



# YEARLY STATUS REPORT - 2021-2022

## Part A

### Data of the Institution

<b>1.Name of the Institution</b>	Thiagrajar College of Engineering
• Name of the Head of the institution	Dr. M. Palaninatha Raja
• Designation	Principal In-charge
• Does the institution function from its own campus?	Yes
• Phone No. of the Principal	04522482430
• Alternate phone No.	04522482240
• Mobile No. (Principal)	9894094155
• Registered e-mail ID (Principal)	principal@tce.edu
• Address	Thiagarjar College of Engineering
• City/Town	Madurai
• State/UT	TamilNadu
• Pin Code	625015
<b>2.Institutional status</b>	
• Autonomous Status (Provide the date of conferment of Autonomy)	01/06/1987
• Type of Institution	Co-education
• Location	Semi-Urban

- Financial Status **Grants-in aid**
- Name of the IQAC Co-ordinator/Director **Dr. S.J.Thiruvengadam**
- Phone No. **04522482240**
- Mobile No: **9865079402**
- IQAC e-mail ID **deanacad@tce.edu**

**3.Website address (Web link of the AQAR (Previous Academic Year))** <https://tce.edu/naac/naac-aqar>

**4.Was the Academic Calendar prepared for that year?** **Yes**

- if yes, whether it is uploaded in the Institutional website Web link: <https://tce.edu/academics/academic-calendar>

### 5.Accreditation Details

Cycle	Grade	CGPA	Year of Accreditation	Validity from	Validity to
<b>Cycle 1</b>	<b>A+</b>	<b>3.47</b>	<b>2019</b>	<b>29/03/2019</b>	<b>28/03/2024</b>

**6.Date of Establishment of IQAC** **01/08/2018**

**7.Provide the list of Special Status conferred by Central and/or State Government on the Institution/Department/Faculty/School (UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC, etc.)?**

Institution/ Department/Faculty/School	Scheme	Funding Agency	Year of Award with Duration	Amount
<b>Thiagarajar College of Engineering</b>	<b>Technology Business Incubator (TBI)</b>	<b>DST NST EDB</b>	<b>22/12/2014</b>	<b>17154666</b>
<b>Thiagarajar College of Engineering</b>	<b>EDI</b>	<b>Government of Tamil Nadu</b>	<b>22/06/2016</b>	<b>2299481</b>
<b>Thiagarajar College of Engineering</b>	<b>TEQIP</b>	<b>NPIU, New Delhi</b>	<b>01/11/2017</b>	<b>84000000</b>

**8. Provide details regarding the composition of the IQAC:**

- Upload the latest notification regarding the composition of the IQAC by the HEI [View File](#)

**9. No. of IQAC meetings held during the year** 4

- Were the minutes of IQAC meeting(s) and compliance to the decisions taken uploaded on the institutional website? **Yes**
- If No, please upload the minutes of the meeting(s) and Action Taken Report No File Uploaded

**10. Did IQAC receive funding from any funding agency to support its activities during the year?** No

- If yes, mention the amount

**11. Significant contributions made by IQAC during the current year (maximum five bullets)**

Implementation of Institutional Development Policy (IDP) through Institutional Transformation Project

Design of policies for academic & sponsored research, publication and patent

TCE Online Courses Development and offerings to students

Faculty Conclave for sharing Best Practices in Teaching Learning Processes and Faculty training for Curriculum Design and new curriculum for all undergraduate engineering programmes

Participation in NIRF 2022 ranking and got 85th Rank in Engineering Category; 23rd Rank in Architecture category Submission of AQAR 2020-21 report

**12. Plan of action chalked out by IQAC at the beginning of the academic year towards quality enhancement and the outcome achieved by the end of the academic year:**

Plan of Action	Achievements/Outcomes
Research Practice course for Undergraduate Engineering students	3 batches of undergraduate students published research papers in Scopus Indexed Journals
Incentives for Quality Research Publications	78 faculty members and research scholars were awarded incentive
Submission of Compliance reports for Four UG programmes for programme accreditation	Accreditation period has been extended to further 3 years for all the 4 programmes
Submission of SAR for B.E. Computer Science and Engineering Programme Accreditation	Secured Six Years Accreditation for BE Computer Science and Engineering Programme
Phase 2 TCE Online Course development in latest technologies	Nine new courses were launched in Phase 2
Faculty Conclave 2022 for sharing Best Practices in Teaching Learning Process	34 teams of faculty members shared their best practices in Teaching and Learning Process
Participation in NIRF 2022 ranking	Secured 85th in Engineering and 23rd in Architecture Categories

13. Was the AQAR placed before the statutory body? **Yes**

- Name of the statutory body

Name of the statutory body	Date of meeting(s)
<b>IQAC</b>	<b>24/03/2023</b>

14. Was the institutional data submitted to AISHE ? **Yes**

- Year

## Part A

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<b>10.Did IQAC receive funding from any funding agency to support its activities during the year?</b>	<b>No</b>	
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<b>11.Significant contributions made by IQAC during the current year (maximum five bullets)</b>		
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Design of policies for academic & sponsored research, publication and patent		
TCE Online Courses Development and offerings to students		
Faculty Conclave for sharing Best Practices in Teaching Learning Processes and Faculty training for Curriculum Design and new curriculum for all undergraduate engineering programmes		
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IQAC	24/03/2023				
<b>14. Was the institutional data submitted to AISHE ?</b>	<b>Yes</b>				
<ul style="list-style-type: none"> <li>Year</li> </ul>					



Year	Date of Submission
2021	03/03/2023

### 15. Multidisciplinary / interdisciplinary

Institution offers flexible and innovative curricula that includes credit-based courses and projects in the areas of community engagement and service, environmental education, and value-based towards the attainment of a holistic and multidisciplinary education in the Conceive-Design-Implement-Operate framework. The institute promotes interdisciplinary/multidisciplinary learning among undergraduate students in the following ways:

1. **Interdisciplinary projects:** *Interdisciplinary projects are encouraged in the courses on Design Thinking, System Thinking, Project Management and Engineering Design Project. Faculty Mentors are assigned across the departments to facilitate project completion. This is led to hackathons by Government and multinational companies*
2. **Interdisciplinary electives (3 to 6 credits):** *General electives are courses offered by different departments. These courses do not have any prerequisites and could be chosen as electives by students of any programme. Students should opt for the courses offered from other departments during their course of study.*
3. **Integration of Humanities and Science with STEM:** *Courses are offered by Science departments in the state-of-art technologies like nano technology, quantum physics, Graph Theory, Machine Learning to the students of engineering programme. Students should opt for these courses during their course of study. Further, the final semester projects are jointly guided by faculty members from Science and Engineering Departments.*
4. **TCE Massive Open Online Courses:** *A pool of 11 courses on the state-of-the-art technologies like Data Visualization, Cloud Computing, Predictive Analytics, Blockchain Technologies are offered in online mode (mooc.tce.edu). These courses are open to the students of all disciplines to enhance interdisciplinary learning. Further, demanding courses like Smart Grid, Placement preparation for DBMS and Data Structures are under development.*
5. **Usage of NPTEL, coursera and edX:** *Collaboration with coursera, NPTEL and edx enabled the students and faculty members to learn and earn certificates with reimbursement*

*of fees for students and staff who perform well. This increases the interdisciplinary learning opportunities to the students and continuous knowledge update to the faculty*

#### **16.Academic bank of credits (ABC):**

- Students are given academic credits on the successful completion of NPTEL/SWAYAM courses.
- Faculty members of TCE are encouraged to develop online courses in alignment with NEP 2020.
- Faculty members are also encouraged to design their own curricular and pedagogical approaches based on Conceive-Design-Implement -Operate framework, including textbook, reading material selections, assignments, and assessments.

#### **17.Skill development:**

- Courses under Conceive Design Implement and Operate (CDIO) framework: *A special stream of courses which includes Engineering Exploration, Design Thinking, Project Management, System Thinking, Engineering design Project are introduced in undergraduate curriculum in order to promote Conceive-Design-Implement-Operate skills among students.*
- Mini projects in Practical / Theory Cum Practical Courses: *Mini projects are encouraged in practical and theory cum practical courses. Problem statements from AICTE Smart India Hackathon are encouraged for building solutions through mini projects. The Institute organizes a series of events related to socially relevant activities mapped with United Nations Sustainable Development Goals (UN-SDG). Encouraging student participation in UN-SDG projects provide them with an experiential learning to understand the societal needs*
- Industry Supported Courses: *To promote exposure on industrial practices, industry supported courses are offered during every semester. Experts from industries handle the courses beyond regular academic hours. Joint Teaching and Adjunct Faculty*
- Joint teaching programs with academic experts from higher learning institutions have been conducted in both offline and online mode to enable the students to interact with the professors of higher learning institutions like IIT/IISc/IMS/NIT. This created opportunities of internship with the professors.
- Industry experts serve as adjunct faculty to specific courses that demands industry exposure and the experts help in other activities like student internship, student

project guidance and review.

- *Course on Research Practice: A course on research practice has been introduced to promote creativity and critical thinking skills. A student with minimum CGPA of 8.00 without history of arrear can register for the course on 'Research Practice'. The outcome of the course will be a publication in SCI/ SCI-expanded/ SCOPUS indexed Journal/ conference in Science and Technology. Number of Credits for this course is 3. A group of maximum two (2) students can register for this course at the beginning of the fifth semester of the programme.*
- *Product Development Skill : TCE Association and clubs organize In-house and Industry supported Hackathons at regular intervals. T S Srinivasan Centre for Automotive Research (TSSCAR) and CDIO maker space have been established to promote product development skills. Association with Higher learning institutes like IITM Build club has been established for product development to meet the industrial and societal needs.*
- *VLCI is a part of Visionary Leaders for Manufacturing (VLFM) Programme launched in 2006 is a path breaking Programme jointly associated by: Confederation of Indian Industry (CII), National Manufacturing Competitiveness Council (NMCC) Govt. of India, IIT-Kanpur, IITM-Chennai and Indian Institute of Management, Kolkata. The Objective of this programme is "Creating Next Generation of Manufacturing Change Leaders" by transforming the Engineering graduates in to "Role Ready Engineers". This Programme consists of six modules where students are given with skill oriented training on observation, problem solving, presentation, communication, Team work, Time Management and leadership.*
- *Green Skill development programmes are organized by Environmental Information System (ENVIS) Centre of our institution*

#### **18.Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course)**

*The following courses have been included in the undergraduate curriculum in order to expose the learners towards the Indian culture, tradition and heritage*

- *Essence of Indian Knowledge*
- *Constitution of India*
- *Heritage of Tamils*

- *Tamils and Technology*

*Resource persons with specialization in arts from neighbouring institutes were invited for the course offering.*

*A Study on Keezhadi Templates, one of the archaeological excavation sites, was carried out by the Department of Architecture.*

*A DST sponsored project was carried out by Department of Electronics and Communication Engineering on the Sculptures in Temples.*

*Spoken Hindi classes were conducted for supporting staff and students.*

### **19.Focus on Outcome based education (OBE):Focus on Outcome based education (OBE):**

Our institution was granted autonomous status in the year 1987 by the University Grants Commission (UGC), New Delhi. This has given us the freedom to design and develop an innovative curriculum, content delivery and assessment methods in alignment with the guidelines of AICTE and Affiliating University. As a major initiative in the teaching and learning process, a competency-based curriculum,

Blooms taxonomy based course learning outcomes assessment methodologies were introduced in 2008. As Outcome-Based Education (OBE) has been made mandatory for accrediting Engineering Programmes in India, the curriculum was suitably modified in the year 2014. Although the undergraduate program curriculum is designed based on the OBE framework, the hands-on practices, system/design thinking leading to product development, and interpersonal skills have not been much emphasized in the curriculum. Cognitive aspects are addressed to a greater extent than affective and psychomotor. In due course of time, due to rapid advancement in science and technology, engineering education drifted towards the teaching of engineering science than engineering practice. As a result, industries in recent years have found that graduating students, while technically adept, lack many abilities required in real-world engineering situations. To address the increasing gap between scientific and practical engineering demand and to meet the global requirements of professional Engineers, the CDIO curriculum was introduced for effective implementation of OBE. After attending the 11th International CDIO conference at Chengdu, China, we realized that

a CDIO based curriculum is organized around the disciplines, but with CDIO activities are interwoven. The CDIO activities include projects, internships in industry, and active learning in theory and practical courses in which modern state-of-art laboratories are considered as workspaces. CDIO framework has been implemented in many universities all over the world as it maps with the Washington Accord graduate attributes. It motivated us to introduce Engineering Design and Capstone courses in our OBE curriculum as an experimental basis to emphasize hands-on practices, system/design thinking, and interpersonal skills. These courses helped us to improve the attainment of graduate attributes/program outcomes and student engagement. However, we felt that the transition from the existing model to the CDIO framework would be more challenging. In the interaction with faculty members from various Universities at CDIO international conferences and Asian Regional meetings, we understood the challenges in implementing the CDIO framework first time in a country. This has given us the confidence to implement the CDIO curriculum first time in India, as we had strong support from the administration and commitment from the faculty members. With this motivation, we adapted the CDIO based OBE syllabus for all seven undergraduate engineering programs at our institution from the academic year 2018-19. The courses are, namely, Engineering Exploration, Lateral Thinking, Design Thinking, Project Management, System Thinking, Engineering Design Project, Capstone Design Project, and Major Project. The course outcomes of all the courses in the curriculum are articulated by combining the knowledge, skill, and attitude domains of learning.

## **20.Distance education/online education:**

- *TCE Massive Open Online Courses: As a part of continuous improvement in Teaching Learning, the institute has launched 11 courses in online mode to enhance skill development on the state of the art technologies and to promote interdisciplinary learning (mooc.tce.edu). Academic credits under programme specific electives/ programme specific electives for expanded scope are awarded on successful completion.*
  - *Applied Data Science with Python*
  - *Applied Statistics with Python*
  - *Essentials of Blockchain*
  - *Data Visualization*
  - *Industrial Automation*
  - *Android Mobile Application Development*
  - *Modern Testing Practices: A Primer to Certification*

- *Predictive Analytics with regression: Simplified*
- *Discrete Time Signal Processing*
- *Theory of Computation: TOC Made Easy*
- *FPGA based Digital System Design*
- *Swayam - NPTEL: The institute offers a maximum of 6 academic credits for the successful completion of online courses in Swayam/ NPTEL platform. Students may be permitted to register for online courses (which are provided with certificate after evaluation of the performance), during fourth to seventh semester of his/her study. On successful completion of the course, he/she has to submit the copy of the certificate to the Head of the Department for exemption from registering for an elective course. Based on the recommendation by the team of faculty members nominated by the Head of the Department, the student will be awarded grade and credits in Programme Specific Elective or Programme Specific Elective for Expanded Scope sub-categories. The recommendation will be sent to The Controller of Examinations after the approval by the Head of the Department.*
- *Collaboration with Coursera/edX: Collaboration of TCE with other online platforms like edX/ Coursera provides opportunities to the learners to earn online certification.*

## Extended Profile

### 1.Programme

1.1 18

Number of programmes offered during the year:

File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>

### 2.Student

2.1 4320

Total number of students during the year:

File Description	Documents
Institutional data in Prescribed format	<a href="#">View File</a>

2.2 1091



Number of outgoing / final year students during the year:

File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>

2.3 4322

Number of students who appeared for the examinations conducted by the institution during the year:

File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>

### 3.Academic

3.1 453

Number of courses in all programmes during the year:

File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>

3.2 223

Number of full-time teachers during the year:

<b>Extended Profile</b>	
<b>1.Programme</b>	
1.1 Number of programmes offered during the year:	<b>18</b>
File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>
<b>2.Student</b>	
2.1 Total number of students during the year:	<b>4320</b>
File Description	Documents
Institutional data in Prescribed format	<a href="#">View File</a>
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File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>
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File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>
<b>3.Academic</b>	
3.1 Number of courses in all programmes during the year:	<b>453</b>
File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>



3.2	223
Number of full-time teachers during the year:	

File Description	Documents
Institutional Data in Prescribed Format	<a href="#">View File</a>

3.3	223
Number of sanctioned posts for the year:	

#### 4. Institution

4.1	1323
Number of seats earmarked for reserved categories as per GOI/State Government during the year:	

4.2	107
Total number of Classrooms and Seminar halls	

4.3	1873
Total number of computers on campus for academic purposes	

4.4	679.65765
Total expenditure, excluding salary, during the year (INR in Lakhs):	

### Part B

#### CURRICULAR ASPECTS

##### 1.1 - Curriculum Design and Development

1.1.1 - Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which are reflected in Programme Outcomes (POs), Programme Specific Outcomes (PSOs) and Course Outcomes (COs) of the various Programmes offered by the Institution.

Being an autonomous institute since 1987, TCE aims at academic excellence through innovation in curriculum, content delivery and assessment. Each department has chosen a specific theme area based on the state-of-the-art technologies, regional/global developmental needs, available infrastructure and faculty expertise. Special Interest Groups (SIGs) are formed to promote research and development pertaining to local, national, and

global needs in the chosen theme area. TCE already had much of the system in place by implementing competency based curriculum since 2008. This led to a smooth transition to Outcome Based Education (OBE) in 2014. In 2018, Conceive-Design-Implement-Operate (CDIO) framework is adapted to implement OBE effectively in address the societal and enterprise context. The faculty were trained at periodic intervals in all the education frameworks evolving in the organization.

Curriculum at TCE is designed using guidelines of AICTE, Anna University Guidelines, Graduate Attributes of NBA, the requirements of Engineering Projects in Community Services (EPICS) and Professional Societies. Course outcomes are designed at SIGs based on Programme Outcomes(PO) and Programme Specific Outcomes (PSO) and internal & external stakeholders' feedback. Subsequently, courses for each curricular component are identified. The course designers prepare the syllabus in the prescribed template consisting CO-PO-PSO mapping, assessment pattern, course plan and learning resources. The curriculum is reviewed by Board of Studies and approved by Academic council.

File Description	Documents
Upload additional information, if any	No File Uploaded
Link for additional information	Nil

### 1.1.2 - Number of Programmes where syllabus revision was carried out during the year

9

File Description	Documents
Minutes of relevant Academic Council/BOS meeting	<a href="#">View File</a>
Details of syllabus revision during the year	<a href="#">View File</a>
Any additional information	No File Uploaded

### 1.1.3 - Number of courses focusing on employability/entrepreneurship/ skill development offered by the Institution during the year

780

File Description	Documents
Curriculum / Syllabus of such courses	<a href="#">View File</a>
Minutes of the Boards of Studies/ Academic Council meetings with approval for these courses	<a href="#">View File</a>
MoUs with relevant organizations for these courses, if any	<a href="#">View File</a>
Any additional information	No File Uploaded

## 1.2 - Academic Flexibility

### 1.2.1 - Number of new courses introduced across all programmes offered during the year

62

File Description	Documents
Minutes of relevant Academic Council/BoS meetings	<a href="#">View File</a>
Any additional information	No File Uploaded
Institutional data in prescribed format (Data Template)	<a href="#">View File</a>

### 1.2.2 - Number of Programmes offered through Choice Based Credit System (CBCS)/Elective Course System

18

File Description	Documents
Minutes of relevant Academic Council/BoS meetings	<a href="#">View File</a>
Any additional information	No File Uploaded
List of Add on /Certificate programs (Data Template)	<a href="#">View File</a>

## 1.3 - Curriculum Enrichment

1.3.1 - Institution integrates cross-cutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability, and Human Values into the curriculum

The institute offers course on 'Environmental Science' for

addressing Environmental issues, courses 'Essence of Indian Knowledge' and 'Value Education' for Human values, Indian culture and Professional ethics, course on 'Constitution of India' for human rights, gender issue and duties and responsibilities.

Further, in the courses of Design Thinking, Systems Thinking and Engineering Design Project that supports CDIO framework, the students provide technology based solution to societal and enterprise issues considering the environment and sustainability in an ethical manner. Further, industry supporting courses like 'Green Construction', 'Green Data Centre', 'Six Sigma', 'Value Engineering and 'Environment compatibility design' are offered by industry experts on the contemporary Technologies to address cross cutting issues.

The institution integrates cross cutting issues relevant to gender, environment and sustainability, human values and ethics by introducing specific courses in the curriculum and various activities in the First Year Orientation Programmes.

File Description	Documents
Upload the list and description of the courses which address issues related to Gender, Environment and Sustainability, Human Values and Professional Ethics in the curriculum	<a href="#">View File</a>
Any additional information	No File Uploaded

### 1.3.2 - Number of value-added courses for imparting transferable and life skills offered during the year

77

File Description	Documents
List of value-added courses	<a href="#">View File</a>
Brochure or any other document relating to value-added courses	<a href="#">View File</a>
Any additional information	<a href="#">View File</a>

### 1.3.3 - Number of students enrolled in the courses under 1.3.2 above

5663

File Description	Documents
List of students enrolled	<a href="#">View File</a>
Any additional information	No File Uploaded

**1.3.4 - Number of students undertaking field work/projects/ internships / student projects**

1091

File Description	Documents
List of programmes and number of students undertaking field projects / internships / student projects	<a href="#">View File</a>
Any additional information	No File Uploaded

**1.4 - Feedback System**

**1.4.1 - Structured feedback and review of the syllabus (semester-wise / year-wise) is obtained from 1) Students 2) Teachers 3) Employers and 4) Alumni**

A. All 4 of the above

File Description	Documents
Provide the URL for stakeholders' feedback report	<a href="https://tce.edu/naac/criteria-1/1.4/feedback">https://tce.edu/naac/criteria-1/1.4/feedback</a>
Upload the Action Taken Report of the feedback as recorded by the Governing Council / Syndicate / Board of Management	<a href="#">View File</a>
Any additional information	No File Uploaded

**1.4.2 - The feedback system of the Institution comprises the following**

A. Feedback collected, analysed and action taken made available on the website

File Description	Documents
Provide URL for stakeholders' feedback report	<a href="https://tce.edu/naac/criteria-1/1.4/feedback">https://tce.edu/naac/criteria-1/1.4/feedback</a>
Any additional information	No File Uploaded

## TEACHING-LEARNING AND EVALUATION

### 2.1 - Student Enrollment and Profile

#### 2.1.1 - Enrolment of Students

##### 2.1.1.1 - Number of students admitted (year-wise) during the year

1262

File Description	Documents
Any additional information	No File Uploaded
Institutional data in prescribed format	<a href="#">View File</a>

##### 2.1.2 - Number of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per the reservation policy during the year (exclusive of supernumerary seats)

1173

File Description	Documents
Any additional information	No File Uploaded
Number of seats filled against seats reserved (Data Template)	<a href="#">View File</a>

### 2.2 - Catering to Student Diversity

2.2.1 - The institution assesses students' learning levels and organises special programmes for both slow and advanced learners.

The institute assess the students' academic performance at the end each continuous assessment tests and terminal examination. The students who have more than 8.0 CGPA is considered as advanced learners.

#### Support for advanced learners

- Advanced learners can register for more number of regular courses in a semester and industry supported courses under

choice based credit system.

- Guided Study Course is offered to the students who do not have history of arrear.
- The institution encourages advanced learners to participate in competitions, workshops, e-courses like NPTEL, coursera, eDdX, guest-lectures, association and professional society activities.
- A course on 'Research Practice' is offered to promote research culture among students

#### Support for Low Performing Students:

- As the number of students from rural areas and vernacular medium are many, special classes are arranged with peers and faculty members. These classes are conducted without affecting the regular classes.
- Counseling sessions and parent teacher meetings are conducted to improve academic performance.
- Bridge Course and remedial classes are conducted every year for Lateral Entry Students.
- English Fluency Class is conducted for Second and third year Tamil medium and vocational students so that their soft and communication skills are improved.
- Soft Skill development programme for placement

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

#### 2.2.2 - Student – Teacher (full-time) ratio

Year	Number of Students	Number of Teachers
31/05/2022	4320	223

File Description	Documents
Upload any additional information	No File Uploaded

#### 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:

- The Academics team of the institute organizes in-house faculty development programmes on Pedagogy in association with higher learning institutes.
- The institute has adapted CDIO (Conceive-Design-ImplementOperate) framework to enhance product development skills. TCE proficiency scale has been developed to focus learning in affective and psychomotor domains.
- A new set of courses namely Engineering Exploration, Lateral Thinking, Design Thinking, System Thinking, Engineering Design Project and Capstone Design Project has been introduced exclusively for promoting creativity, communication, collaboration among millennial learners. It helps students to participate in Hackahons
- Seminar presentations, Mini Projects and Case Studies have been extensively used in practical and theory cum practical courses to enhance problem solving skills. Exclusive Rubrics have been developed for assessing the quality of project works.
- The institute has promoted online learning in collaboration with various platforms like edX and coursera. In-lab internships are offered every year to promote practical skills in particular domains like cyber security, Machine Learning, etc.,
- The institute periodically conducts industry supported courses every year in association with IBM, CDAC, Wipro Technologies, Texas Instruments, etc to promote skill building and to provide exposure on industrial practices.
- Every department is equipped with a classroom with reconfigurable seating arrangements and interactive digital boards to promote active and collaborative learning.

File Description	Documents
Upload any additional information	No File Uploaded
Link for additional Information	Nil

### 2.3.2 - Teachers use ICT-enabled tools including online resources for effective teaching and learning

- The necessary infrastructure like interactive digital boards, display boards, Plickers, Clickers, Lecture Capturing Systems, TCE Digital Studio for recording have been established.



- Classroom lectures are recorded and made available for reference using Lecture Capturing Systems.
- The institute has provided digital creative pen tablets and digital cameras with audio support system to faculty members for promoting interaction in online classes.
- The institute has launched eleven online courses on futuristic technologies which can be accessed at <https://www.tce.edu/tce-mooc> to promote skill development and interdisciplinary learning.
- Students are awarded academic credits on successful completion of the NPTEL and TCE online courses.
- On understanding the need for providing resilient teaching approach to facilitate the learning experiences adaptable to unpredictable conditions and disruptions, the academic team organized a workshop on "Developing learner-centric online courses: Resilient teaching approach". In the workshop, training was provided on creating videos using screen-cast-o-matic, usage of Moodle as learning management system, interactive software like slido, peerdeck, H5P etc.
- The institution has set up a Moodle server at the Institute to support online and blended learning and a separate domain <https://exams.tce.edu/> has been setup exclusively for the conduct of terminal examinations.
- Digital library facility is used to carry out literature survey, refer relevant materials for research projects & consultancy and classroom preparation by the faculty members.

File Description	Documents
Provide link for webpage describing ICT enabled tools including online resources for effective teaching and learning process	<a href="https://mooc.tce.edu">mooc.tce.edu</a>
Upload any additional information	No File Uploaded

### 2.3.3 - Ratio of students to mentor for academic and other related issues

#### 2.3.3.1 - Number of mentors

186

File Description	Documents
Upload year-wise number of students enrolled and full-time teachers on roll	<a href="#">View File</a>
Circulars with regard to assigning mentors to mentees	<a href="#">View File</a>

#### 2.3.4 - Preparation and adherence to Academic Calendar and Teaching Plans by the institution

- The process for the preparation of academic calendar is as follows: Formulation of Academic Calendar Committee consisting of Dean (Academic Process), the Controller of Examinations(CoE) and Faculty-in- charge.
- Collection of proposed activities from all the Head of the Departments, Deans, Registrars and the CoE. The schedule for the following activities are planned.
  - Course registration, preparation of class time table, commencement of classes, uploading course plan, continuous assessment tests, assignments, class committee meetings, project reviews, submission of synopsis, submission of project reports, viva voce, last date for mark entry, Board of Studies, Academic Council, industrial visits, parent teacher meetings, programme performance assessment committee meetings and faculty vacation.
  - Terminal examinations, publication of results, payment of examination and college fees

Once the draft copy is prepared, the Academic Calendar is placed in Standing Committee Meeting for approval. The approved calendar is circulated among all stakeholders.

#### Adherence to Academic Calendar:

All activities are conducted by the respective HoDs/Deans/CoE/ Registrar as per the academic calendar. The industry supported courses are conducted as per the availability of industry experts. A few activities shall be deviated due to some unavoidable circumstances like placement, declaration of holidays under negotiable instruments act by the Government.

File Description	Documents
Upload the Academic Calendar and Teaching Plans during the year	<a href="#">View File</a>

## 2.4 - Teacher Profile and Quality

### 2.4.1 - Number of full-time teachers against sanctioned posts during the year

223

File Description	Documents
Year-wise full-time teachers and sanctioned posts for the year	<a href="#">View File</a>
List of the faculty members authenticated by the Head of HEI	<a href="#">View File</a>
Any additional information	No File Uploaded

### 2.4.2 - Number of full-time teachers with PhD/ D.M. / M.Ch. / D.N.B Super-Specialty / DSc / DLitt during the year

168

File Description	Documents
List of number of full-time teachers with PhD./ D.M. / M.Ch. / D.N.B Super-Specialty / D.Sc. / D.Litt. and number of full-time teachers for 5 years	<a href="#">View File</a>
Any additional information	No File Uploaded

### 2.4.3 - Total teaching experience of full-time teachers in the same institution: (Full-time teachers' total teaching experience in the current institution)

3144

File Description	Documents
List of teachers including their PAN, designation, Department and details of their experience	<a href="#">View File</a>
Any additional information	No File Uploaded

**2.5 - Evaluation Process and Reforms****2.5.1 - Number of days from the date of last semester-end/ year- end examination till the declaration of results during the year**

17

File Description	Documents
List of Programmes and the date of last semester-end / year-end examinations and the date of declaration of result	<a href="#">View File</a>
Any additional information	No File Uploaded

**2.5.2 - Number of students' complaints/grievances against evaluation against the total number who appeared in the examinations during the year**

1

File Description	Documents
Upload the number of complaints and total number of students who appeared for exams during the year	<a href="#">View File</a>
Upload any additional information	No File Uploaded

2.5.3 - IT integration and reforms in the examination procedures and processes including Continuous Internal Assessment (CIA) have brought in considerable improvement in the Examination Management System (EMS) of the Institution

The institution has automated academic and examination process. Starting from course registration to publication of results is carried out digitally. The examination schedule is published in automated software and students can view it using mobile app also. All announcements are made using software so as to reach stakeholders instantly.

The semester examination answer scripts are first assigned dummy numbers based on bar code. The examiners who evaluate the answer scripts do not know the identity of the students.

The system of issuing hall tickets has been abolished as the students have valid ID card. This saves time and efforts required for printing and distributing hall tickets.

After the publication of results, the students can go-through their answer scripts and scheme of evaluation. If there is scope for additional marks, students can appeal. The appeals are examined by faculty during revaluation of the answer paper and verified by Head of the department for fairness.

Periodically, academic audits are conducted to identify scope for improvement in the standard of questions.

Private students can register arrear examinations through online.

This facilitates ease of operation for both students and COE office. The adoption of IT in the entire chain leads to error free and faster operation.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil

## 2.6 - Student Performance and Learning Outcomes

2.6.1 - Programme Outcomes and Course Outcomes for all Programmes offered by the institution are stated and displayed on the website and communicated to teachers and students

The competency based curriculum of the institute has been refined in alignment with the accreditation policy of National Board of Accreditation and implemented as Outcome Based Education (OBE) in 2014-18. Initially, the feedback from various stakeholders namely Alumni, Industry, Faculty, professional societies and parents were collected. Then, an initial draft of PEOs, POs and PSOs is prepared through brainstorming session at the department level committee constituted with HoD, Program Coordinator and Faculty representatives. The articulated PEOs, POs and PSOs are placed in Board of Studies (BoS) for discussion. After incorporating the suggestions by the BoS, it is placed for approval in Academic Council Meeting (ACM). Final version of PEOs, POs and PSOs are published in

College Website - Department Home Page Notice Boards, Class rooms and Laboratories Staff rooms Syllabus Book Department Magazine

They are disseminated during First year Orientation Programs,

**Campus Placements, Alumni & Parent Teachers Meetings**

Weblinks are given as additional information document

File Description	Documents
Upload COs for all courses (exemplars from the Glossary)	<a href="#">View File</a>
Upload any additional information	<a href="#">View File</a>
Link for additional Information	<a href="https://www.tce.edu/academics">https://www.tce.edu/academics</a>

### 2.6.2 - Attainment of Programme Outcomes and Course Outcomes as evaluated by the institution

#### Assessment Tools:

- Continuous Assessment Tests
- Terminal Examinations
- Assignments
- Projects
- Course Exit Surveys

#### Process for calculating Course Outcome (CO) Attainment

Expected Proficiency (EP) and Expected Level of Attainment (ELA) of all COs are fixed based on the average performance in end semester examinations for the respective set of students graduated in the previous three academic years and the cognitive level of the COs. For fixing ELA, 30% improvement is considered from the current level of achievement. TCE Proficiency scale which addresses cognitive, psychomotor and affective domains is used in writing COs. Assessment pattern is designed based on the proficiency scale of COs. The CO attainment is calculated at each stage and corrective actions are done as follow-up.

#### Attainment of Program Outcomes (PO) and Program Specific Outcomes(PSO)

POs and PSOs are assessed through

- Direct Assessment
  - Curricular Component
- Indirect Assessment
  - Co-curricular and Extracurricular Activities

- Program End Survey
- Employer Survey

In surveys, the attainment of PO/PSO is calculated by the average of responses with ratings greater than the target level for the questions mapped with every PO/PSO. The attainment of COs, POs, and PSOs are recorded and action plan for improvement is decided in the Programme Performance Assessment Committee (PPAC) meeting.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil

### 2.6.3 - Pass Percentage of students

#### 2.6.3.1 - Total number of final year students who passed in the examinations conducted by Institution

1091

File Description	Documents
Upload list of Programmes and number of students appear for and passed in the final year examinations	<a href="#">View File</a>
Upload any additional information	No File Uploaded
Paste link for the annual report	Nil

### 2.7 - Student Satisfaction Survey

#### 2.7.1 - Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design its own questionnaire). Results and details need to be provided as a weblink

<https://tce.edu/academics/student-satisfaction-survey>

## RESEARCH, INNOVATIONS AND EXTENSION

### 3.1 - Promotion of Research and Facilities

3.1.1 - The institution's research facilities are frequently updated and there is a well-defined policy for promotion of research which is uploaded on the institutional website and

implemented

### Research Policy

Thiagarajar College of Engineering (TCE) is committed to provide infrastructure to conduct state of art research on par with the national and international standards. TCE creates an open platform to foster academic excellence and to pursue scholarly research activities.

### Academic Research

- Research scholars should enroll and register at TCE on getting provisional registration letter. For full time scholars, every day attendance is preferred.
- Research scholars should present their progress once in six months. The faculty after the award of Ph.D. shall get the supervisorship within 3 years and guide maximum 8 scholars.
- Research scholars shall publish research works only in reputed/indexed conferences/ Journals and file patents
- Research scholars shall submit Thesis copy to the College Library.
- Plagiarism: Maximum of 10% of similarity is allowed for research reports.

### Sponsored Research:

- The faculty shall apply for funding support from the Government/Industries, to carry out Sponsored/ Collaborative research based on the call for proposals from the agencies.
- The PIs shall procure equipment and appoint Project fellows as per the grant.
- The PIs shall prepare Project Completion Report and Utilization Certificate (UC) on completion of the project duration according to the guidelines of the funding agency.



File Description	Documents
Upload the Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	<a href="#">View File</a>
Provide URL of policy document on promotion of research uploaded on the website	<a href="https://www.tce.edu/sites/default/files/PDF/Research-Policy.pdf">https://www.tce.edu/sites/default/files/PDF/Research-Policy.pdf</a>
Any additional information	No File Uploaded

### 3.1.2 - The institution provides seed money to its teachers for research

#### 3.1.2.1 - Seed money provided by the institution to its teachers for research during the year (INR in lakhs)

27.90

File Description	Documents
Minutes of the relevant bodies of the institution regarding seed money	<a href="#">View File</a>
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	<a href="#">View File</a>
List of teachers receiving grant and details of grant received	<a href="#">View File</a>
Any additional information	No File Uploaded

### 3.1.3 - Number of teachers who were awarded national / international fellowship(s) for advanced studies/research during the year

2

File Description	Documents
e-copies of the award letters of the teachers	<a href="#">View File</a>
List of teachers and details of their international fellowship(s)	<a href="#">View File</a>
Any additional information	No File Uploaded

### 3.2 - Resource Mobilization for Research

#### 3.2.1 - Grants received from Government and Non-Governmental agencies for research projects, endowments, Chairs during the year (INR in Lakhs)

97.74

File Description	Documents
e-copies of the grant award letters for research projects sponsored by non-governmental agencies/organizations	<a href="#">View File</a>
List of projects and grant details	<a href="#">View File</a>
Any additional information	No File Uploaded

#### 3.2.2 - Number of teachers having research projects during the year

14

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil
List of research projects during the year	<a href="#">View File</a>

#### 3.2.3 - Number of teachers recognised as research guides

102

File Description	Documents
Upload copies of the letter of the university recognizing teachers as research guides	<a href="#">View File</a>
Institutional data in Prescribed format	<a href="#">View File</a>

### 3.2.4 - Number of departments having research projects funded by Government and Non-Government agencies during the year

6

File Description	Documents
Supporting document from Funding Agencies	<a href="#">View File</a>
Paste link to funding agencies' website	<a href="https://www.tce.edu/research/sponsored-research">https://www.tce.edu/research/sponsored-research</a>
Any additional information	No File Uploaded

### 3.3 - Innovation Ecosystem

3.3.1 - Institution has created an ecosystem for innovations and creation and transfer of knowledge supported by dedicated centres for research, entrepreneurship, community orientation, incubation, etc.

**Entrepreneurship Development Cell:** The institute comes under the ambit of Industry institute interaction. EDC organizes the work plan of the Entrepreneurship promotion activities. It is affiliated to Young Indians Students Chapter, Confederation of Indian Industry (CII) and Native Lead Foundation, who are funding the startups. TCE is empanelled under PM -YUVA and also a special elective course on "Entrepreneurship Development "is being taught for the last seven years. It has an exclusive 1200 square feet area with 20 co-working space, one number of Rapid Prototyping machine with 3D Printer and system facilities. The E-Cell conducts events such as ideathon to promote entrepreneurship thinking among the students.

**Technology Business Incubator** facilitates commercialization of R&D technologies, promotes faculty to incubate start-up companies in collaborative mode and facilitates alumni and local entrepreneurs to establish start-up venture. Currently 25 start-up physical start-ups are in place and strong tie-up with

**Thiagarajar Entrepreneur Network.**

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

**3.3.2 - Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR), Entrepreneurship and Skill Development during the year**

7

File Description	Documents
Report of the events	<a href="#">View File</a>
List of workshops/seminars conducted during the year	<a href="#">View File</a>
Any additional information	No File Uploaded

**3.4 - Research Publications and Awards**

**3.4.1 - The Institution ensures implementation of its Code of Ethics for Research uploaded in the website through the following: Research Advisory Committee Ethics Committee Inclusion of Research Ethics in the research methodology course work Plagiarism check through authenticated software**

A. All of the above

File Description	Documents
Code of Ethics for Research, Research Advisory Committee and Ethics Committee constitution and list of members of these committees, software used for plagiarism check	<a href="#">View File</a>
Any additional information	No File Uploaded

**3.4.2 - Number of PhD candidates registered per teacher (as per the data given with regard to recognized PhD guides/ supervisors provided in Metric No. 3.2.3) during the year**

**3.4.2.1 - Number of PhD students registered during the year**

48

File Description	Documents
URL to the research page on HEI website	<a href="https://www.tce.edu/research/academic_research">https://www.tce.edu/research/academic_research</a>
List of PhD scholars and details like name of the guide, title of thesis, and year of registration	<a href="#">View File</a>
Any additional information	No File Uploaded

**3.4.3 - Number of research papers per teacher in CARE Journals notified on UGC website during the year**

1.05

File Description	Documents
List of research papers by title, author, department, and year of publication	<a href="#">View File</a>
Any additional information	No File Uploaded

**3.4.4 - Number of books and chapters in edited volumes / books published per teacher during the year**

105

File Description	Documents
Upload any additional information	<a href="#">View File</a>
Paste link for additional information	Nil

**3.4.5 - Bibliometrics of the publications during the year based on average Citation Index in Scopus/ Web of Science/PubMed****3.4.5.1 - Total number of Citations in Scopus during the year**

2134

File Description	Documents
Any additional information	No File Uploaded
Bibliometrics of the publications during the year	<a href="#">View File</a>

### 3.4.6 - Bibliometrics of the publications during the year based on Scopus/ Web of Science – h-Index of the University

#### 3.4.6.1 - h-index of Scopus during the year

24

File Description	Documents
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	<a href="#">View File</a>
Any additional information	No File Uploaded

### 3.5 - Consultancy

#### 3.5.1 - Revenue generated from consultancy and corporate training during the year (INR in lakhs)

75.76266

File Description	Documents
Audited statements of accounts indicating the revenue generated through consultancy and corporate training	<a href="#">View File</a>
List of consultants and revenue generated by them	<a href="#">View File</a>
Any additional information	<a href="#">View File</a>

#### 3.5.2 - Total amount spent on developing facilities, training teachers and clerical/project staff for undertaking consultancy during the year

8348674

File Description	Documents
Audited statements of accounts indicating the expenditure incurred on developing facilities and training teachers and staff for undertaking consultancy	<a href="#">View File</a>
List of training programmes, teachers and staff trained for undertaking consultancy	<a href="#">View File</a>
List of facilities and staff available for undertaking consultancy	<a href="#">View File</a>
Any additional information	<a href="#">View File</a>

### 3.6 - Extension Activities

3.6.1 - Extension activities carried out in the neighbourhood sensitising students to social issues for their holistic development, and the impact thereof during the year

Engineering Projects in Community Services (EPICS) Program is an engineering-centered, multidisciplinary, community-based approach to design education. The primary goal of this program is to foster student and faculty engagement in developing meaningful engineering solutions to the problems of local communities thereby gaining service-learning experience. 164 conceptual prototypes of real-world location-specific community problems were developed by the students as significant outcome of the design thinking course. Satisfaction index of the students is improved mainly because of experiential learning. Use of the rubrics for periodic reviews served as an effective instrument for assessing personal and interpersonal skills of the students. Opportunities provided for promoting 21st-century skills namely creativity, critical thinking, collaboration and communication have motivated the students to take up the prototypes to next level of its implementation. Many of our students have extended their projects of design thinking and exhibited their implementations in national level contest like Smart India Hackathon and IUCEE-EPICS Design contest and received good recognition and rewards. The training programs on Design Thinking have enriched the faculty competence in mentoring the students with a human-centered approach to solve real community problems. The outcome of this training resulted in faculty awards for their posters in Design Thinking training programme. The significant projects are

The following projects were carried out by our students.

1. Sustainable Development for Thangalacheri Village
2. Treating Industrial Water - Dye Removal
3. E-Waste Collection
4. Shaping Early Adolescence
5. Traceability of organic food products and paddy crop using blockchain
6. Distillation units for essential oils

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

**3.6.2 - Number of awards and recognition received by the Institution, its teachers and students for extension activities from Government / Government-recognised bodies during the year**

22

File Description	Documents
Number of awards for extension activities in during the year	<a href="#">View File</a>
e-copy of the award letters	<a href="#">View File</a>
Any additional information	No File Uploaded

**3.6.3 - Number of extension and outreach programmes conducted by the institution through NSS/NCC/Red Cross/YRC, etc. during the year (including Government-initiated programmes such as Swachh Bharat, AIDS Awareness, and Gender Sensitization and those organised in collaboration with industry, community and NGOs)**

23



File Description	Documents
Reports of the events organized	<a href="#">View File</a>
Any additional information	No File Uploaded

### 3.6.4 - Number of students participating in extension activities listed in 3.6.3 during the year

1362

File Description	Documents
Reports of the events	<a href="#">View File</a>
Any additional information	No File Uploaded

### 3.7 - Collaboration

#### 3.7.1 - Number of collaborative activities during the year for research/ faculty exchange/ student exchange/ internship/ on-the-job training/ project work

107

File Description	Documents
Copies of documents highlighting collaboration	<a href="#">View File</a>
Any additional information	No File Uploaded

#### 3.7.2 - Number of functional MoUs with institutions of national and/or international importance, other universities, industries, corporate houses, etc. during the year (only functional MoUs with ongoing activities to be considered)

20

File Description	Documents
e-copies of the MoUs with institution/ industry/ corporate house	<a href="#">View File</a>
Details of functional MoUs with institutions of national, international importance, other institutions etc. during the year	<a href="#">View File</a>
Any additional information	No File Uploaded

### INFRASTRUCTURE AND LEARNING RESOURCES

## 4.1 - Physical Facilities

4.1.1 - The Institution has adequate infrastructure and physical facilities for teaching-learning, viz., classrooms, laboratories, computing equipments, etc.

### Classrooms:

Number:92, Capacity 40-75

- Equipped with Multimedia Projector, Podium, Fan, Light, Table with chair, Glass board with good ambience, adequate lighting and good ventilation.
- Size is equal to or more than that stipulated by statutory bodies.
- One classroom of each department is equipped with Lecture Capturing System.
- Enabled with wi-fi facility to implement Active Learning strategies

### Tutorial Rooms:

- Number:16, Capacity 30-40
- Equipped with LCD Projector, Wi-fi, White Board, and chairs attached with writing pad.

### Seminar Halls:

- Number:7, Capacity 50-100
- Equipped with LCD Projector with Smart board facility, Wi-Fi, Audio and Video facilities

### Drawing Halls:

- Number:3, Capacity 30-70
- Equipped with Drawing tables, Chairs, Fans, Light with good ventilation and ambience.

### Laboratories:

- Number:89,Capacity 30-60
- Equipped with state of the art facilities with adequate safety measures and periodic maintenance.
- Few of the Laboratories are established with Industries support

### Computing Facility:

- A Central Computing Centre (CCC) with 150 Desktop Computing Systems is functioning from 8.00 a.m to 10.00 p.m for Monday to Saturday and 8.00 a.m to 6.00 p.m on Sundays.
- A computing centre with 30 Desktop Computing systems is functioning in the Ladies and Gents Hostel by 24/7 mode.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

4.1.2 - The institution has adequate facilities for cultural activities, yoga, sports and games (indoor and outdoor) including gymnasium, yoga centre, auditorium etc.)

#### Physical Education Departments Facilities

TCE has well equipped sports facilities cater for the sports and games requirements of the students. Every year around 500 students participate in all the sports and games event. TCE conducts ANNA University zonal tournaments, Inter zonal tournaments, Intra and Inter department tournaments and Intra moral tournaments, TCE Marathon, Founder Memorial Hockey and Kho-Kho tournament and Dr. Radha Thiagarajan Memorial Chess tournament.

#### Indoor stadium

TCE has well equipped and furnished Indoor stadium (Ground Floor and 1st floor) of size 23,674 square feet with seating capacity of 300.

- 4 Badminton Courts (13.40mX6.10m)
- 1 Basketball Court (28mX16m)
- 2 Volleyball Courts (18mX9m)
- 2 Judo halls (12mX11m)
- Chess Hall (5.90mX21.30m)
- Table Tennis ( 6mX21m)
- Gym Hall (13mX12m)
- Yoga Hall (12mX9m)

#### Outdoor Games

- 2 Ball Badminton Courts (24mX12m)

- 1 Basket Ball Court (28mX16m)
- Football Field (90mX50m)
- Hockey Field (91.40mx55m)
- Kho-Kho Court (27mX16m)
- Kabaddi Court (13m X 10m)
- Tennis Court (23.76mX 10.97m)
- Volleyball Court (18m X 9 m)

### Cultural Activities

The College has three auditoriums, fully Air Conditioned Karumuttu Sundaram Auditorium with a seating capacity of 204 and Karumuttu Manickavasagam Chettiar Auditorium with a seating capacity of 800. An Open-air auditorium of seating capacity 2000 to conduct college cultural activities.

File Description	Documents
Geotagged pictures	<a href="#">View File</a>
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

### 4.1.3 - Number of classrooms and seminar halls with ICT-enabled facilities

107

File Description	Documents
Upload any additional information	No File Uploaded
Upload Number of classrooms and seminar halls with ICT enabled facilities (Data Template)	<a href="#">View File</a>

### 4.1.4 - Expenditure for infrastructure augmentation, excluding salary, during the year (INR in Lakhs)

138.37062

File Description	Documents
Upload audited utilization statements	<a href="#">View File</a>
Details of Expenditure, excluding salary, during the years	<a href="#">View File</a>
Any additional information	No File Uploaded

## 4.2 - Library as a Learning Resource

### 4.2.1 - Library is automated using Integrated Library Management System (ILMS)

#### TCE library

- Completely automated by LIBSYS software from 2005 to 2013.
- Upgraded to Autolib software with features such as SMS for each transaction, Web OPAC and Mobile OPAC. This OPAC has been integrated with open access e-book, chat facility and auto renewal of books.
- Enabled with RFID system from 2018 with automatic issue / return using kiosk and drop box with RFID GATES for theft detection.
- Remote access was given to all Faculty, Research Scholars and Students through Mobile App. It was effectively used during the Covid-19 lockdown period

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	<a href="https://www.tce.edu/academics/library/opac">https://www.tce.edu/academics/library/opac</a>

**4.2.2 - Institution has access to the following: e-journals e-ShodhSindhu Shodhganga Membership e-books Databases Remote access to e-resources**

**A. Any 4 or more of the above**

File Description	Documents
Details of subscriptions like e-journals, e-books, e-ShodhSindhu, Shodhganga membership	<a href="#">View File</a>
Upload any additional information	No File Uploaded

#### 4.2.3 - Expenditure on purchase of books/ e-books and subscription to journals/e-journals during the year (INR in lakhs)

23.43134

File Description	Documents
Audited statements of accounts	<a href="#">View File</a>
Any additional information	No File Uploaded
Details of annual expenditure for purchase of books/e-books and journals/e- journals during the year (Data Template)	<a href="#">View File</a>

#### 4.2.4 - Usage of library by teachers and students (footfalls and login data for online access)

##### 4.2.4.1 - Number of teachers and students using the library per day during the year

141

File Description	Documents
Upload details of library usage by teachers and students	<a href="#">View File</a>
Any additional information	No File Uploaded

#### 4.3 - IT Infrastructure

4.3.1 - Institution has an IT policy covering Wi-Fi, cyber security, etc. and has allocated budget for updating its IT facilities

The Information Technology (IT) Resources Management and Users Access Policy of the College sets forth the central policies that govern the usage of all users of the IT resources of this institute. The IT Policy applies to all the users (faculty members, staff and students and other users such as guest/alumni).

Usage of Computers:Computers provided to the users are meant for

fulfilling the academic /research /administrative tasks and should not be used for personal. The Central Computing Center (CCC) allocates the necessary IP addresses, proxies, and email relays.

**Network:** All users are informed about the network capacity. Physically tampering with network connections, equipments, sending disruptive signals, or making excessive use of network resources is strictly prohibited.

**Security:** The intranet/internet services are accessed through the Firewall and are not allowed to bypass firewalls and access rules in place.

**Open Source Asset:** The institute shall endeavour towards the promotion and effective usage of Open Source Software depending on the requirements.

**Purchase:** The user understands that the Central Computing Centre is responsible for procurement, installation, configuration of all IT equipment, after due approval from the Head of the Institution.

**System Administration:** CCC supports the system maintenance activities periodically

File Description	Documents
Upload any additional information	<a href="#">View File</a>
Paste link for additional information	<a href="https://www.tce.edu/tce-data-center">https://www.tce.edu/tce-data-center</a>

#### 4.3.2 - Student - Computer ratio

Number of Students	Number of Computers
4320	1873

File Description	Documents
Upload any additional information	No File Uploaded

#### 4.3.3 - Bandwidth of internet connection in the Institution and the number of students on campus

A. 50 Mbps

File Description	Documents
Details of bandwidth available in the Institution	<a href="#">View File</a>
Upload any additional information	No File Uploaded

<b>4.3.4 - Institution has facilities for e-content development: Facilities available for e-content development Media Centre Audio-Visual Centre Lecture Capturing System (LCS) Mixing equipments and software for editing</b>	<b>A. All four of the above</b>
--	---------------------------------

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil
List of facilities for e-content development (Data Template)	<a href="#">View File</a>

#### 4.4 - Maintenance of Campus Infrastructure

##### 4.4.1 - Expenditure incurred on maintenance of physical and academic support facilities, excluding salary component, during the year (INR in lakhs)

205.54409

File Description	Documents
Audited statements of accounts	<a href="#">View File</a>
Upload any additional information	No File Uploaded

4.4.2 - There are established systems and procedures for maintaining and utilizing physical, academic and support facilities – classrooms, laboratory, library, sports complex, computers, etc.

##### Estate Maintenance

- Building related requests like building construction/modification/maintenance is passed to estate-officer
- The classrooms, laboratory ambience, gardens, washrooms



and student support facilities are maintained on day by day basis by third party contract and by college.

#### Laboratory Maintenance

- The Laboratory in charge of respective laboratory is responsible for the Calibration of equipment
- Day to day electrical supply and electronics equipment is maintained by TCENET maintenance portal
- Laboratories are maintained as per 5S quality norms and is monitored by Department 5S coordinators.
- The obsolete equipments are condemned as per Government norms.
- Equipments in the laboratory are labeled by barcode and are maintained in Asset software

#### Library Maintenance

- Library day to day activities is governed by the Librarian and Assistants. The overall monitoring of the Library is governed by a committee for the purchase of books, journals and software
- Library follows the Government norms for weed out of worn-out books, and stock verification is done yearly.
- Library is maintained as per 5S quality norms and is monitored by 5S coordinators. Every day, the return books are re-shelved by the library assistants

#### Computer System Maintenance

- Servers and desktop systems are checked once a week for new updates and upgraded accordingly.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

### STUDENT SUPPORT AND PROGRESSION

#### 5.1 - Student Support

##### 5.1.1 - Number of students benefitted by scholarships and freeships provided by the Government during the year

1143

File Description	Documents
Upload self-attested letters with the list of students receiving scholarships	<a href="#">View File</a>
Upload any additional information	No File Uploaded

### 5.1.2 - Number of students benefitted by scholarships and freeships provided by the institution and non-government agencies during the year

27

File Description	Documents
Upload any additional information	No File Uploaded
Institutional data in prescribed format	<a href="#">View File</a>

**5.1.3 - The following Capacity Development and Skill Enhancement activities are organised for improving students' capabilities Soft Skills Language and Communication Skills Life Skills (Yoga, Physical fitness, Health and Hygiene) Awareness of Trends in Technology**

**A. All of the above**

File Description	Documents
Link to Institutional website	<a href="https://drive.google.com/drive/folders/1nzmeLlId0msv_6WGF091iUBGXzy5ttIW?usp=sharing">https://drive.google.com/drive/folders/1nzmeLlId0msv_6WGF091iUBGXzy5ttIW?usp=sharing</a>
Details of capability development and schemes	<a href="#">View File</a>
Any additional information	No File Uploaded

### 5.1.4 - Number of students benefitted from guidance/coaching for competitive examinations and career counselling offered by the institution during the year

1801

File Description	Documents
Any additional information	No File Uploaded
Number of students benefited by guidance for competitive examinations and career counseling during the year (Data Template)	<a href="#">View File</a>

<b>5.1.5 - The institution adopts the following mechanism for redressal of students' grievances, including sexual harassment and ragging: Implementation of guidelines of statutory/regulatory bodies Creating awareness and implementation of policies with zero tolerance Mechanism for submission of online/offline students' grievances Timely redressal of grievances through appropriate committees</b>	<b>A. All of the above</b>
---	----------------------------

File Description	Documents
Minutes of the meetings of students' grievance redressal committee, prevention of sexual harassment committee and Anti-ragging committee	<a href="#">View File</a>
Details of student grievances including sexual harassment and ragging cases	No File Uploaded
Upload any additional information	No File Uploaded

<b>5.2 - Student Progression</b>
<b>5.2.1 - Number of outgoing students who got placement during the year</b>
<b>721</b>

File Description	Documents
Self-attested list of students placed	<a href="#">View File</a>
Upload any additional information	No File Uploaded

<b>5.2.2 - Number of outgoing students progressing to higher education</b>
--

116

File Description	Documents
Upload supporting data for students/alumni	<a href="#">View File</a>
Details of students who went for higher education	<a href="#">View File</a>
Any additional information	No File Uploaded

### 5.2.3 - Number of students qualifying in state/ national/ international level examinations during the year

#### 5.2.3.1 - Number of students who qualified in state/ national/ international examinations (e.g.: IIT-JAM/NET/SET/JRF/ GATE /GMAT /CAT/ GRE/ TOEFL/Civil Services/State government examinations) during the year

31

File Description	Documents
Upload supporting data for students/alumni	<a href="#">View File</a>
Any additional information	No File Uploaded

### 5.3 - Student Participation and Activities

#### 5.3.1 - Number of awards/medals for outstanding performance in sports and/or cultural activities at inter-university / state /national / international events (award for a team event should be counted as one) during the year

12

File Description	Documents
e-copies of award letters and certificates	<a href="#">View File</a>
Any additional information	No File Uploaded

#### 5.3.2 - Presence of an active Student Council and representation of students in academic and administrative bodies/committees of the institution

- Students council meetings are conducted regularly for every academic year. The Principal and Deans attend the meetings along with Class Representatives of both Undergraduate and Postgraduate classes, Student coordinators for placement activities, Technical Club

Coordinators, Department Association Secretaries, Special Interest Group Coordinators and Higher studies and Language Club Coordinators are the members of this council.

- In every meeting, important issues are discussed related to academic, co-curricular and extra-curricular activities.
- In every meeting, the Principal informs to the students about the action taken on the issues/concerns reported in the previous meeting. During the meeting, the queries from the students are answered by the respective Deans/Principal.
- All the specific representations are informed to the respective authorities to respond within the stipulated time.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

### 5.3.3 - Number of sports and cultural events / competitions organised by the institution

9

File Description	Documents
Report of the event	<a href="#">View File</a>
List of sports and cultural events / competitions organised per year	<a href="#">View File</a>
Upload any additional information	<a href="#">View File</a>

### 5.4 - Alumni Engagement

5.4.1 - The Alumni Association and its Chapters (registered and functional) contribute significantly to the development of the institution through financial and other support services

TCE Alumni Association (TCEAA) coordinates and supports the following activities:

#### Alumni Scholarships

TCEAA provides financial support to needy students based on a merit cum means basis. The donations received from the alumni

are deposited as corpus fund in TCE Alumni Charitable Trust and the interest earned from that is used for student scholarships. Donations are exempted under Section 80G of the Income Tax Act.

#### Reunion

Reunion brings new opportunities for students as many alumni are entrepreneurs. This paves the way for increase in student placement count. Generally, Alumni reunion is scheduled as Silver Jubilee Reunions - conducted during December /July. Golden Jubilee Reunions -conducted during July/ December.

#### Personality Development Camps

Every year, three-day residential personality development camps are organized to impart soft skills, yoga practice, teamwork, emotional intelligence, and health awareness to the young engineering students. Five personality development camp was organized in one academic year in the name of Pinnacle, Orchid, Blossom, Efflorescence, Zenith.

#### Mentorship Programs

Prepare the next generation leaders & entrepreneurs, provide motivation and mentorship to guide in career path options, establish a sustainable framework between College, Alumni and Students

#### Academic and Industrial Interaction

Member in Board of Studies, Academic Council, experts for industry supported courses, guest lectures.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	<a href="https://www.tce.edu/alumni">https://www.tce.edu/alumni</a>

#### 5.4.2 - Alumni's financial contribution during the year

A. ? 15 Lakhs

File Description	Documents
Upload any additional information	<a href="#">View File</a>

**GOVERNANCE, LEADERSHIP AND MANAGEMENT****6.1 - Institutional Vision and Leadership**

6.1.1 - The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the Institution

The Vision of the institute is 'World Class Quality Technical Education with strong ethical values'. In 2020-21, the leadership team launched an Institutional Transformation Initiative project namely 'Savitha' to achieve this vision with the involvement of all stakeholders, headed by two senior faculty members. There are 10 strands and each strand was headed by middle level faculty members. Each strand was supported by five Junior level faculty members. It led to the following activities/achievements.

- Launch of TCE Online courses
- Smart Classroom for active active and collaborative learning in classroom.
- Setting up of Research Council to promote research culture in the institute
- Launch of Thiagarajar Research Fellowship for full time research scholars
- Use of Plagiarism tool namely Urkund/Turnitin for effective documentation
- Webinars on contemporary technologies and Joint Teaching Programmes by reputed faculty from higher learning institutions and industry experts
- Providing solutions to societal issues and challenges by case study and product development through Ideathon contests, using appropriate technology, by Engineers Without Borders (EWB) chapter
- Interaction with reputed Universities for academic collaboration.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil

6.1.2 - Effective leadership is reflected in various institutional practices such as decentralization and participative management

The Organizational structure consists of Principal, Deans,

Registrar, Heads of the Departments (HoD), Controller of Examinations, Associate Deans, College and department level Coordinators under the leadership of Chairman for effective functioning, as follows:

- Principal Overall Administration, Alumni Interaction, International/National Collaborations
- IQAC Director: Assessment and Accreditations, Ranking Frameworks
- Dean (Academic Process): Curriculum Design, Content Delivery, Assessment, Automation of Academic Process, Regulations, Academic Calendar
- Dean (Research and Development): PhD Admissions, Academic and sponsored Research, Patents, Library
- Dean (Industry Institute Interaction): Consultancy, Placement/Internship
- Dean (Students): Mentoring, Counseling, women Development Cell, Professional Societies, Student Clubs, Career Guidance, Entrepreneurship
- Dean (Extra-curricular activities): NCC/NSS, Physical Education, Cultural, Technology based social work
- Registrar: Student Admission, Staff Recruitment, Infrastructure and Finance
- Controller of Examinations: Exam related activities

The academic and administrative activities are being carried out by the respective HoDs following the Standard Operating Procedure set by Senior administrators. The Principal and Deans along with HoDs, based on their own experience in academic and research activities, convert them into tangible actions. They are reviewed by the Governing Council of the institute. The Principal discusses the outcomes of Governing Council meetings with the Deans and HODs to evolve a consensus on the focus areas. The academic activities are approved by Academic Council.

**File Description Documents**

File Description	Documents
Upload strategic plan and deployment documents on the website	<a href="#">View File</a>
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil



## 6.2 - Strategy Development and Deployment

### 6.2.1 - The institutional Strategic/ Perspective plan has been clearly articulated and implemented

The institutions' major objective is to enhance the institutes' competitiveness at a national and global level and improve its outlook across different stakeholder segments namely Students, Industry, Peers, and Regulators. Two senior faculty members were identified as project champions to implement the action plan in a systematic way. Subsequently, 10 strands were identified and middle level faculty members were assigned as Strand leaders. Each strand leader was assigned with five Junior faculty members in this process. The activities are monitored weekly and steeringcommittee meetings are conducted at regular intervals of two months to align the progress in the right path by the Management.

The strands are

- Academics and Curriculum
  - Online courses, smart classroom, Transition Rate
- Student Experience
  - Tutor Ward System, Alumni Interaction, Career Guidance
- Research Excellence
  - Academic Research, Sponsored Research
- Faculty Development
  - Adjunct Faculty, Faculty Recruitment, Development Programmes
- Academic Collaborations
  - Webinars, Joint Teaching, Research Internship
- Industry Collaborations
  - Centre of Excellence, Consultancy, Patent
- Placement
  - Training, Internship, Placement
- Process and Data Management
  - Website Revamping, Management Information System
- Branding, Marketing and Outreach
- Infrastructure Management

The methodology adopted to implement strategic plan is:

- As-Is peer benchmarking Analysis
- Target setting from goal setting and stakeholder workshop
- Action plan and implementation roadmap.

File Description	Documents
Strategic Plan and deployment documents on the website	<a href="#">View File</a>
Paste link for additional information	Nil
Upload any additional information	No File Uploaded

6.2.2 - The functioning of the various institutional bodies is effective and efficient as visible from the policies, administrative set-up, appointment and service rules, procedures, etc.

- **Internal Quality Assurance Cell (IQAC):** provides benchmarks, proposes roadmaps and to monitor the institutional development activities
- **Governing Council :** The functions of Governing Council are to approve the academic, financial and administrative policies of the institution, to appoint faculty members and staff, to review the annual report & the audited accounts and budget estimates.
- **Academic Council:** reviews regulations, curriculum and academic processes. **Research Council:** reviews research project proposals
- **Student Council:** Meetings are conducted regularly with the representatives of students to improve the functioning of the institution.
- **Board of Studies:** reviews the curriculum and syllabus of courses.
- **Standing Committee:** monitors and recommends the academic administrative and financial matters.
- **Department Advisory Committee:** reviews and provides direction for continuous improvement of department activities
- **Finance Committee:** Reviews budget for the departments and college.
- **Malpractice Enquiry Committee:** handles disciplinary issues
- **Building committee:** scrutinizes and approves the design estimates, cost of building and other capital works, minor works, repair and maintenance
- **IPR Committee:** reviews patentable ideas for filing them as patents
- **Appeals and Grievances Committee:** Any grievances related to Academic matters are addressed by the concerned Tutor, HoD and Principal. When students are not satisfied with the outcome, they represent to the Appeals & Grievances

**Committee.**

- **Women Development Cell: Woment empowerment activities**

File Description	Documents
Paste link to Organogram on the institution webpage	<a href="https://tce.edu/about/organsational-structure">https://tce.edu/about/organsational-structure</a>
Upload any additional information	<b>No File Uploaded</b>
Paste link for additional Information	<b>Nil</b>

**6.2.3 - Implementation of e-governance in areas of operation: Administration Finance and Accounts Student Admission and Support Examination**

**A. All of the above**

File Description	Documents
ERP (Enterprise Resource Planning) Documen	<a href="#">View File</a>
Screen shots of user interfaces	<a href="#">View File</a>
Details of implementation of e-governance in areas of operation	<a href="#">View File</a>
Any additional information	<b>No File Uploaded</b>

**6.3 - Faculty Empowerment Strategies**

6.3.1 - The institution has effective welfare measures for teaching and non-teaching staff and avenues for their career development/ progression

**The workforce is supported by the administration in respect of admission to the engineering programmes for their children, additional medical benefits on a case to case basis.**

**Prescribed EPF is provided to teaching and non-teaching staff members.**

**Faculty and staff have sports contest annually.**

**Teaching Staff Welfare Measures and Avenues for their career development/ Progression**

- Sabbatical leave for post-doctoral studies and internship at industries.
- Increments in Basic Pay, on completion of Doctoral degree programme.
- Faculty are recognized with the remuneration for coordinating FDPs
- Faculty are given the financial assistance for attending workshops/seminars/conferences
- Promotion/career advancement for faculty members is offered as per norms.
- Maternity leave is sanctioned to women faculty members.
- Medical/Accidental claims are facilitated to workforce.
- Incentives are given for Research Publications
- Faculty members are facilitated for filing the Patents.
- Coordinator honorarium are given to faculty who plans and organizes FDPs

#### Non-Teaching Staff Welfare Measures and Avenues for their career development/ Progression

- All the employees are covered with Health insurance (ESI). Awareness workshops on safety and health consciousness.
- Compensation for working on holidays and beyond working hours.
- Staff quarters are for non-teaching staff. Festival Advance for Staff members.
- Security personnel are provided with uniform allowance and washing allowance

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

#### 6.3.2 - Number of teachers provided with financial support to attend conferences / workshops and towards payment of membership fee of professional bodies during the year

24

File Description	Documents
Upload any additional information	No File Uploaded
Details of teachers provided with financial support to attend conference, workshops etc during the year (Data Template)	<a href="#">View File</a>

### 6.3.3 - Number of professional development / administrative training programmes organized by the Institution for its teaching and non-teaching staff during the year

40

File Description	Documents
Reports of the Human Resource Development Centres (UGC HRDC/ASC or other relevant centres)	<a href="#">View File</a>
Upload any additional information	No File Uploaded

### 6.3.4 - Number of teachers who have undergone online/ face-to-face Faculty Development Programmes during the year: (Professional Development Programmes, Orientation / Induction Programmes, Refresher Courses, Short-Term Course, etc.)

85

File Description	Documents
Summary of the IQAC report	<a href="#">View File</a>
Reports of the Human Resource Development Centres (UGC ASC or other relevant centers)	<a href="#">View File</a>
Upload any additional information	No File Uploaded

## 6.4 - Financial Management and Resource Mobilization

6.4.1 - Institution conducts internal and external financial audits regularly

Internal and external auditing (Local fund audit and GST audit) of all financial transactions are carried out at periodic intervals in adherence to the guidelines of Government norms. Financial planning is carried out annually considering the

budget proposals submitted by respective authorities in the College and income expenditure during the previous financial year. Budget allocation is done for every financial year for each department under various heads. The prepared budget proposal is placed before the Governing Council for approval. Financial activities are carried out by accounts manager. This process is scrutinized by the Management and Government auditors (Local Fund and Accountant General). Internal financial auditor has freedom to suggest and revise the formats of relevance based on the feedback from the students and faculty, in consultation with Registrar. Utilization is tracked periodically through internal and external finance audits. Further, as the college is supported by TEQIP - world bank initiative, budget is also allotted to new initiatives like infrastructure development, curriculum development, faculty development and industry interaction as per the guidelines by National Project Implementation Unit (NPIU). The college files GSTR1 & GSTR3B as per the guidelines of GST. The GST amount is remitted every month.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

#### 6.4.2 - Funds / Grants received from non-government bodies, individuals, and philanthropists during the year (not covered in Criterion III and V) (INR in lakhs)

229.25744

File Description	Documents
Annual statements of accounts	<a href="#">View File</a>
Details of funds / grants received from non-government bodies, individuals, philanthropists during the year	<a href="#">View File</a>
Any additional information	No File Uploaded

#### 6.4.3 - Institutional strategies for mobilisation of funds and the optimal utilisation of resources

##### Mobilization of Funds:

- Salary Grant for Government Aided faculty and Support

staff

- College fees for the students: (Tuition Fees, development Fees, Laboratory fees, Internet fees, skill development fees, Exam fees)
- Sponsored Research Projects from Government bodies/Organizations
- Consultancy projects from industries
- Corporate Social Responsibility
- Alumni Contribution towards students welfare Organizing
- Faculty Development Programmes/STTPs/Workshops/Seminars
- Establishment of Industry Supported Laboratories/Centre of Excellence

Optimal Utilization of Resources:

- Salary for the faculty and supporting staff member
- Establishment of Infrastructure for academic, research and industry collaboration activities
- Procurement of State of Art equipment, Softwaree Licensing,
- Library Infrastructure
- Internet and WiFi faciity
- Skill Development Programmes for the students
- Conduct of examinations
- Remuneration for coordinating FDPs
- Financial assistance for attending workshops/seminars/conferences
- Incentives for Research Publications
- Faculty Recognizion with Financial Assistance
- Thiagarajar Research Fellowship for Research scholars
- Financial support for filing Patents.
- Aid for needy students at the institutions.
- Scholarship from Trust and alumni contribution Freeship for the students I
- nstitutional Transformation Initiatives Process Automation Adjunct Faculty Association, Professional society, co-curricula and extracurricular activities
- Work place management
- Honorarium for Board of Studies, Academic Council, Governing Council and IQAC members
- Gratuity for retired faculty and support staff members

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional Information	Nil

## 6.5 - Internal Quality Assurance System

6.5.1 - Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing quality assurance strategies and processes visible in terms of incremental improvements made during the preceding year with regard to quality (in case of the First Cycle): Incremental improvements made during the preceding year with regard to quality and post-accreditation quality initiatives (Second and subsequent cycles)

**IQAC team of TCE has contributed significantly in the following quality initiatives/activities**

- Development of TCE Online courses: Eleven courses rolled out in Phase 1 in the portal <https://mooc.tce.edu>
- Academic Collaborations - Organized webinars with National and International Institutes by all Departments, which in turn facilitated for Joint Teaching and Remote Internships
- Eminent Professors from Higher learning institutions/ Industry experts were appointed as adjunct faculty members to conduct state-of-art courses
- Thiagarajar Research Fellowship scheme was introduced to promote research publications.
- Virtual Internship was conducted for First and Second year students in order to provide exposure to industrial perspective
- Library: Remote access has been given to students, faculty and research scholars through mobile app
- Implementation of 'Research Practice' Paper for UG Programmes - 14 teams have submitted Research Papers to Scopus indexed Journals/conferences
- Setting up of Smart Classroom - A model smart classroom was set up with e-podium, sliding and Pin-up boards, flexible seating arrangements, Interactive TV and online access
- Research Council - Research Council was established and the first meeting was conducted in May 2021
- Participation in NIRF and AQAR report submission for 2020-21
- NBA Accreditation for B.E.CSE Programmes and Compliance Audit for B.E. Civil, Mechanical, EEE and ECE programmes



File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

6.5.2 - The institution reviews its teaching-learning process, structures and methodologies of operation and learning outcomes at periodic intervals through its IQAC as per norms

#### Programme Performance Assessment Committee (PPAC) Audit:

- PPAC of each programme conducts audit every semester in the following aspects
  - Audit of the question papers of Continuous Assessment Tests.
  - Setting and Revision of Targets for COs, POs, PSOs.
  - Analysis of deviations in target and actual attainment of COs, POs, PSOs. . If any deviation, corrective actions are proposed by PPAC. The corrective actions are implemented by the course coordinator. The effectiveness of the corrective actions is examined in the subsequent audit.
  - Recommendations and Action plan for improvement

#### Course File Audit:

The Academics team of the College conducts Course File audit at every semester. The course file includes course contents, test question, question to CO mapping, scheme of evaluation, assignment questions, sample answer scripts, test performance analysis, course exit survey, CO attainment, and faculty reflective report. Syllabus coverage, content delivery methods, quality of assessment and rubrics used in courses are audited. Comments and suggestions for improvement are provided for the course coordinators.

#### Terminal Examination: Question Paper Audit

The Controller of examinations office conducts question paper & answer script audit with external experts. Audit reports are submitted to respective Head of the Department for necessary actions.

File Description	Documents
Upload any additional information	No File Uploaded
Paste link for additional information	Nil

**6.5.3 - Quality assurance initiatives of the institution include Regular meeting of the IQAC Feedback collected, analysed and used for improvement of the institution Collaborative quality initiatives with other institution(s) Participation in NIRF Any other quality audit recognized by state, national or international agencies (such as ISO Certification)**

A. Any 4 or all of the above

File Description	Documents
Paste the web link of annual reports of the Institution	<a href="https://www.tce.edu/igac/reports">https://www.tce.edu/igac/reports</a>
Upload e-copies of accreditations and certification	<a href="#">View File</a>
Upload details of quality assurance initiatives of the institution	<a href="#">View File</a>
Upload any additional information	No File Uploaded

## INSTITUTIONAL VALUES AND BEST PRACTICES

### 7.1 - Institutional Values and Social Responsibilities

7.1.1 - Measures initiated by the Institution for the promotion of gender equity during the year

- The institution provides equal opportunity to both boys & girls students and men & women staff. In the institution. 40% of the faculty members are women and 40% of the students are girls.
- Women staff represent various committees and decision-making bodies. Five faculty members are at the level of Head of the Departments and Deans.
- Women Development cell (WDC) of the institution has organized webinars like 'A New Journey Ahead', Sustainable livelihood opportunities during Covid-19 pandemic", "Art of Living", "Healthy Living", etc. WDC of the Institute

organized a webinar on "Prevention of sexual harassment" on International Women day.

- Separate hostel facility is provided for girls and boys students.
- Bus facilities are provided for girl students and the women faculty.
- Security personnel have been deployed in adequate numbers on the campus round the clock.
- In case of any health issues, ladies waiting rooms are available for students and faculty to take rest.
- Awards are given separately for boys and girls in the following categories every academic year. Outgoing Student Excellence, Best outgoing student, Best Outgoing NCC cadet, Best Outgoing NSS volunteer, Best Outgoing sports person, and Best Outgoing Fine Arts student.

File Description	Documents
Upload any additional information	<a href="#">View File</a>
Paste link for additional Information	<a href="https://tce.edu/wdc">https://tce.edu/wdc</a>

**7.1.2 - The Institution has facilities for alternate sources of energy and energy conservation: Solar energy Biogas plant Wheeling to the Grid Sensor-based energy conservation Use of LED bulbs/ power-efficient equipment**

**A. Any 4 or All of the above**

File Description	Documents
Geotagged Photographs	<a href="#">View File</a>
Any other relevant information	<b>No File Uploaded</b>

**7.1.3 - Describe the facilities in the institution for the management of the following types of degradable and non-degradable waste (within a maximum of 200 words)**

**Solid Waste Management:**

- **Biodegradable Waste**
  - **Converted in to manure by decomposition - new method for fast decomposition**
  - **Bio gas conversion**
- **Non biodegradable Waste- Plastics**
  - **Plastic Tar Road (This technology was also coded by**

the Indian Road Congress in 2013(IRC-SP-98-2013)

- PLASTONE blocks
- Roofing Sheets
- Plastics to fuel oil
- Plastic waste Management Techniques:
  - Collection of waste plastics and disposal
  - Shredding of waste plastics in to required size of 2mm to 4mm
  - Preparation of plastic coated aggregate
  - Mixing of bitumen and the stone
  - Laying of plastic tar road

Consultancy:

- Laying of plastic roads
- Waste management systems in industries

Liquid Waste Management:

- Liquid Waste:
  - Waste water from kitchen
  - Waste water from industries
  - Reject waste water from RO plants
  - Distilleries waste

Management Techniques:

- Analysis of composition of waste water
- Removal of heavy metals and other hazardous impurities (R & D)
- Reuse of waste water in gardening and washing
- Sewage treatment plant
- Individual houses
- Portable KIT to test as well as purify the waste water

Two sewage treatment plants with Effluent Treatment with the capacity of 7000 litres/day were established in the Campus.

File Description	Documents
Relevant documents like agreements/MoUs with Government and other approved agencies	<a href="#">View File</a>
Geotagged photographs of the facilities	<a href="#">View File</a>
Any other relevant information	No File Uploaded

**7.1.4 - Water conservation facilities available in the Institution: Rain water harvesting Bore well /Open well recharge Construction of tanks and bunds Waste water recycling Maintenance of water bodies and distribution system in the campus**

A. Any 4 or all of the above

File Description	Documents
Geotagged photographs / videos of the facilities	<a href="#">View File</a>
Any other relevant information	No File Uploaded

**7.1.5 - Green campus initiatives include**

**7.1.5.1 - The institutional initiatives for greening the campus are as follows:**

- 1. Restricted entry of automobiles**
- 2. Use of bicycles/ Battery-powered vehicles**
- 3. Pedestrian-friendly pathways**
- 4. Ban on use of plastic**
- 5. Landscaping**

A. Any 4 or All of the above

File Description	Documents
Geotagged photos / videos of the facilities	<a href="#">View File</a>
Various policy documents / decisions circulated for implementation	<a href="#">View File</a>
Any other relevant documents	No File Uploaded

7.1.6 - Quality audits on environment and energy undertaken by the institution	
<p><b>7.1.6.1 - The institution's initiatives to preserve and improve the environment and harness energy are confirmed through the following:</b></p> <ol style="list-style-type: none"> <li><b>1. Green audit</b></li> <li><b>2. Energy audit</b></li> <li><b>3. Environment audit</b></li> <li><b>4. Clean and green campus recognitions/awards</b></li> <li><b>5. Beyond the campus environmental promotional activities</b></li> </ol>	<p><b>A. Any 4 or all of the above</b></p>
File Description	Documents
Reports on environment and energy audits submitted by the auditing agency	<a href="#">View File</a>
Certification by the auditing agency	<a href="#">View File</a>
Certificates of the awards received	<b>No File Uploaded</b>
Any other relevant information	<b>No File Uploaded</b>
<p><b>7.1.7 - The Institution has a disabled-friendly and barrier-free environment:</b>  <b>Ramps/lifts for easy access to classrooms and centres</b>  <b>Disabled-friendly washrooms</b>  <b>Signage including tactile path lights, display boards and signposts</b>  <b>Assistive technology and facilities for persons with disabilities:</b>  <b>accessible website, screen-reading software, mechanized equipment, etc.</b>  <b>Provision for enquiry and information: Human assistance, reader, scribe, soft copies of reading materials, screen reading, etc.</b></p>	<p><b>A. Any 4 or all of the above</b></p>

File Description	Documents
Geotagged photographs / videos of facilities	<a href="#">View File</a>
Policy documents and brochures on the support to be provided	<a href="#">View File</a>
Details of the software procured for providing assistance	No File Uploaded
Any other relevant information	No File Uploaded

7.1.8 - Describe the Institutional efforts/initiatives in providing an inclusive environment i.e. tolerance and harmony towards cultural, regional, linguistic, communal, socio-economic and other diversities (within a maximum of 200 words).

The College believes in the oneness principle of the country and there is no space for intolerance on the campus.

Students from different states like Jammu & Kashmir, Manipur, Kerala, etc are admitted in UG, PG and PhD programmes. They mingle with all other students for any academic, co-curricular and extra-curricular activities. No discrimination or restriction are given to them for participation.

NSS camps to nearby villages are organized every year and this makes the students understand the societal needs challenges.

The College treats all students and staff equally without any discrimination in caste, region, language and socio-economic diversities.

File Description	Documents
Supporting documents on the information provided (as reflected in the administrative and academic activities of the Institution)	<a href="#">View File</a>

7.1.9 - Sensitization of students and employees of the institution to constitutional obligations: values, rights, duties and responsibilities of citizens:

- The College website displays the core values of TCE and insists the societal responsibility, citizenship and empowerment
- In the curriculum, the courses namely Environmental

Science, Constitution of India and Essence of Indian Traditional Knowledge are offered for undergraduate students. Value Education courses are offered for postgraduate students.

- Organized various programmes such National Voter's day, Energy Conservation Day, Environment Day, etc to make the students and staff understand their duties and responsibilities
- Engineering Without Borders (EWB) Chapter organizes events for the students to understand the real time engineering problems in the nearby Villages and encourages them to solve those problems using technologies
- TCE National Service Scheme (NSS) team organizes Blood Donation Camp every year in collaboration with Madurai Government Rajaji Hospital.

File Description	Documents
Details of activities that inculcate values necessary to transform students into responsible citizens	<a href="#">View File</a>
Any other relevant information	No File Uploaded

**7.1.10 - The institution has a prescribed code of conduct for students, teachers, administrators and other staff and conducts periodic sensitization programmes in this regard: The Code of Conduct is displayed on the website There is a committee to monitor adherence to the Code of Conduct Institution organizes professional ethics programmes for students, teachers, administrators and other staff Annual awareness programmes on the Code of Conduct are organized**

**A. All of the above**



File Description	Documents
Code of Ethics - policy document	<a href="#">View File</a>
Details of the monitoring committee composition and minutes of the committee meeting, number of programmes organized, reports on the various programmes, etc. in support of the claims	<a href="#">View File</a>
Any other relevant information	No File Uploaded

7.1.11 - Institution celebrates / organizes national and international commemorative days, events and festivals

The following national events are celebrated at the institution regularly:

- Independence Day
- Republic Day
- Yoga Day
- World Environment Day
- Energy Conservation Day
- Sadhbhavan Das
- Women's Day
- World Water Day

TCE celebrated Birth/Death Anniversaries of the great Indian Personalities:

- Founder's day
- Teacher's day
- Srinivasa Ramanujam Birth Anniversary is celebrated as Mathematics Day.

File Description	Documents
Annual report of the celebrations and commemorative events for during the year	<a href="#">View File</a>
Geotagged photographs of some of the events	<a href="#">View File</a>
Any other relevant information	No File Uploaded

## 7.2 - Best Practices

7.2.1 - Provide the weblink on the Institutional website regarding the Best practices as per the prescribed format of NAAC

### Best Practice 1:

**Title: Students' Participation in Technical Events**

#### Objective:

To improve problem solving and team building skills of students through technical events

#### Context

Conceive-Design-Implement-Operate (CDIO) framework based curriculum was introduced to build socially responsible and professionally skilled graduates. This created an environment to implement innovative ideas through professional society and entrepreneurship development cell activities.

#### Practice

- Identification of real time societal/industrial problems
- Design of conceptual models/prototypes
- Assessment and evaluation using rubrics

#### Evidence of Success:

- Winners in many technical contests like Smart India Hackathons, coding and design contests
- Improvement in Placements

#### Problems Encountered and Resources Required

- Productizing the idea to the next level
- Patenting the ideas

### Best Practice 2

**Title: New Research Policy**

#### Objective:

- To promote quality research in the institution.

**Context**

- New research policy was introduced to improve research culture in the institution.

**Practice**

- Course on "Research Practice" for undergraduate students
  - Team formation with faculty mentor
  - Publication of research outcomes in Scopus/Web-of-Science indexed conference/Journals
  - Credit Transfer
- Thiagarajar Research Fellowship for full-time research scholars
- Incentives for faculty and research scholars based on publications in Scimago Journal Ranking (SJR)

**Evidence of Success:**

- Increase in research publications in high quality Journals

**Problems Encountered and Resources Required**

- Longer time for Publications in SJR Journals

File Description	Documents
Best practices in the Institutional website	<a href="https://tce.edu/naac/naac-aqar/2021-22">https://tce.edu/naac/naac-aqar/2021-22</a>
Any other relevant information	Nil

**7.3 - Institutional Distinctiveness**

7.3.1 - Highlight the performance of the institution in an area distinct to its priority and thrust (within a maximum of 200 words)

**Title: Institutionalizing the Processes in the Project Mode**

**Objectives:**

- To ensure continuous improvements in academic and administrative processes

## Context

- Project mode of implementation for strengthening the processes and share best practices across Departments in the decentralized fashion.

## Practice

- Setting up of project plan and strands
- Identification of processes, process owners and representatives
- Preparation of charters in each strand, with performance indicators
- Biweekly meeting for sharing status updates

## Evidence of Success:

- Development of Standard Operating Procedures through the following strands
  - Academics and Curriculum Strand
  - Student Experience
  - Research Excellence
  - Placement
  - Academic Collaborations
  - Industry Collaborations
  - Placement
  - Alumni Interaction
  - Branding, Marketing and Outreach
  - Faculty Development
  - Infrastructure
- Major Outcomes
  - Introduction of Thiagarajar Research Fellowship
  - Appointment of adjunct faculty members
  - Development of TCE online courses
  - Improvement in Quality Publications and Increase in number of patents
  - Automation of Tutor Ward System
  - Improvement in Placement
  - Increase in MoUs with industries and higher learning institutions
  - Improved collaborations with academic experts through webinars and remote internship
- Data repository for processes enabling trend analysis
- Timely submission of Data for NIRF ranking, NBA/NAAC accreditation processes/frameworks/system

**Problems Encountered and Resources Required**

- Increase in administrative load for faculty members involved in project strands at the initial stage

File Description	Documents
Appropriate link in the institutional website	<a href="https://tce.edu/naac/naac-aqar/2021-22">https://tce.edu/naac/naac-aqar/2021-22</a>
Any other relevant information	No File Uploaded

**7.3.2 - Plan of action for the next academic year****Plan of action for the academic year 2022-23:**

1. Participation in NIRF 2023 and exploitation of participating in THE ranking and QS Ranking
2. Submission of AQAR for 2020-21 and 2021-22
3. Additional Intake in undergraduate programmes
4. Introduction of new PG programme on Construction Engineering and Management
5. New Undergraduate Curriculum Design 2022 with four Major Focus Areas/Verticals in each programme
6. Introduction of Relative Grading System
7. Conduct of Faculty Conclave for sharing the best practices in
8. Data Integration and Automation and launch of revamped website
9. New MoUs and Follow-up of Active MoUs
10. Extension of Thiagarajar Reserach Fellowship for promoting research publications