



Yearly Status Report - 2018-2019

Part A

Data of the Institution

1. Name of the Institution		THIAGARAJAR COLLEGE OF ENGINEERING
Name of the head of the Institution		M Palaninatha Raja
Designation		Principal (in-charge)
Does the Institution function from own campus		Yes
Phone no/Alternate Phone no.		0452-2482430
Mobile no.		9894094155
Registered Email		principal@tce.edu
Alternate Email		pnatharaja@tce.edu
Address		Thiagarajar College of Engineering
City/Town		Madurai
State/UT		Tamil Nadu
Pincode		625015
2. Institutional Status		

Autonomous Status (Provide date of Conformant of Autonomous Status)	01-Jun-1987
Type of Institution	Co-education
Location	Semi-urban
Financial Status	Self financed and grant-in-aid
Name of the IQAC co-ordinator/Director	Dr.S.J. Thiruvengadam
Phone no/Alternate Phone no.	04522482240
Mobile no.	9865079402
Registered Email	deanacad@tce.edu
Alternate Email	sjtece@tce.edu

3. Website Address

Web-link of the AQAR: (Previous Academic Year)	https://www.tce.edu/naac/naac-aqar
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4. Whether Academic Calendar prepared during the year

Yes

if yes,whether it is uploaded in the institutional website:
Weblink :

<https://www.tce.edu/academics/calendar>

5. Accreditation Details

Cycle	Grade	CGPA	Year of Accreditation	Validity	
				Period From	Period To
1	A+	3.47	2019	29-Mar-2019	28-Mar-2024

6. Date of Establishment of IQAC

01-Aug-2018

7. Internal Quality Assurance System

Quality initiatives by IQAC during the year for promoting quality culture		
Item /Title of the quality initiative by IQAC	Date & Duration	Number of participants/ beneficiaries
Redesign of First Year Orientation programme	03-Aug-2018 10	750
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8. Provide the list of Special Status conferred by Central/ State Government-UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/Department/Faculty	Scheme	Funding Agency	Year of award with duration	Amount
Thiagarajar College of Engineering	TEQIP II	NPIU	2013 1440	150000000
Thiagarajar College of Engineering	TEQIP III	NPIU	2017 1290	83000000
Thiagarajar College of Engineering	Technology Business Incubator (TBI) Unit	DST-NSTEDB	2014 2520	50000000
Thiagarajar College of Engineering	EDI	Tamil Nadu	2019 700	200000

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9. Whether composition of IQAC as per latest NAAC guidelines:

Yes

Upload latest notification of formation of IQAC

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10. Number of IQAC meetings held during the year :

3

The minutes of IQAC meeting and compliances to the decisions have been uploaded on the institutional website

Yes

Upload the minutes of meeting and action taken report

[View File](#)

11. Whether IQAC received funding from any of the funding agency to support its activities during the year?

No

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

Significant Contributions made by IQAC 1. Self Study Report submission for Cycle 1 Assessment and accreditation. The institution is awarded A (3.47 out of 4) 2. Participation of National Institution Ranking Framework and got 56th Rank in Engineering Category 3. Preparation of Standard Operating Procedures for Institutional Activities 4. Key Performance Indicators for various functional domains like academic process, research and development, industry institute interaction 5. Faculty Training Programme on CDIO Curriculum Design with the support from the Institute Academic Process team members

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13. Plan of action chalked out by the IQAC in the beginning of the academic year towards Quality Enhancement and outcome achieved by the end of the academic year

Plan of Action	Achivements/Outcomes
Participation in Engineering Projects in Community Services	Introduction of CDIO courses in the new Curriculum
Industry Supported Courses	Improvement in number of courses offered and enrollment by the students
CDIO Implementation presentation made in the Asian Regional Meeting of CDIO at Dalian, China	Became a member in Worldwide CDIO Initiative.
Participation in NIRF Ranking	Obtained fifty sixth rank in Engineering Category
Submission of SSR for Cycle Assessment and Accreditation	A Grade in Cycle I accreditation

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14. Whether AQAR was placed before statutory body ?

Yes

Name of Statutory Body	Meeting Date
Academic Council	03-Jul-2021

15. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to assess the functioning ?

Yes

Date of Visit

12-Mar-2019

16. Whether institutional data submitted to AISHE:

Yes

Year of Submission

2018

Date of Submission

01-Jun-2018

17. Does the Institution have Management Information System ?

Yes

If yes, give a brief description and a list of modules currently operational (maximum 500 words)

Thiagarajar College of Engineering (TCE) has a well established state of the art Information Technology (IT) infrastructure and facilities for providing research, academic and consultancy support. The IT services

are provided on 24/7 support for anytime anywhere access to knowledge and learning resources. The Data center was established in 2011 with an area of around 645 sq ft for consolidating and managing network operations from various servers like App servers, Data Base (DB) servers and computer clusters into a single facility. Data center hosts all the servers to ease the provisioning and maintenance of the servers and Apps to the entire campus and back bone network running throughout the campus. It houses about 8 racks mounted with servers and computer cluster nodes for hosting a variety of services like • TCE Website (Official Website of college) • TCENet (Intranet Portal for the college) • TCE Attendance Monitoring System (Staff Attendance Maintenance) • Video Lecture streaming (stream Video Lectures of college) • TCE Cloud (Cloud service of college for Research purpose) • TCE Moodle (Learning Management System) • Automation for Academics Activities (Course Registration, Attendance/Assessment Reports, Student Feedback, Course Outcome/Programme Outcome attainment calculation and Reports) Various other IT services and application portals supported by the Data center are • Student Admission (Automation of Student Admissions) • TCE Asset Management System (Asset Tracking System) • TCE Inventory Control (TCE Stock Maintenance System) • TCE Exam Process Automation (Automation of Examination Process) • Maintenance portal (facilities and request tracking management) • Faculty profile updates (Automation of Faculty Achievements Update System) These were introduced to automate the offline processes and to cater the academic and administrative processes. Biometric based Staff Attendance monitoring system has been implemented.

Part B

CRITERION I – CURRICULAR ASPECTS

1.1 – Curriculum Design and Development

1.1.1 – Programmes for which syllabus revision was carried out during the Academic year

Name of Programme	Programme Code	Programme Specialization	Date of Revision
ME	CG	Computer Science	21/07/2018

		and Engineering	
ME	CI	Control and Instrumentation Engineering	21/07/2018
ME	CN	Communication Systems	21/07/2018
ME	EN	Environment Engineering	21/07/2018
ME	IE	Industrial Engineering	21/07/2018
ME	CG	Computer Science and Engineering	05/01/2019
ME	CI	Control and Instrumentation Engineering	05/01/2019
ME	IM	Infrastructure Engineering and Management	05/01/2019
ME	PS	Power Systems Engineering	05/01/2019
MArch	GA	General Architecture	05/01/2019
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1.1.2 – Programmes/ courses focussed on employability/ entrepreneurship/ skill development during the Academic year

Programme with Code	Programme Specialization	Date of Introduction	Course with Code	Date of Introduction
ME	Computer Science and Engineering	21/07/2018	18CG110 Performance Modeling	21/07/2018
ME	Control and Instrumentation Engineering	21/07/2018	18CI110 Calculas of Variation Applied Mathematics	21/07/2018
ME	Communication Systems	21/07/2018	18CN110 Mathematics for Communications	21/07/2018
ME	Environment Engineering	21/07/2018	18EN110 Applied Statistics and Optimization	21/07/2018
ME	Industrial Engineering	21/07/2018	18IE110 Applied Statistics	21/07/2018
ME	Computer Science and Engineering	05/01/2019	18CG210 Randomized Algorithms	05/01/2019
ME	Control and	05/01/2019	18CI170	05/01/2019

	Instrumentation Engineering		Control and Instrumentation Laboratory	
ME	Infrastructure Engineering and Management	05/01/2019	18IM260 Project Planning and Control	05/01/2019
ME	Power Systems Engineering	05/01/2019	18PS210 Power System Security and Control	05/01/2019
MARch	General Architecture	05/01/2019	18GA210 Research Methodology	05/01/2019
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1.2 – Academic Flexibility

1.2.1 – New programmes/courses introduced during the Academic year

Programme/Course	Programme Specialization	Dates of Introduction
MARch	General Architecture	03/09/2018
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1.2.2 – Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the College level during the Academic year.

Name of programmes adopting CBCS	Programme Specialization	Date of implementation of CBCS/Elective Course System
MARch	General Architecture	27/07/2018
ME	Structural Engineering	27/07/2018
ME	Environmental Engineering	27/07/2018
ME	Infrastructure Engineering and Management	27/07/2018
ME	Industrial Engineering	27/07/2018
ME	Manufacturing Engineering	27/07/2018
ME	Power System Engineering	27/07/2018
ME	Control and Instrumentation	27/07/2018
ME	Communication Systems	27/07/2018
ME	Wireless Technologies	27/07/2018
ME	Computer Science and Engineering	27/07/2018
ME	Computer Science and Information Security	27/07/2018
ME	Mechatronics	27/07/2018
ME	Computer Application	27/07/2018

1.3 – Curriculum Enrichment

1.3.1 – Value-added courses imparting transferable and life skills offered during the year

Value Added Courses	Date of Introduction	Number of Students Enrolled
18CHAA0 Environment Sciences	05/01/2019	800
14CE1B0 Arbitration and Dispute Resolution	05/01/2019	18
14CE1D0 Green Construction	05/01/2019	47
14CE1F0 Framing of Structures and Optimum Foundation Systems	05/01/2019	27
14CS1H0 Foundations of Nosql Database	05/01/2019	88
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1.3.2 – Field Projects / Internships under taken during the year

Project/Programme Title	Programme Specialization	No. of students enrolled for Field Projects / Internships
BE	Mechanical Engineering	66
BE	Electricals and Electronics Engineering	29
BE	Electronics and Communication Engineering	31
BE	Computer Science and Engineering	52
BTech	Information Technology	46
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1.4 – Feedback System

1.4.1 – Whether structured feedback received from all the stakeholders.

Students	Yes
Teachers	Yes
Employers	Yes
Alumni	Yes
Parents	Yes

1.4.2 – How the feedback obtained is being analyzed and utilized for overall development of the institution? (maximum 500 words)

Feedback Obtained
Feedback is collected from students, faculty, alumni, employers and parents about the course/curriculum. At the end of each semester, all the undergraduate and postgraduate students provide feedback about all the enrolled courses using 'Course Exit Survey' on the Course content, course outcomes, content delivery and assessment on a Likert scale of 1 to 5 (Strongly Disagree/Disagree/Neutral/Agree/Strongly Agree). Similar to this process, faculty provides feedback about the courses they have taught during the semester. The feedback questionnaire includes challenging topics, topics to be

modified/added/removed from the course along with the reasons. At the end of the programme, feedback from all graduating students is obtained using 'Program Exit Survey'. Suggestions about the revision of course syllabus obtained from the alumni during their visits to the institution and during several formal and informal meetings outside the institution. The feedback from the employers is taken during recruitment, guest lectures, their visits to the institution and intern periods of students in the industries. The feedback from parents is collected during Parent - Teacher meeting. All the suggestions/feedback are recorded periodically and the faculty members make appropriate changes to the syllabus as follows: To decide on the type of changes required in the curricular components or syllabi, feedback from Course Instructor, report on Assessment of Course Outcomes, Course Exit Survey, feedback from industry experts are taken into account for discussion in the Faculty meeting. In the meeting, the following decisions are considered: • If support courses are needed, relevant domain based company is identified. This is followed by identification of corresponding industrial experts and design of industry supported courses. The course is designed as per Special Interest Group (SIG) based course design process. • If changes in Course Outcomes are required, decide whether change in existing syllabus is required. • If required change the existing syllabus, change the existing syllabus or identify a new course relevant for new course outcome and design the course as per SIG based course design process. • If changes in Assessment Pattern are required, design the Bloom's taxonomy based assessment pattern. • If changes in course content are required, identify the concepts to be taught and change the content. The feedback collected from students, faculty, alumni, employers and parents and action taken is analyzed by the academic process team in the department and presented in the faculty meeting for the revision of course/curriculum. A report of this feedback is taken into consideration while revising the syllabus. Their suggestions and requirements are highlighted in the college level meetings and department meetings to make appropriate changes to the syllabus. Then, the Board of Studies comprising industry experts, alumni and academic experts from different organizations, validates the suggestions of syllabus revision and takes measures like modifying the syllabi, introducing new theory and practical courses. The revised syllabus approved by the Board of Studies is presented in the Academic Council for approval and implementation.

CRITERION II – TEACHING- LEARNING AND EVALUATION

2.1 – Student Enrolment and Profile

2.1.1 – Demand Ratio during the year

Name of the Programme	Programme Specialization	Number of seats available	Number of Application received	Students Enrolled
BE	Civil Engineering	120	Nil	121
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2.2 – Catering to Student Diversity

2.2.1 – Student - Full time teacher ratio (current year data)

Year	Number of students enrolled in the institution (UG)	Number of students enrolled in the institution (PG)	Number of fulltime teachers available in the institution teaching only UG courses	Number of fulltime teachers available in the institution teaching only PG courses	Number of teachers teaching both UG and PG courses
2018	3897	520	169	49	18

2.3 – Teaching - Learning Process

2.3.1 – Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc. (current year data)

Number of Teachers on Roll	Number of teachers using ICT (LMS, e-Resources)	ICT Tools and resources available	Number of ICT enabled Classrooms	Number of smart classrooms	E-resources and techniques used
236	203	10	92	7	6

[View File of ICT Tools and resources](#)

[View File of E-resources and techniques used](#)

2.3.2 – Students mentoring system available in the institution? Give details. (maximum 500 words)

At our institute, individual attention is given to each student through Tutor - Ward system, career guidance cell and alumni interactions. (a) Tutor Ward System To help the students in planning their courses of study and for general advice on the academic programme, the Head of the Department attaches a certain number of students (Maximum 25) to a faculty member in the Department. He /she shall function as Faculty Mentor/Tutor/proctor for these students throughout their period of study. The faculty mentor shall • Advise the students in registering regular courses in each semester and reappearance registering of courses (if any) • Monitor their attendance, academic progress and discipline of the students • Counsel periodically or during the Faculty Mentor meeting scheduled in the class time table. • Inform the students about the various facilities and activities available to enhance the student's curricular and co-curricular activities. • If necessary, the faculty mentor may also discuss with or inform the parents about the progress of the students through Head of the Department or in Parent – Teacher meeting. (b) Career Guidance Cell • The Career Guidance Cell organizes career opportunity programmes/workshops with the help of alumni of the institute to encourage the students • The Career Guidance Cell organizes Skill development programmes through placement section to build the confidence among the students by improving communication skill and problem solving abilities (c) Alumni Interactions • Every academic year, Alumni Association organizes camps on professional development for mentoring first undergraduate students • Alumni Mentorship programs like "Leadership in action" program are organized for academically good students

Number of students enrolled in the institution	Number of fulltime teachers	Mentor : Mentee Ratio
4417	236	1:19

2.4 – Teacher Profile and Quality

2.4.1 – Number of full time teachers appointed during the year

No. of sanctioned positions	No. of filled positions	Vacant positions	Positions filled during the current year	No. of faculty with Ph.D
236	236	Nil	4	143

2.4.2 – Honours and recognition received by teachers (received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the year)

Year of Award	Name of full time teachers receiving awards from state level, national level, international level	Designation	Name of the award, fellowship, received from Government or recognized bodies
2018	Dr .R.Vasudevan	Dean	Achievers award - 2018 Indian Eye International Human Rights Observer on World Environment Day Celebration
2018	Dr.S.J.Thiruvengadam	Dean	Member/Leader in Worldwide CDIO

			Initiative
2018	Dr.S.Baskar	Dean	Member/Leader in Worldwide CDIO Initiative
2019	Dr.S.Baskar	Dean	Leadership for Academicians Programme (LEAP)
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2.5 – Evaluation Process and Reforms

2.5.1 – Number of days from the date of semester-end/ year- end examination till the declaration of results during the year

Programme Name	Programme Code	Semester/ year	Last date of the last semester-end/ year-end examination	Date of declaration of results of semester-end/ year- end examination
BE	CE, ME, EE,EC, CS, MT	ODD/2018-19	12/12/2018	07/01/2019
BE	CE, ME, EE,EC, CS, MT	EVEN/2018-19	27/05/2019	06/06/2019
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2.5.2 – Average percentage of Student complaints/grievances about evaluation against total number appeared in the examinations during the year

Number of complaints or grievances about evaluation	Total number of students appeared in the examination	Percentage
Nil	4417	0

2.6 – Student Performance and Learning Outcomes

2.6.1 – Program outcomes, program specific outcomes and course outcomes for all programs offered by the institution are stated and displayed in website of the institution (to provide the weblink)

<https://www.tce.edu/academics/courses-offered>

2.6.2 – Pass percentage of students

Programme Code	Programme Name	Programme Specialization	Number of students appeared in the final year examination	Number of students passed in final year examination	Pass Percentage
CS	BE	Computer Science and Engineering	142	135	95.07
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2.7 – Student Satisfaction Survey

2.7.1 – Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design the questionnaire) (results and details be provided as weblink)

https://www.tce.edu/academics/student_satisfaction_survey

CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.1 – Promotion of Research and Facilities

3.1.1 – The institution provides seed money to its teachers for research

Yes
Name of the teacher getting seed money
Dr .S .Arulmary
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3.1.2 – Teachers awarded National/International fellowship for advanced studies/ research during the year

Type	Name of the teacher awarded the fellowship	Name of the award	Date of award	Awarding agency
National	P.S.Manoharan	UGC RESEARCH AWARD	08/06/2018	UGC
International	S.Balaji	Post Doctoral Fellowship	26/12/2018	Ministry of Science and Technology, Taiwan
National	M.M. Devarajan	Research Fellowship SFRF i	13/05/2019	IIT Delhi
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3.2 – Resource Mobilization for Research

3.2.1 – Research funds sanctioned and received from various agencies, industry and other organisations

Nature of the Project	Duration	Name of the funding agency	Total grant sanctioned	Amount received during the year
Major Projects	730	DST-SERB	38	31
Major Projects	1095	DST-CSRI	33	15
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3.2.2 – Number of ongoing research projects per teacher funded by government and non-government agencies during the years

15

3.3 – Innovation Ecosystem

3.3.1 – Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices during the year

Title of workshop/seminar	Name of the Dept.	Date
Myths and Realities of RD and IPR at EEIs: Issues, Challenges Opportunities	IPR cell	13/07/2018
How to file patents	IPR Cell	09/08/2018

Python programming and Prior Art Search for patenting	ECE	13/11/2018
Patent Search for PhD Scholars and Faculty Members	ECE	20/02/2019
Practical on IPR for all branch PG students	ECE	02/04/2019
Triveni Expo	Industry Institute Interface Cell	28/08/2018
TNSI Awareness Camp	EDC Cell	24/10/2018
Student E Leader Workshop	EDC Cell	10/01/2019
Ideation Camp	EDC Cell	15/02/2019
Boot Camp	EDC Cell	24/02/2019
Campus-Axil Programme	EDC Cell	18/08/2018
Top Management Program on Entrepreneurship Promotion in Educational Institutions	EDC Cell	19/11/2018
AMAZON E-Commerce Training Workshop	EDC Cell	22/01/2018
AICTE-INAE Distinguished visiting Professor Scheme- Dr.Antony Piriya Kumar - 4 Visits	ECE	03/08/2018
ISRO-IIRS Supported - Principles of Polarimetric SAR Remote Sensing and its Processing	ECE	18/02/2019
CREATRIX 2018 - A 24 Hrs Hackathon	IT	26/10/2018
BIM training on AECOSim Software	CIVIL	04/02/2019
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3.3.2 – Awards for Innovation won by Institution/Teachers/Research scholars/Students during the year

Title of the innovation	Name of Awardee	Awarding Agency	Date of award	Category
Cadence Design Contest 2019	A. Daisy Parimalah	Cadence	15/09/2018	Student - Top three in Masters category
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3.3.3 – No. of Incubation centre created, start-ups incubated on campus during the year

Incubation Center	Name	Sponsored By	Name of the Start-up	Nature of Start-up	Date of Commencement
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TCE-TBI	Thiagarajar College of Engineering Technology Business Incubator	NST EDP, DST, Govt.of India	Techocupar Solutions	Software as a service	28/09/2018
TCE-TBI	Thiagarajar College of Engineering Technology Business Incubator	NST EDP, DST, Govt.of India	Algooz	Algorithmic trading	04/10/2018
TCE-TBI	Thiagarajar College of Engineering Technology Business Incubator	NST EDP, DST, Govt.of India	Exotrain Designation management	Human resource management solutions	11/10/2018
TCE-TBI	Thiagarajar College of Engineering Technology Business Incubator	NST EDP, DST, Govt.of India	Scale fresh	Software for E-commerce services	25/02/2019
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3.4 – Research Publications and Awards

3.4.1 – Ph. Ds awarded during the year

Name of the Department	Number of PhD's Awarded
Civil Engineering	7
Mechanical Engineering	2
Electrical and Electronics Engineering	12
Electronics and Communication Engineering	9
Computer Science Engineering	7
Mechatronics	1

3.4.2 – Research Publications in the Journals notified on UGC website during the year

Type	Department	Number of Publication	Average Impact Factor (if any)
International	Electrical and Electronics Engineering	55	2.03
International	Electronics and Communication Engineering	50	1.92

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3.4.3 – Books and Chapters in edited Volumes / Books published, and papers in National/International Conference Proceedings per Teacher during the year

Department	Number of Publication
Civil Engineering	28
Information Technology	45

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3.4.4 – Patents published/awarded during the year

Patent Details	Patent status	Patent Number	Date of Award
System and Method for Monitoring Wetness Level on a Runway in Airports	Published	446/CHE/2008	26/10/2018
System and method for speed regulation in vehicles	Filed	201941014854	12/04/2019
Wrist band antenna for medical applications	Filed	201941016138	24/04/2019
A Novel Algorithm for Software Development Effort Estimation	Filed	201941002630	26/01/2019

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3.4.5 – Bibliometrics of the publications during the last academic year based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Title of the Paper	Name of Author	Title of journal	Year of publication	Citation Index	Institutional affiliation as mentioned in the publication	Number of citations excluding self citation
2D analytical modeling and simulation of dual material DG MOSFET for biosensing application	Buvaneshwari B., Balaramurugan N.B.	AEU - International Journal of Electronics and Communications	2019	15	Department of Computer Science and Engineering, K.L.N. College of Engineering, Madurai, Tamil Nadu 630 612, India Department of Electronics and C	15

on Engineering, Thiragarajar College of Engineering, Madurai, Tamil Nadu 625 015, India

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3.4.6 – h-Index of the Institutional Publications during the year. (based on Scopus/ Web of science)

Title of the Paper	Name of Author	Title of journal	Year of publication	h-index	Number of citations excluding self citation	Institutional affiliation as mentioned in the publication
2D analytical modeling and simulation of dual material DG MOSFET for biosensing application	Buvaneshwari B., Balaramurugan N.B.	AEU - International Journal of Electronics and Communications	2019	24	15	Department of Computer Science and Engineering, K.L.N. College of Engineering, Madurai, Tamil Nadu 630 612, India Department of Electronics and Communication Engineering, Thiragarajar College of Engineering, Madurai, Tamil Nadu 625 015, India

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3.4.7 – Faculty participation in Seminars/Conferences and Symposia during the year

Number of Faculty	International	National	State	Local
Attended/Seminars/Workshops	49	105	20	82
Presented papers	65	11	1	2
Resource	3	39	33	22

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3.5 – Consultancy

3.5.1 – Revenue generated from Consultancy during the year

Name of the Consultan(s) department	Name of consultancy project	Consulting/Sponsoring Agency	Revenue generated (amount in rupees)
Civil Engineering	IS Soil Classification	Tamilnadu Slum clearance Board	145612
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3.5.2 – Revenue generated from Corporate Training by the institution during the year

Name of the Consultan(s) department	Title of the programme	Agency seeking / training	Revenue generated (amount in rupees)	Number of trainees
Civil Enginnering	Environmental Impact Assessment Environmental Management plan for water Resources Projects	Irrigation Management Training Institute, Water Resources Department, Public works Department, Government of Tamil Nadu, Trichy	11000	160
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3.6 – Extension Activities

3.6.1 – Number of extension and outreach programmes conducted in collaboration with industry, community and Non- Government Organisations through NSS/NCC/Red cross/Youth Red Cross (YRC) etc., during the year

Title of the activities	Organising unit/agency/ collaborating agency	Number of teachers participated in such activities	Number of students participated in such activities
Blood Donation Camp	NSS , Youth Red Cross Govt. Rajaji Hospital Madurai	2	201
house hold survey in five adopted villages	NSS and UBA	2	100
village survey in five adopted villages	NSS and UBA	2	100
Awareness on disaster management	NSS	1	25
Basic Life Support	NSS and apollo hospital Madurai	1	20
Swachh bharat	Prime Minister Narendra Modi linked to the Swachh bharat Abhiyan	2	178

water conservation	TCE	2	178
Tree plantation	TCE	2	178
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3.6.2 – Awards and recognition received for extension activities from Government and other recognized bodies during the year

Name of the activity	Award/Recognition	Awarding Bodies	Number of students Benefited
National level Camp	Gold and Silver Medals	CATC cum TSC group-1	178
NSS activity	Best NSS volunteer	Anna University	1
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3.6.3 – Students participating in extension activities with Government Organisations, Non-Government Organisations and programmes such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the year

Name of the scheme	Organising unit/Agency/collaborating agency	Name of the activity	Number of teachers participated in such activities	Number of students participated in such activities
Jal Shakthi Abhiyan	TCE	Afforestation, Water conservation	2	178
Mega Swachta pakhwada	TCE	Plogging	2	178
Swachh bharat	TCE	Jal Shakthi Abhiyan	2	178
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3.7 – Collaborations

3.7.1 – Number of Collaborative activities for research, faculty exchange, student exchange during the year

Nature of activity	Participant	Source of financial support	Duration
Research Paper Collaboration	Parthasarathy S.	Thiagarajar College of Engineering	10
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3.7.2 – Linkages with institutions/industries for internship, on-the- job training, project work, sharing of research facilities etc. during the year

Nature of linkage	Title of the linkage	Name of the partnering institution/ industry /research lab with contact details	Duration From	Duration To	Participant
Intern	Industry attachment Program	AMAZON Development Centre India Pvt. Ltd	09/01/2019	10/05/2019	3

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3.7.3 – MoUs signed with institutions of national, international importance, other institutions, industries, corporate houses etc. during the year

Organisation	Date of MoU signed	Purpose/Activities	Number of students/teachers participated under MoUs
Honeywell Technology Solution Lab Pvt Ltd	10/02/2019	Hackathon Competition	50
Monarch Industries Pvt Ltd, Theni	22/02/2019	Joint research and Consultancy	10
IIT Bombay, FOSSEE Partner Activities through FOSSEE Center	19/05/2018	Research promotions, students and faculty training, collaboration in seminars, workshops	120
Mavel Technologies Pvt Ltd	01/07/2018	Internships, Training and Workshops for Students	10
Honeywell Technology Solution Lab Pvt Ltd	24/09/2018	Consultancy project5	5
RedHat Academy Programme	22/12/2018	Specialized Training and Skill Development for students	30
Honeywell Technology Labs Pvt Ltd	27/12/2018	Academic Level interactions, Research Collaborations, Hackathon, Training for Faculty and Students	100
Bentley Systems/ ARK Info Solutions, Chennai	20/12/2018	BIM training to students on AECOSim Software	60
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CRITERION IV – INFRASTRUCTURE AND LEARNING RESOURCES

4.1 – Physical Facilities

4.1.1 – Budget allocation, excluding salary for infrastructure augmentation during the year

Budget allocated for infrastructure augmentation	Budget utilized for infrastructure development
88.15	695.56

4.1.2 – Details of augmentation in infrastructure facilities during the year

Facilities	Existing or Newly Added
Campus Area	Existing

Class rooms	Existing
Laboratories	Existing
Seminar Halls	Existing
Classrooms with LCD facilities	Existing
Seminar halls with ICT facilities	Existing
Video Centre	Existing
Value of the equipment purchased during the year (rs. in lakhs)	Newly Added
Number of important equipments purchased (Greater than 1-0 lakh) during the current year	Newly Added
Classrooms with Wi-Fi OR LAN	Existing
No file uploaded.	

4.2 – Library as a Learning Resource

4.2.1 – Library is automated {Integrated Library Management System (ILMS)}

Name of the ILMS software	Nature of automation (fully or partially)	Version	Year of automation
Libsys	Fully	1	2005
Autolib	Fully	1	2014
Autolib with RFID upgraded	Fully	3 SMS with web OPAC	2018

4.2.2 – Library Services

Library Service Type	Existing		Newly Added		Total	
Text Books	54262	14673812	1203	1085124	55465	15758936
Reference Books	43288	7619548	654	329725	43942	7949273
e-Books	266	1128107	337	848400	603	1976507
Journals	560	1168734	199	433985	759	1602719
e-Journals	6000	8700119	6000	2767476	12000	11467595
Digital Database	3	40400	3	19470	6	59870
CD & Video	1182	613828	89	27192	1271	641020
Library Automation	2	2686745	1	11800	3	2698545
Weeding (hard & soft)	4133	1279916	Nil	Nil	4133	1279916
Others(s pecify)	Nil	Nil	1000	309750	1000	309750

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4.2.3 – E-content developed by teachers such as: e-PG- Pathshala, CEC (under e-PG- Pathshala CEC (Under Graduate) SWAYAM other MOOCs platform NPTEL/NMEICT/any other Government initiatives & institutional (Learning Management System (LMS) etc

Name of the Teacher	Name of the Module	Platform on which module is developed	Date of launching e-content
A M Abirami	Data Structures	https://datastructurestceit.wordpress.com/	16/08/2018
A M Abirami	Software Engineering	https://softwareengineeringtceit.wordpress.com/	20/08/2018
S Thiruchadai Pandeewari	Computer Networks	https://computernetworks431.wordpress.com/	18/01/2019
S Julius Fusic	Electrical Machines	https://live.let.media.kyoto-u.ac.jp/moodle/course/view.php?id25	21/01/2019
P Karthikeyan	Internet of Things	https://www.slideshare.net/DrKarthikeyanPeriasa/internet-of-things-148404510	31/05/2019
S Parthasarathy	Network Simulator	https://www.youtube.com/watch?v=9ViiYri8U	13/07/2018
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4.3 – IT Infrastructure

4.3.1 – Technology Upgradation (overall)

Type	Total Computers	Computer Lab	Internet	Browsing centers	Computer Centers	Office	Departments	Available Bandwidth (MBPS/GBPS)	Others
Existing	1633	420	112	111	117	64	809	200	0
Added	200	52	19	25	32	2	70	0	0
Total	1833	472	131	136	149	66	879	200	0

4.3.2 – Bandwidth available of internet connection in the Institution (Leased line)

200 MBPS/ GBPS

4.3.3 – Facility for e-content

Name of the e-content development facility	Provide the link of the videos and media centre and recording facility
DIT sponsored Video Studio for Content Generation	https://www.tce.edu/video-studio-for-content-generation
https://www.tce.edu/video-studio-for-content-generation	youtube.com/watch?v=W MiBjWfy_Q

4.4 – Maintenance of Campus Infrastructure

4.4.1 – Expenditure incurred on maintenance of physical facilities and academic support facilities, excluding salary component, during the year

Assigned Budget on academic facilities	Expenditure incurred on maintenance of academic facilities	Assigned budget on physical facilities	Expenditure incurred on maintenance of physical facilities
74.5	98.38	201.8	406.21

4.4.2 – Procedures and policies for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc. (maximum 500 words) (information to be available in institutional Website)

Electrical/Electronic Maintenance This section takes care of Installation of new electrical appliances, electrical maintenance of about 1000kVA, power consumption and energy monitoring, generator maintenance, energy conservation, liasoning with TANGEDCO and Electrical Inspectorate and Solar power maintenance. Procurement and installation of Audio, video communication equipment and computer network components, Uninterrupted Power supply and Air conditioner systems Service/ maintenance of equipment for rectification of faults by trained technicians after obtaining permission from registrar/ principal/ chairman depending on quantum of expenditure required Receiving complaints through TCENET Maintenance portal, through class committee reports and letters and tracked for its closure. Estate Maintenance Any building related request like building construction, modification/maintenance is passed to estate officer and is carried out with the budget approval from registrar/ principal/ chairman depending on the quantum of expenditure required. The classrooms, laboratory ambience, gardens, washrooms and student support facilities are maintained on day to day basis by third party contract and by college. Transport Maintenance College supports commutation of college community by plying 4 cars, 8 buses and an Ambulance. Driver duty itinerary and transport scheduling is carried out by Transport officer. Transport fitness certification, maintenance and augmentation of vehicles are done on yearly basis. Library Maintenance Library day to day activities are governed by the Librarian and Assistants. The overall monitoring of the Library is governed by a committee consisting of Principal, Dean, Associate Dean and Department Level Coordinators and Librarian. Library committee scrutinizes the recommendation for the purchase of books and journals based on Goods of Committee norms. Library software will be reviewed by the committee, and upgraded Library follows the Government norms for weed out of worn out books, and stock verification of the books is done yearly. User awareness program on library resources are conducted periodically. Periodic feedback of the users is collected through Google survey. Library is maintained as per 5S quality norms and is monitored by 5S coordinators. Every day morning the return books will be re-shelved by the library assistants. Laboratory Maintenance The Laboratory in charge of respective laboratory is responsible for the Calibration of equipment and is reviewed on yearly basis. The Laboratory day to day electrical supply and electronics equipment is maintained by TCENET maintenance portal or by request letter through proper channel. All Laboratories is maintained as per 5S quality norms and is monitored by Department 5S coordinators. The obsolete equipment are condemned as per Government norms. The equipment in the laboratory are labeled by barcode and college asset register is maintained and audited. Laboratory ambience is done by third party estate maintenance contract and monitored by estate officer and the concerned laboratory technician. Computer System Maintenance The servers and desktop systems are checked once in a week for release of new updates and upgraded accordingly. The firmware up-gradation for network equipment like access points, switches are done on need basis.

CRITERION V – STUDENT SUPPORT AND PROGRESSION

5.1 – Student Support

5.1.1 – Scholarships and Financial Support

	Name/Title of the scheme	Number of students	Amount in Rupees
Financial Support from institution	G 17 ALUMNI SCHOLARSHIP TCE ALUMNIS SCHOLARSHIP RUKMINI SHANMUGAM ENDOWMENT K.K.T.C. MEMORIAL CHARITABLE TRUST	162	2217000
Financial Support from Other Sources			
a) National	GOVT OF TAMILNADU BC/MBC/DNC/PK-SCHOLARSHIP GOVT OF TAMILNADU SC/ST SCHOLARSHIP ADI-DRAVIDAR AND TRIBAL WELFARE LOAN SCHOLARSHIP GOVT OF TAMILNADU SC/ ST C.M.AWARD Jammu and Kashmir Scholarship National Scholarship Renewal Fresh	1520	16903825
b) International	TVS Motors	51	2111800

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5.1.2 – Number of capability enhancement and development schemes such as Soft skill development, Remedial coaching, Language lab, Bridge courses, Yoga, Meditation, Personal Counselling and Mentoring etc.,

Name of the capability enhancement scheme	Date of implementation	Number of students enrolled	Agencies involved
Mentoring	20/08/2018	3930	TCE Faculty
Women Development Cell	03/10/2018	143	Dean(Students), Associate Dean and ICC Members
Personal Counseling	22/07/2018	271	MS Chellamuthu Trust and Research Foundation, Madurai and TCE Faculty Dr.C.Muruganandham, Professor of Mechanical Dept
Yoga and Meditation	21/07/2018	200	K. Saravanana Kumar, TVS Program co-ordinator, TCE TVSM CEP
Bridge courses	06/08/2018	744	TCE Faculty

Language lab	20/08/2018	940	English department faculty
Remedial coaching	04/07/2018	970	TCE Faculty
Soft skill development	27/07/2018	236	TCE Alumni
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5.1.3 – Students benefited by guidance for competitive examinations and career counselling offered by the institution during the year

Year	Name of the scheme	Number of benefited students for competitive examination	Number of benefited students by career counseling activities	Number of students who have passed in the comp. exam	Number of students placed
2018	Orientation program and training classes	795	565	57	Nil

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5.1.4 – Institutional mechanism for transparency, timely redressal of student grievances, Prevention of sexual harassment and ragging cases during the year

Total grievances received	Number of grievances redressed	Avg. number of days for grievance redressal
Nil	Nil	Nil

5.2 – Student Progression

5.2.1 – Details of campus placement during the year

On campus			Off campus		
Name of organizations visited	Number of students participated	Number of students placed	Name of organizations visited	Number of students participated	Number of students placed
62	785	627	5	60	15

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5.2.2 – Student progression to higher education in percentage during the year

Year	Number of students enrolling into higher education	Programme graduated from	Department graduated from	Name of institution joined	Name of programme admitted to
2019	3	BTech	Information Technology	Monash University	MS

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5.2.3 – Students qualifying in state/ national/ international level examinations during the year (eg: NET/SET/SLET/GATE/GMAT/CAT/GRE/TOFEL/Civil Services/State Government Services)

Items	Number of students selected/ qualifying
GATE	29

CAT	3
TOFEL	4
GRE	4
GMAT	2
Any Other	14
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5.2.4 – Sports and cultural activities / competitions organised at the institution level during the year

Activity	Level	Number of Participants
Quest 2K19	Inter school competition	1503
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5.3 – Student Participation and Activities

5.3.1 – Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one)

Year	Name of the award/medal	National/ Internaional	Number of awards for Sports	Number of awards for Cultural	Student ID number	Name of the student
2019	Winner in Handball	National	1	Nil	III Year Arch	S.Akashya
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5.3.2 – Activity of Student Council & representation of students on academic & administrative bodies/committees of the institution (maximum 500 words)

Students' council meetings are conducted regularly. The Principal and Deans attend the student council 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, the Principal informs 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 a stipulated time. Further, students can meet the Principal, Deans, Registrar, Head of the department at a mutually convenient time to represent their queries and seek assistance in academic and administrative issues.

5.4 – Alumni Engagement

5.4.1 – Whether the institution has registered Alumni Association?

Yes

TCE Alumni Association conducts various activities for the benefits of students. Personality Development Camps (PDC) Overview: TCE Alumni Association jointly with Rotary club of Madurai Metro conducted Personality Development camps at CESCO, Kadavoor for the College students. 5 camps are being conducted every year. Nearly 2500 students were benefitted. The students (alumni) who passed out of the college were supporting the camps till now by handling sessions, coordinating the camp activities etc. Objective: The Programme consists of presentations for students by eminent scholars in the field of Management, Health, Motivation, Decision making, Understanding self, Attitude

change, Critical thinking, Peer relationship, Communication skills, Yogic practices etc. The students get benefitted and motivated through these camps both in profession and family. Camp Name, Blossom, Efflorescence, Zenith, Pinnacle Orchid Alumni Endowment Scholarships Overview: • To pay their college fees many students admitted to the B.E./B.Tech courses in the college are from rural and poor background and they are in need of financial support • TCEAA provides financial support to such 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 Alumni Scholarships • TCE Alumni Charitable Trust Scholarship • Rukmani Shanmugam Endowment Scholarship • G17 Alumni Scholarship - 1966, 1967 and 1968 Alumni • Pannaikadu Veerammal Paramasivam Endowment Scholarship - 1962 Civil Alumni • Esaiselvan Memorial Scholarship - 1978 Civil Alumni • Meenakshi Srinivasan Endowment • TSK Memorial Scholarship • Subramanian Scholarship • Shripriya Mahesh Scholarship • P V Shanmugam Scholarship - 1980 Mechanical Alumni • Urmila Mahendra Babu Scholarship - 1964 EEE Alumni • Pitchai Mahalingam Scholarship Scholarships distributed: Alumni Reunions Reunion Schedule: • Silver Jubilee Reunions - conducted during July / December • Golden Jubilee Reunions - conducted during December / July • Other Reunions -10th year, 16th year, 20th year, 40th year and 50th year reunions

5.4.2 – No. of registered Alumni:

12403

5.4.3 – Alumni contribution during the year (in Rupees) :

4116556

5.4.4 – Meetings/activities organized by Alumni Association :

The following meetings have been conducted in the academic year 2018-19 • Reunion Golden Jubilee (1968 batch) on 18-8-2018 • 20th year Reunion(1998 batch) on 20-7-2018. The alumni members conducted workshops in the areas namely Entrepreneurship, Overseas-Job/Higher Studies, Latest Technologies and Women in Engineering • Alumni -Faculty Discussion(by 1998 batch) • Technology Trends and its relevance to Technical education 20-7-2018 • Silver Jubilee(1993 batch) on 21-7-2018 • Ruby Celebration(1978 batch) on 30-7-2018 • Alumni Association Meeting o Annual General Body Meeting 29-7-2018 o Executive Committee Meeting 20-5-2019 • Personality Development Camp o Blossom-18 27-7-2018 to 29-7-2018 o Efflorescence-18 3-8-2018 to 5-8-2018 o Zenith-18 28-9-2018 to 30-9-2018 o Pinnacle-18 5-10-2018 to 7-10-2018 o Orchid-19 15-2-2019 to 17-2-2019

CRITERION VI – GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 – Institutional Vision and Leadership

6.1.1 – Mention two practices of decentralization and participative management during the last year (maximum 500 words)

The Organizational structure consists of Principal, Deans, Registrar, Heads of the Departments (HoD), Controller of Examinations, Associate Deans, College level Coordinators and Department level coordinators under the leadership of Chairman and Correspondent for the effective functioning of the Institute. The administrative tasks are decentralized to the following Deans, with the well defined activities • Dean (Planning and Development): Quality Systems, Alumni Interaction, International and National Collaborations • Dean (Academic Process): Curriculum Design, Content Delivery, Assessment, Automation of Academic Process, Regulations, Academic Calendar • Dean (Research and Development): PhD Admissions, Academic Research, Sponsored Research, Library • Dean (Industry Institute Interaction): Consultancy, Patents, Entrepreneurship,

Placement and Internship, Industry Collaborations • Dean (Students): Mentoring, Counseling, women Development Cell, Professional Societies, Student Clubs, Career Guidance • 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 day-by-day academic and administrative activities are being carried out by the respective Head of the Departments following the Standard Operating Procedure set by the Senior administrators (Principal and Deans) and the Management. The Principal and Deans along with HoDs, based on their own experience in academic and research activities, convert them into tangible actions in respect of teaching learning process, research and development, and industry institute interaction. The action points are executed by College level and department level Coordinators and their team consisting of faculty members from all the departments. Over a period, the sporadic discussions have given way for periodic discussions at Standing Committee level. The departmental action points in respect of teaching learning process, research and development, industry institute interaction are focused towards meeting the expectation of faculty, students, industry, society and alumni. The decentralization process facilitates the grooming of future organizational leaders. The activities pertaining to the institute in respect of teaching, learning, research and development, industry interface and student activities are reviewed by the Governing Council which is the apex body of the institute. The academic activities are initiated by the department faculty in consultation with the present and past students and industries. Subsequently, it is scrutinized by the Board of Studies and then presented in the standing committee for approval in Academic Council and Governing Council. Any grievance in academic activities could be represented to the Appeals and Grievances Committee. Grievances in any of the domains could be represented with Governing Council. The Principal discusses the outcomes of Governing Council meetings with the Deans and HODs to evolve a consensus on the focus areas of teaching learning process and research and development

6.1.2 – Does the institution have a Management Information System (MIS)?

Yes

6.2 – Strategy Development and Deployment

6.2.1 – Quality improvement strategies adopted by the institution for each of the following (with in 100 words each):

Strategy Type	Details
Admission of Students	Outreach programmes are organized for school students to know about various Engineering Disciplines. These potential students are invited to Laboratories of the institute and given demonstrations about different tools and technologies like Internet of Things, Virtual Reality, etc. Summer/Winter vacation programmes on Programming are organized for higher secondary and polytechnic students. An event (Festival) on Open Source tools is also exclusively organized for school/diploma students. These strategies support for improvement in the Students admission process
Industry Interaction / Collaboration	Triveni Expo has been organized for understanding the industry requirements

of small/medium scale industries. At the same time, TCEs capabilities in various domains are also demonstrated to the industry people. Industry supported Hackathons are organized to motivate students in the Product Development. Technical guest lectures and webinars are organized with the support of Industries and Professional Societies in the emerging topics

Human Resource Management

Faculty Appraisal process is implemented and monetary benefit is given as per their performance. Faculty members are given the financial assistance (registration fee, TA and DA) for attending workshops/seminars/conferences in higher learning institutes Faculty members are also motivated to carry out research and consultancy projects, publishing papers in highly reputed journals, patents through monetary benefits. Faculty members are facilitated for filing the Patents.

Library, ICT and Physical Infrastructure / Instrumentation

TCE library increased its subscriptions to eJournals and eBooks. Remote access has been given to all the students, Research Scholars and Faculty for books and journals. Library automation was enhanced with RFID tagging. Recording facility in the classroom has been provided through Impartus platform and classroom teaching recordings are shared with the students. Makerspace for conceiving the ideas, and exploring the product design established where all the students are involved in collaborative and interdisciplinary projects.

Research and Development

Targets are revised for the number of journal and conference publications and included in the Faculty Performance Appraisal format. Workshops and awareness programs were organized to motivate the PG students, research scholars, and Faculty to improve the number of research publications in the referred and highly impact factor journals. New initiatives have been taken to increase the number of Research Supervisors and Full time PhD students. Faculty members are consistently motivated to apply for sponsored research projects to the Government agencies. Academic collaborations with National and International Institutes are initiated

<p>Examination and Evaluation</p>	<p>for Joint research publications</p> <p>Academic Regulations is updated to include credits earned from NPTEL/SWAYAM courses by UG students. A revised assessment pattern is introduced to improve knowledge/concept level understanding, presentation skill and professional skill of postgraduate students. The Controller of Examinations (CoE) office has adopted student centric and transparent practices by automating the examination processes. Starting from course registration to publication of results is carried out digitally, resulting in error free and faster operation. The examination schedule is published in automated software and students can view it using mobile app also. All announcements are made using automated software so as to reach stakeholders instantly.</p>
<p>Teaching and Learning</p>	<p>CDIO Core group is formed with faculty representation from all the Departments. The core group members come up with Course Template and Assessment Methodologies in alignment with CDIO standards. It has been disseminated to all Faculty members for Course Design process. This helps in the introduction of TCE Proficiency Scale for measuring each student's performance in each course in the dimensions like Cognitive, Affective and Psychomotor Domains based on Bloom's Taxonomy. Subsequently, TCE has become a member in Worldwide CDIO Initiative and presented TCE's approach at Dalian, China in March 2019. New interim assessment method is adopted for PG programmes.</p>
<p>Curriculum Development</p>	<p>Conceive, Design, Implement and Operate (CDIO) framework has been adapted in Curriculum Design since the academic year 2018-19 for the effective implementation of Outcome Based Education (OBE). It ensures technical, personal, inter-personal and professional skills required for an Engineering graduate. New courses namely Engineering Exploration, Lateral Thinking, Design Thinking, Project Management, System Thinking, Engineering Design Project, and Capstone Design Project are introduced in the curriculum of B.E./B.Tech Engineering Programmes. These courses</p>

help the students to implement inter-disciplinary projects. New value added courses namely Professional Authoring and Value Education are introduced for PG programmes.

6.2.2 – Implementation of e-governance in areas of operations:

E-governance area	Details
Finance and Accounts	The college finance and accounts are maintained by the software modules Mastersoft and Tally for Payroll Systems
Administration	The administration is carried out with the use of In-House Software Modules developed by the Department of Computer Science and Engineering. The Module TCENet has been developed for maintenance and faculty profile update, Thiagarajar Attendance Monitoring System (TAMS) is used for Staff Attendance Monitoring and TEAM is used for Asset Management
Student Admission and Support	The software module Thiagarajar Admission Automation (TAA) module is used for Student Admissions and maintaining student database. The software module TCENet Generation 3 (TNG3) is used for maintaining student academic records including attendance and Assessment
Examination	The in-house software module Thiagarajar Exam Automation (TEA) is used by the office of the Controller of Examinations to organize all examinations related activities

6.3 – Faculty Empowerment Strategies

6.3.1 – Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year

Year	Name of Teacher	Name of conference/ workshop attended for which financial support provided	Name of the professional body for which membership fee is provided	Amount of support
2018	R.Ponnudurai	GIAN Course on Aerospace materials, Microstructure, fracture and fatigue	IIT Gandhinagar	34567
2018	N.Chitra	4th International Conference on Next Generation Computing Technologies	University of Petroleum and Energy Studies	40535

		(NGCT) 2018		
2019	S SaravanaPerumal	6th International Conference on Transformations in Engineering Education (ICITEE 2019)	IUCEE	24547
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6.3.2 – Number of professional development / administrative training programmes organized by the Colleges for teaching and non teaching staff during the year

Year	Title of the professional development programme organised for teaching staff	Title of the administrative training programme organised for non-teaching staff	From date	To Date	Number of participants (Teaching staff)	Number of participants (non-teaching staff)
2018	Mentoring Skills	Nil	01/11/2018	02/11/2018	64	Nil
2019	A research talk on IMPACTFUL RESEARCH PUBLICATIONS	Nil	18/03/2019	18/03/2019	52	Nil
2019	Nil	Skill Development Program for Supporting Staff	25/02/2019	27/02/2019	Nil	15
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6.3.3 – No. of teachers attending professional development programmes, viz., Orientation Programme, Refresher Course, Short Term Course, Faculty Development Programmes during the year

Title of the professional development programme	Number of teachers who attended	From Date	To date	Duration
AICTE-QIP Sponsored One Week Short Term Course on Research Issues and Challenges in Data Science and Big Data Analytics	5	18/03/2019	24/03/2019	6
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6.3.4 – Faculty and Staff recruitment (no. for permanent recruitment):

Teaching		Non-teaching	
Permanent	Full Time	Permanent	Full Time
236	236	201	201

6.3.5 – Welfare schemes for

Teaching	Non-teaching	Students
<p>•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. • The management provides sabbatical leave for post-doctoral studies and internship at industries by faculty. • Faculty members are rewarded with 3 increments in Basic Pay, on completion of Doctoral degree programme. • Faculty are also motivated for carrying out research and consultancy projects, publishing papers in highly reputed journals, filing patents through monetary benefits. • Prescribed EPF is provided to all faculty members. • Faculty are recognized with the remuneration for coordinating FDPs • Faculty are given the financial assistance (registration fee, TA and DA) for attending workshops/seminars/conferences in higher learning institutes • The promotion/career advancement for faculty members is offered as per the Government norms. • Maternity leave is sanctioned to women faculty members as per Government norms. • Medical/Accidental claims are facilitated to workforce. • Faculty and</p>	<p>•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 all staff members. • All the employees are covered with Health insurance (ESI). • Awareness workshops on safety and health consciousness are organized. • Compensation for working on holidays and beyond working hours is suitably compensated with monetary benefit/leave. • Work environment is ergonomically designed. • Staff quarters are available for non-teaching staff. • Staff members are provided with Festival Advance. • Security personnel are provided with uniform allowance and washing allowance</p>	<p>•The college does not collect any capitation fee from the students thereby society at large is convinced about the ethical practices of the management. • Students are facilitated to avail scholarship from Tamil Nadu State Government Scholarship for BC/MBC/DNC/PK, Tamil Nadu State Government Scholarship for SC/ST, Adi-Dravidar and Tribal Welfare Loan Scholarship, Tamil Nadu State Government SC/ST CM Award, Jammu Kashmir Scholarship and National Scholarship Renewal Fresh, • Economically weaker/needy students supported with G17 Alumni Scholarship, TCE Alumni's Scholarship, Rukmani Shanmugam Endowment, KKTC Memorial Charitable Trust • Students Selected by TVS Motors, Hosur are awarded College fees, Hostel fees and other study related expenses • Students- Scholarships and Internships at India and abroad • Financial support for participating in national/international technical contests and conferences and for carrying out innovative/societal projects, on selection basis. • Medical facilities are provided for all students.</p>

staff have sports contest annually. • Career Advancement and/or Selection process is being carried out for the promotions of faculty as per prescribed norms. • Remuneration for faculty who takes special coaching for slow learners is given through TEQIP III. • The sponsored research works successfully carried out by the faculty members fetch them incentives and recognition, leading to committed workforce. Committed faculty members are sponsored to attend the specialized trainings in their own domain. In order to reinforce the student and organizational focus, new groups among workforce is formed and supported. • Faculty members are also motivated to carry out research and consultancy projects, publishing papers in highly reputed journals, patents through monetary benefits. • Faculty members are facilitated for filing the Patents. • Coordinator honorarium are given to faculty who plans and organizes FDPs

6.4 – Financial Management and Resource Mobilization

6.4.1 – Institution conducts internal and external financial audits regularly (with in 100 words each)

Financial planning is carried out annually by the Principal and Registrar considering the budget proposals submitted by the respective authorities in the College and the income expenditure during the last financial year. Budget allocation is done for every academic 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 under the guidance of Registrar. This process is scrutinized by the management auditors and Government auditors (Local Fund and Account 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 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).

6.4.2 – Funds / Grants received from management, non-government bodies, individuals, philanthropies during the year(not covered in Criterion III)

Name of the non government funding agencies /individuals	Funds/ Grnats received in Rs.	Purpose
Management and TVS company	588.82	Research Activities and For Salary Maintenance purpose
No file uploaded.		

6.4.3 – Total corpus fund generated

6971908

6.5 – Internal Quality Assurance System

6.5.1 – Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	NAAC Accreditation and Assessment Committee	Yes	TCE-IQAC
Administrative	Yes	NAAC Accreditation and Assessment Committee	Yes	TCE-IQAC

6.5.2 – Activities and support from the Parent – Teacher Association (at least three)

(i) Tutors discuss with their parents and wards for career progression (ii) Tutors communicate the academic performance of their wards with their parents and plans for improvement (iii) Department Board of Studies team collects feedback from the parents for the Curriculum Design and Development (iv) Parent Teacher meeting feed backs have facilitated in evolving strategies for personality development, skill development and beyond curriculum learning.

6.5.3 – Development programmes for support staff (at least three)

(i) Trainings in Fire Safety, (ii) 5S training for laboratory/workshop maintenance (iii) Skill Development Training in Networking, Computers, Electrical maintenance

6.5.4 – Post Accreditation initiative(s) (mention at least three)

1. Awareness on the Patent Publishing 2. Book Chapters and publications in recognized International and National Conferences 3. Setting up TCE Management Information System by consolidating the Metrics required by different accreditation and ranking frameworks like NAAC, NBA and NIRF 4. An open house for industries facilitated a tripartite partnership between the institution, the supplier and the industry and the society, the customers. 5. Periodic Monitoring in all Functional domain

6.5.5 – Internal Quality Assurance System Details

a) Submission of Data for AISHE portal	Yes
b)Participation in NIRF	Yes

c)ISO certification	No
d)NBA or any other quality audit	Yes

6.5.6 – Number of Quality Initiatives undertaken during the year

Year	Name of quality initiative by IQAC	Date of conducting IQAC	Duration From	Duration To	Number of participants
2018	Redesign of First Year Orientation programme	03/08/2018	07/08/2018	21/08/2018	750
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CRITERION VII – INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 – Institutional Values and Social Responsibilities

7.1.1 – Gender Equity (Number of gender equity promotion programmes organized by the institution during the year)

Title of the programme	Period from	Period To	Number of Participants	
			Female	Male
Cocoon to Butterfly- The Next Step Stress relieving session for Final year students	24/10/2018	24/10/2018	87	4
Women's Day	08/03/2019	08/03/2019	263	2

7.1.2 – Environmental Consciousness and Sustainability/Alternate Energy initiatives such as:

Percentage of power requirement of the University met by the renewable energy sources
30

7.1.3 – Differently abled (Divyangjan) friendliness

Item facilities	Yes/No	Number of beneficiaries
Rest Rooms	Yes	9
Provision for lift	Yes	9
Ramp/Rails	Yes	9
Physical facilities	Yes	9

7.1.4 – Inclusion and Situatedness

Year	Number of initiatives to address locational advantages and disadvantages	Number of initiatives taken to engage with and contribute to local community	Date	Duration	Name of initiative	Issues addressed	Number of participating students and staff
2019	1	1	24/03/2019	2	Reduce Carbon	Energy Consumption	150

[View File](#)

7.1.5 – Human Values and Professional Ethics

Title	Date of publication	Follow up(max 100 words)
Academic Calendar	02/07/2018	<p>Every academic year, anti-ragging committee is formed and the committee members address all the senior students not to involve in Ragging in any form. In the orientation programme, all the students are informed to the college culture and adhere to the following</p> <ul style="list-style-type: none"> •Wear identity card within the college campus •Wear proper fitting clothes considered decent and acceptable •Students shall wear decent formal dresses •In the interest of public health and safety, the college campus is declared as Non-Smoking area. •Only Vegetarian foods are allowed inside the campus

7.1.6 – Activities conducted for promotion of universal Values and Ethics

Activity	Duration From	Duration To	Number of participants
Quest 2K19: Promoting Indian Culture among the students	09/03/2019	09/03/2019	1514
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7.1.7 – Initiatives taken by the institution to make the campus eco-friendly (at least five)

(1) TCE has initiated following energy conservation measures to ensure cost control: Periodic energy auditing, generation and utilization of bio-gas in hostels, Energy conserving lighting systems.
(2) Solar stills for hot water usage in hostel, 450 KW Solar power plant has been installed in the roof tops of various buildings.
(3) Recycling waste water (grey water) from the canteen and other cooking areas in the campus is used for watering plants. Drip irrigation is practiced for teak plantation in the campus.
(4) Rain water harvesting is practiced in the campus and a storage tank of capacity two lakh litres (50 thousand gallons) is stored annually.
(5) Recycling of plastics is one of the key factors in protecting the environment. The College collects Plastic waste from different parts of the city for laying plastic roads in the campus. Most segments of the roads and central parking area were laid from plastic wastes.

(6) Educating the students about the green atmosphere, plastic waste and garbage culture is handled in NSS and NCC programmes.

7.2 – Best Practices

7.2.1 – Describe at least two institutional best practices

Best Practice 1: Industry Supported Courses Over the years, the gap between the industry and academia exists due to the core education with fundamentals and modern skill requirements demanded by industries. Periodically, we are inviting subject matter experts to collaborate and deliver topics in contemporary areas, where the faculty members are not having required skills on hand in that field domain. This amalgamation of fundamentals and modern skills will enthuse the student engagement. Industry experts are elated to mentor and guide the students by way of sharing the knowledge to others. The Institute has active interactions with industries for curriculum development, student and faculty training, research guidance, internships, product development, projects and resource sharing. The industry supported courses are jointly designed by the faculty coordinator assigned for the purpose and the industry subject matter expert. Provisions have been made for the industry experts to deliver the content during weekends. Generally, one and two credits are offered for the course duration of 14-16 hours and 28-32 hours respectively. These courses connect faculty members and students to the professional world, as the content delivery includes hands-on practices, demonstrations, real time applications and sharing of industrial experiences. Way back in 2011, industry supported course was initiated jointly with Tata Consultancy Services (TCS) in Mechanical Engineering for the course entitled "Value Engineering". This led to lot of interactions with the Company and later it has been extended to other Departments as a best practice. Academic Regulations has been revised for the incorporation of this Best Practice by all Engineering Programmes. Subsequently, many courses have been designed with the industry experts from TCS, IBM, CDAC, Tech Mahindra, Honeywell, CTS, BUDDI.AI, Dell, TISCO, Texas Instruments, GE, NPTI, ACCE, CECRI, Trane Technologies, Rexroth Bosch, Symantec Corporation, VMware, Zebra Technologies and Trane Technologies. The Institute periodically monitors this activity by focusing on three different metrics namely number of industry supported courses offered, number of industries involved and number of students benefitted. In the 2018-19, 21 industry supported courses were offered and 1052 students benefitted. The challenges and lessons learnt through this activity are discussed in the IQAC review meetings and shared with other Departments. The first major benefit is that student Placements in Core companies has been increased. Students who had attended the industry supported courses on Reliability of Mechatronics systems had been identified by the subject matter expert while handling the course. The identified students had provided with training in their company. Consequently, project Internship on the problem relevant to the course had been awarded and later the students were absorbed for their placements after attending the interview as per the company policy. The second major benefit is setting up of industry supported laboratories. Further benefits are as follows:

- Collaborative work in curriculum design, customized training for faculty and students in the areas of emerging technologies Faculty competency is improved.
- Exposure to real time problems on large scale systems while delivering the content by the SMEs during the study
- Industries are willing to provide academic support and sponsorships.
- Practice is accepted and appreciated by the society and higher learning institutions. IIT Jodhpur faculty experts visited us for similar implementations at their institutions For the past 10 years, this practice has been followed seamlessly across seven Engineering Departments till date.

Best Practice 2: Special Interest Group In order to synergize the educational and research efforts in various departments, each department has chosen a theme area, based on the technology trends, the

expertise available and the directions in which TCE wants to grow. The theme areas are subdivided into Special Interest Groups (SIGs) similar to the verticals as in industries and research organizations. Members of SIGs include faculty with PhD, pursuing PhD, research scholars, postgraduate and undergraduate students who work in the respective sub domains of theme area. Each Department of the College has faculty members specializing in a particular technical domain. They are grouped under SIGs to meet the objectives of the programmes offered. Each of the SIG focuses on improving the competencies of the faculty, staff and students in the chosen field. The faculty members attached to SIGs have been empowered to design courses and foster industrial linkage in the respective domains and theme areas of the department. This innovative approach has enabled sustained academic excellence at our institution. Further, it also motivated to redraft the curriculum and syllabi of courses pertaining to SIG. Based on Programme Outcomes (POs) and the reports of feedback by internal and external stakeholders of a particular engineering program. .For example, the theme area of the Department of Electronics and Communication Engineering is Wireless Technologies. The SIGs are RF Microwave Engineering, Signal Processing, Image Processing, Communication Networking, VLSI Systems and Embedded Systems Major Benefit: SIG activities such as learning concepts beyond curriculum helps students in participating hackathons and in reputed conferences, getting associated with sponsored projects of faculty and publishing technical papers in reputed journals impart enhanced learning experience

Upload details of two best practices successfully implemented by the institution as per NAAC format in your institution website, provide the link

<https://www.tce.edu/naac/naac-agar>

7.3 – Institutional Distinctiveness

7.3.1 – Provide the details of the performance of the institution in one area distinctive to its vision, priority and thrust in not more than 500 words

The institutional distinctiveness activity in the academic year 2018-19, is the implementation of Conceive Design, Implement and Operate (CDIO) Curriculum. 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. 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 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.

Provide the weblink of the institution

<https://www.tce.edu/naac/naac-aqar>

8.Future Plans of Actions for Next Academic Year

The future plans for the academic year 2019-20 are as follows

1. Effective Implementation of Conceive Design Implement Operate (CDIO) framework based curriculum through faculty training and interaction with students
2. Introduction of one new programme in the state of art technology in support of industry, every academic year
3. Automation for the computation of attainment of course outcomes and programme outcomes
4. Promote Engineering Education Research in order to improve the teaching and learning process activities in the institution and sharing the best practices with other institutions
5. Modernizing the classrooms in order to promote ICT Tool usage and move towards the introduction of blended teaching and learning methods
6. Increasing the number of publications in reputed Journal and Conferences by motivating the faculty members with the financial support from the management
7. Increasing the number of patents filed/published