individual in a position of power or membership in one sex group that prevents others from having the same opportunities to advance their careers. Flexible schedules are offered to help female employees and instructors balance work and personal obligations. Motivation is given to female instructors as well as pupils to take on leadership positions in a range of institutional initiatives. Mentors and professionals provide regular counseling to women. Female faculty deputations to conferences, technological meetings, and seminars at the national and international levels. The Women Entrepreneurship Cell on campus supports the founding of new businesses. Live satellite launch broadcasts and film screenings with a female focus are presented by our institution. Handling Grievances for Female Staff Members and Students.

Safety and Security Measures

Student counseling: Faculty members serve as counselors in order to assist students. Both Boys and Girls receive counseling and they feel motivated, secure, and treated fairly by others in their immediate environment. Faculty Counseling: The Principal and Head of each department provide faculty members with counseling during the annual appraisal meetings. Safety measures like Surveillance camera, first aid kits and fire extinguishers are installed in the campus. For medical assistance, Health centre is available in college campus. Free medications are also provided for minor health disorders. Counseling for Nonteaching staffs are also followed. Separate day and night securities, separate security for hostel ensures enhanced safety. Students are allowed to enter into the college campus after checking their college identity cards.

Common Rooms: To promote casual interaction and conversations, common rooms, and leisure/recreation facilities have been set up for both boys and girls.

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Celebrations

Each year, the teachers and students of A.R. Engineering College arrange events to commemorate National holidays as well as the birthdays and deaths of notable Indian figures. Celebrations include tree planting, environmental awareness and cleanliness campaigns, and speeches by well-known speakers. Every year on September 15, the college organizes Engineers Day in honor of Bharat Ratna Mokshagundam Visvesvaraya, the country's greatest engineer. In remembrance of Dr. Sarvepalli Radhakrishnan, the college organizes activities on Teacher's Day to recognize the faculty and staff for their exceptional efforts and honoured with an award on 5th of September every year. Events, speeches of students about national leaders, drawing competitions, skits, dance performance are conducted every year on account of Independence and Republic Day.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

7.1.2

The Institution has facilities and initiatives for

- 1. Alternate sources of energy and energy conservation measures
- 2. Management of the various types of degradable and nondegradable waste
- 3. Water conservation
- 4. Green campus initiatives
- 5. Disabled-friendly, barrier free environment

Response: A. 4 or All of the above

File Description	Document
Policy document on the green campus/plastic free campus.	View Document
Geo-tagged photographs/videos of the facilities.	View Document
Circulars and report of activities for the implementation of the initiatives document	View Document
Bills for the purchase of equipment's for the facilities created under this metric	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

7.1.3

Quality audits on environment and energy regularly undertaken by the Institution. The institutional environment and energy initiatives are confirmed through the following

- 1. Green audit / Environment audit
- 2. Energy audit
- 3. Clean and green campus initiatives
- 4. Beyond the campus environmental promotion activities

Response: A. All of the above

File Description	Document
Report on Environmental Promotional activities conducted beyond the campus with geo tagged photographs with caption and date	View Document
Policy document on environment and energy usage Certificate from the auditing agency	View Document
Green audit/environmental audit report from recognized bodies	View Document
Provide Links for any other relevant document to support the claim (if any)	View Document

7.1.4

Describe the Institutional efforts/initiatives in providing an inclusive environment i.e., tolerance and harmony towards cultural, regional, linguistic, communal socioeconomic and Sensitization of students and employees to the constitutional obligations: values, rights, duties and responsibilities of citizens (Within 500 words)

Response:

At A.R. Engineering College, we believe that students should receive a broad, all-around education. Additionally, one of the main educations provided at the institute through a variety of methods is educating students about our constitutional rights, beliefs, obligations, and responsibilities. In order to cultivate a nation of morally upright young people, the institution plans and implements a number of initiatives aimed at creating an atmosphere that upholds ethical, cultural, and spiritual values among its faculty and staff. Commemorative days like youth day, Gandhi jayanthi are observed on campus with the initiative and cooperation of the administration to foster emotional and religious feelings among the teachers and students. These events serve as an entertainment and fostering a sense of social harmony and unity among pupils.

The institution's belief in the equality of all cultures and traditions is demonstrated by the fact that students from various castes, religions, and geographical locations are able to pursue their education without facing any form of prejudice. We are not intolerable to language, cultural, regional, socioeconomic, or communal differences, not with standing the institution's heterogeneous socio cultural background and linguistic diversity.

Together with its teachers and staff, the institution observes a number of regional and cultural holidays, including Women's Day, Yoga Day, Pongal celebration, Ayudha Pooja & Saraswathi Pooja Celebration, Christmas Celebration, Orientation or Induction Program, Farewell Program, Pledge Days and Vinayagar Chadhurthi Celebration. Motivational talks by notable experts in the field are organized to foster student's overall growth as individuals and to prepare them to be responsible citizens who uphold the nation's ideals of social cohesion, national integration, and communal peace.

We have established robust infrastructures for a range of sports activities to support student's physical growth in addition to academic and cultural pursuits. This demonstrates how the institute works to create an environment that is welcoming to all people and that fosters harmony and tolerance towards differences in language, culture, community, socioeconomic status, and other areas.

Through both the curriculum and extra curricular activities, the institution makes students and staff aware of their constitutional responsibilities. The institute also runs a number of ongoing programs to inform women about their rights. Additionally, former members of the armed forces or law enforcement are asked each year to share their experiences and encourage the next generation of thinkers to help improve the country. Periodically, Awareness Session are held on subjects including Leprosy, Anti-drug, Sanitation & hygiene, Deit And Fitness, COVID – 19 Prevention. The NSS unit of the college organizes a National voter day, National unity day, National Girl child day, All faculty members and students swear a pledge on that day. Additionally, several dance acts and skits are showcased at various sensitization-related occasions. Corruption, child labor, favouritism, mental health and other issues are among the many subjects discussed.

File Description	Document
Upload Additional information	<u>View Document</u>
Provide Link for Additional information	View Document

7.2 Best Practices

7.2.1

Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual

Response:

BEST PRACTICE I

"GREEN, CLEAN, SAFE AND ECO-FRIENDLY CAMPUS"

Objectives of the Practice

The A.R. Engineering College is an eco-friendly establishment. The college's campus is situated in a tidy, pollution-free area. The college makes every effort to keep the lush, verdant grounds surrounding

the campus attractive. Since its founding, the A.R. Engineering College has worked to lower energy use, maintain a level of indoor air quality, and increase energy efficiency on campus by using strategies that are compatible with a secure, safe, and community-focused campus. To encourage students to keep environment clean. To educate students to create awareness amongst public. To make students understand the importance of environment and make the campus clean.

The Context

It has become highly imperative to sensitize the future generation on the need for green initiative and eco friendly practices to have a clean, green and save environment

The Practice

Campus-wide programs aimed at reducing, reusing, and recycling are contributing to the development of a green code of conduct that includes the following:

Energy Conservation: By adopting a proactive and forward-thinking approach, the energy conservation strategy seeks to ensure responsible, economical, and energy-efficient operations on campus.

Maintenance of water bodies: Groundwater is essential to the institution's operation. Bore wells and open wells are present, in that order. The facility provides adequate storage for drinking water, groundwater, and water for cleaning. The facility has a RO purifier that cleans drinking water for use in drinking. In addition a rainwater collection system was installed on our campus.

Landscaping with trees and plants: Every year, AREC plans a tree-planting initiative on the campus of the college. Students and faculty participate in the Plantation Program. The initiative to plant trees both on and off campus is eagerly started and carried out by students and staff.

Evidence of Success

- The college's green campus project not only improves the campus's aesthetics but also contributes to environmental preservation.
- The college's electrical bills demonstrate the considerable financial savings.
- The use of water conservation techniques contributes to the upkeep of green and eco-friendly campus landscaping.
- College campuses are now tidy and attractive thanks to the ban on plastic products.
- Every week AREC students participate in PET hours. Our campus is surrounded by a large number of plants and trees, which helps our pupils breathe clean air and provides a nice space for them to perform sports.
- A growing number of faculty, staff, and students are using paper bags. The street vendors benefit financially as a result.

Problems Encountered and Resources Required

- Careful planning of human resources is necessary for the preservation and growth of plants.
- There has to be good public transportation in the area.
- The college need government assistance to carry out a number of environmentally friendly projects, including the installation of solar panels, automated switches to conserve electricity, air

- quality monitoring equipment, and recycling machines.
- The biggest challenge is the lack of funding for self-financial institutions from government/agencies for the development of the sustainability projects.

BEST PRACTICE II

"TARGETED COACHING FOR STUDENTS".

Objectives of the practice

The goals are to cultivate a culture of competition among students, encourage more students to make the university merit list, foster a positive environment. Student coaching plays a vital role in supporting students on their journey to success. By understanding the role of student coaching and recognizing its benefits, coaches can make a significant impact on the lives of their students. Student coaching is a collaborative process between a coach and a student, aimed at empowering the student to reach their goals.

The Context

The location of the college is rural. The majority of admitted students come from rural areas. They have no idea about higher education or the idea of succeeding in the field. Some students are not good in language. Thus, "Special Coaching" has been implemented by the College for all students. The idea behind this concept is to help students become more self-assured and competent. The year-round practice of the special coaching activity precedes the start of the University Examination.

The Practice

Certain practices make up special coaching activities. Where in each department will create a coaching timetable that comprises:

1. Schedule of Unit Wise Test Examination of each subject:

The faculties prepare a subject-specific unit test schedule and publish a separate timetable to indicate when these tests will be administered in addition to the standard unit tests.

2. Provision to provide additional facilities to the students:

Extra resources like e-resources, journals, and text and reference books are available at the Central Library. Academic achievement is emphasized, and students are encouraged to participate in state and national conferences, seminars, and workshops.

3. Attention to solve the personal difficulties of the students:

Subject matter experts answer inquiries about their specific domains. Most bright students come from traditional, low-income, rural backgrounds. They receive financial aid in the form of paid books, reduced fees, transportation expenses, etc.

4. Felicitation of meritorious students:

Deserving pupils receive compliments from college executives during an annual occasion. The sponsored supplemental cash incentives are offered to the meritorious students as a means of encouraging them for their Success.

Evidence of success

- Raising the pass rate on university exams.
- Giving each pupil individualized attention enables them to get over obstacles. in their studies.
- Students' subject understanding improved when technical questions were answered.
- Their writing and studying abilities improved steadily over time.
- Unit wise assessments help students acquire time management skills and improve their correctness on the exam.

Problems encountered and resource required

- All the Students are undergoing coaching activity.
- Some students are affected by health issues during rainy seasons.
- Some students travelling from long to college, they don't have stamina to study entire day.
- Faculties handling Special coaching also should attend counseling session like how to handle a student with disturbed mind. Special coaching activity gives coaching to all the three category students like slow learners, intermediate and toppers.

File Description	Document
Any other relevant information	View Document
Best practices as hosted on the Institutional website	View Document

7.3 Institutional Distinctiveness

7.3.1

Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

Response:

A.R Engineering College Multifaceted Learning: a unique, student- centered endeavour to mould socially responsible and competent professionals

A.R Engineering College Multifaceted learning includes four dimensions:

Dimension 1: Empirical Learning

The distinctiveness of A.R Engineering College has been explicated through the empirical learning

endeavour prevalent in the institution as Students learn by doing and engaging themselves in hand-on activities, leading to their overall development. Empirical learning is realized through Soft Skill Development, Confidence Building Measures, Communication Skills, Decision-Making Skills through organization of events, Computer Skills, Training to be Professionals and Personality Development Measures.

- AREC SDP Students are exposed to a good number of Skill Development Programs like ASAP (Additional Skill Acquisition Programme), She-Drives, Hands-on Training in Office Automation Tools, Ethical Hacking, Graphic Designing and AutoCAD Designing.
- Finishing School provides a platform where students are trained to become high quality professionals. Students are with self-confidence to face interviews, group discussions and debates. Students learn basics to be followed by a professional.
- Confidence Building Training has been provided to equip students to face placement interviews and future obstacles in their life.
- Students are finely polished by various sessions on Personality Development, Communication Skills and Enrichment lectures. It leads to the overall Personality Development of students.
- Students are introduced to new concepts and they develop academic and professional research skills by doing case studies, research and projects.
- Students-Organized Conferences/Techno-cultural Fests and Student Union Activities offer engaging experiences to inculcate leadership and organizational skills.

Dimension 2: Service Learning

Students of A.R Engineering College go through experiential education through community engagement. In the process, students link personal and social development with academic and cognitive development. It helps students in moulding responsible citizens with empathy to work towards social justice.

- Engaging students in Palliative Care resulted in inculcating the spirit of care and a positive effect on the attitude of students. The strategy was to give sensitization classes to the students and basic Training in palliative care followed by visiting patients. The initiative was realized in collaboration with Ecomwel Orthopaedic Centre, Salem.
- The College organized Hair Donation Drive in which 41 Girl Students were Self-motivated to donate Hair to cancer patients undergoing chemotherapy. Hundreds of Students voluntarily donate Blood every year.
- During the Covid 19 pandemic, Students constituted Covid Combat (COCO) Warriors by organizing vaccination drives, manufacturing and distributing sanitisers. Students exhibited their sense of civic responsibility through voluntary relief-rescue work during floods near Villupuram-Cuddalore districts, as evident as outcome of the service learning.
- Students involved in community development activities in villages, Visit to Social Welfare Centres, cleaning drives and distributing free meals and clothing. Through these Student- led initiatives, Students learn about the harsh realities of life and develop social skills and become responsible persons for our nation.

Dimension 3: Eco-centric Learning

Eco-centric Learning at A.R Engineering College has gone beyond classroom, and has evolved through exploration of nature and engaging with soil. Environmental activities beyond campus enable students to interact with the environment in order to adapt and learn.

- Students developed basic agricultural skills through cultivation and harvesting of vegetables and crops in the campus under the auspices of NSS, Nature Club, Adventure/ Energy/ Environment Club. Thus, Students learnt to relate to the vast majority of agrarian population in India
- On World Environment Day, more than 150 students voluntarily planted saplings at their home premises and sent geotagged photos.
- In connection with Gandhi Jayanthi, more than 80 students indulged in cleaning drives at their premises and roads.

Dimension 4: Innovative Learning

Entrepreneurship Development Club, Innovation Cell, Exhibitions and Start-ups in the college are platforms to ignite the innovative skills of students. Through innovation, students not only exhibit their creative ideas, but also learn to further their innovative skills.

- During the annual Innovation Festival organized by the Innovation Cell, hundreds of innovative ideas are evolved. During the Festival Fair, handicrafts, cakes, bags, stars and products-out-of-waste produced by students are sold.
- Short Film making Students expressed their innovative learning by making creative Short Films.
- Wall paintings on various themes by students, students-developed websites and robotic projects are examples of learning through innovation.

The distinctiveness of Multifaceted Learning was evidenced as Students exhibited their competence when a good number of students were placed in the current academic year and students were admitted for higher studies.

In the past five years, the practice of capacity building has been strengthened in multiple dimensions.

For teaching staff:

- The College encourages young and newly recruited faculty to participate in FIPs and enhances skill development of teachers through FDPs/Refresher Courses/Workshop. The teachers are financially and administratively supported.
- Workshops and hands-on training for skill development of teachers focuses on preparing for classroom (offline/online) lectures, accessing Open Educational Resources (OERs), using Creative Common License (CCL) and google applications and other meaningful teacher-student engagement.
- In the context of Covid-19, all teaching learning was shifted to the MS Teams platform. A group of expert teachers were given the responsibility to train and guide the faculty to ensure smooth transition.
- The IQAC has instituted research grants, awards and incentives in various categories to recognize substantial research contributions, thereby motivating the faculty to undertake doctoral and postdoctoral studies, quality academic research and publication in reputed and accredited journals.

For non-teaching staff:

- Basic and advanced ICT workshops have been organised to increase efficiency in work outcomes.
- Administrative and accounts related workshops for non-teaching staff have been held for updating knowledge and skills.
- FDPs for library professionals have been organised, including training sessions.
- Non-teaching staff organize regular talks and seminars and attend programmes in other colleges.
- Non teaching staff has been provided training in the application of latest media software and use of equipment to produce high quality media resources.
- Non-teaching staff are involved in supporting faculty in organizing various programmes, which has enhanced their work spectrum.

The IQAC periodically facilitates academic and administrative audits. Department-wise post-audit review meetings are conducted, which allows the teacher and non-teaching staff to channelize their strengths.

File Description	Document
Any other relevant information	<u>View Document</u>
Appropriate web in the Institutional website	View Document

5. CONCLUSION

Additional Information:

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Concluding Remarks:

AREC has been striving hard to upkeep its vision of creating centre for learning and research through its concerted efforts. AREC has been Progressing slowly but steadily in a geographical location with many constraints and difficulties. Facing tough Competitions in the field of engineering education the sustenance of the institutions is based on the support given by government and other statutory bodies. AREC has been function by fulfilling all the norms and standards prescribed by AICTE and Anna University struggling to make both end meet. AREC has been continuously taking efforts to uplift the institution and to further the motive to education the local public and to improve the economical status of the district. The institution has all the requisite potential to grow into full pledged institution and making it a renowned one in the near future.

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