



Estd. 2001

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. AY 2019-20

ISO 9001:2015
Certified
Institute

NBA
Accredited
Programs

NAAC Accredited
Institute
with 'A' Grade

AICTE-CII Survey rating
in Platinum category for
Industry linkages

Among Top 250
Colleges in NIRF
Ranking 2019-20 & 2020-21

68th & 78th in All India Rank by Outlook
survey published in June 2019 &
May 2018 respectively

Academic Performance Audit Report (A.Y. 2020-21)

by

External Peer Team
(Constituted as per UGC Guidelines
for Autonomous Colleges)

Lagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY
Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education(AICTE) and Government of Maharashtra
A - Block, Thakur Educational Campus, Shyamnarayan Thakur Marg, Thakur Village, Kandivali (East), Mumbai - 400 101
Tel.: 022-6730 8000 / 8106 / 8107 Telefax: 022-2846 1890 • Email: tcet@thakureducation.org

• Website: www.tcetmumbai.in www.thakureducation.org



**THAKUR COLLEGE OF
ENGINEERING & TECHNOLOGY**

Autonomous College Affiliated to University of Mumbai

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Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. A.Y 2019-20

Amongst Top 200 Colleges in the Country, Ranked 193rd in NIRF India Ranking 2019 in Engineering College category

* ISO 9001:2015 Certified • Programmes Accredited by National Board of Accreditation (NBA), New Delhi

* Institute Accredited by National Assessment and Accreditation Council (NAAC), Bangalore

Date: 09-07-2021

Academic Performance Audit by External Peer Team (27th July 2021)

I. Audit Purpose:

- To Review/Assess the *Academic performance* of the college and send yearly report to UGC for A.Y 2019- 20 & A.Y 2020-21.
- To Review/Assess the initiatives taken by the college after receiving "*Autonomous status*" & suggest potential areas of growth.

II. Constitution of "External Peer Team" as per UGC guidelines

- Dr. Anil Kumar Singh**, Former Professor IITB - Chairperson
- Dr. Harivasudevan**, Principal D. J Sanghvi College of Engineering – Member
- Dr. P.P. Bhave**, Associate Professor & HOD, Civil Engg., Dept., VJTI, Mumbai – Member

III. Audit Scope: Monitoring of Autonomous colleges as per point No. 8, page 5 & 6 of UGC guidelines 2018 for Autonomous colleges

To Review the progress and suggest improvements with regard to the following:

- The Curricular Aspects of the Academic programs offered by the college and its future plans
- The innovative processes adopted by the institution in Teaching, Learning and Evaluation along with the methodology/pedagogy adopted for enriching the Teaching Learning Process from online mode to blended mode of teaching.
- Examination, continuous evaluation and innovative methods of student assessment & the outcomes
- The initiatives taken to sensitize/promote Research, Entrepreneurial climate in the college.
- The student support services and their progression into industry, higher studies of learning and other areas.
- The outreach and extension initiatives with regard to programs offered of national relevance and importance.
- The innovations introduced during this academic year which have created a positive impact on the functioning of the Institution.

IV. Audit Methodology/Process:

The methodology/process is to assess the qualitative measures taken by the college through discussion/interaction/presentation with the top and middle level leadership and interaction with other stakeholders. To understand the strategic planning, design, deployment, measurements, outcomes, and innovations carried out for better offerings to the stakeholder's post autonomy and suggest improvements.

- To interact with Chairman Academic Council, Member secretary - Dean Academic Board.
- To interact/discussions with Deans/Controller of Examinations,
- To interact/meeting with Chairman -Board of Studies of various departments to understand their strategic planning towards future growth of their respective departments
- To share presentations, discussions with activity heads, section in-charges and students.
- To interact with members of Academic council, Board of studies, examination board, members of student council and understand their future plans/strategies towards institute growth.

Sd/-
Dr. B.K MISHRA
Principal


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Academic Performance Audit Program Schedule (Tentative)

Date of Audit: 27th July, 2021

Time	Name	Persons to be Audited	Positioning as per UGC/Institute Norms	Scope of the Audit
10.00am -10.30am		Welcome and Introduction of External Peer Team		
10.30am -10.45am	Dr.B.K.Mishra	Principal	Chairman Academic Council	Vision setting & strategic direction
10.45am – 11.00am	Dr.Deven Shah	Vice-Principal	Member Secretary, Dean Academic Board	Planning, Preparation & Design
11.00am - 11.15am	Dr.Kamal Shah	Dean – R&D	Research, Innovation, Consultancy, Copyright & patents	Planning, Preparation & Design w.r.t respective portfolio
11.15am – 11.30am	Dr.Lochan Jolly	Dean – SSW	Students and staff welfare activities	Planning, Preparation & Design w.r.t respective portfolio
11.30am – 11.45am	Tea Break			
11.45am -12.30pm	Dr.Sanjay Kumar	Controller of Examination	Board of Examination, Member	Planning & effective Deployment
12.30pm -1.00pm	Lunch Break			
1.00pm – 1.30pm	Dr.HarshaliPatil	HOD - Computer	Chairman - Board of Studies	Coordinate research, teaching, extension and other academic activities in the department / college
1.30pm-2.00pm	Dr.PayelSaha	HOD – E&TC		
2.00pm-2.30pm	Dr.Bijith.M	HOD-IT & Activity Head (III)		
2.30pm – 3.00pm	Dr.S.C.Patil	HOD-Electronics		
3.00pm-3.30pm	Dr.SeemaJagtap	HOD-Civil		
3.30pm- 4.00pm	Dr.Siddesh Siddappa	HOD-Mechanical		
4.00pm – 4.30pm	Dr.SunitaPachori	FE In-charge – ES&H		
4.30pm – 5.00pm	Dr.ZahirAalam	Training & Placement Officer		
	Mr.AnilVasoya	HOC-In-Charge	Training for higher studies in India & abroad & online certifications	
	Mr.DevidasKalwale	Librarian	Collating of academic resources, research journals	
	Dr.VinitDongre	Activity Heads	Publication & IP creation	
	Dr.Rekha Sharma		R&D activities	
	Dr.Rajni.B		Co-curricular activities	
	Ms.AradhanaManekar		Student Mentoring & Grievance Redressal and Counseling Coordinator	
	Dr.Megharani.Patil		National Initiative program	
	Dr.Sandhya Save		Educational technology & Consultancy	
	Dr.Vivek Mishra		Advocacy, Outreach and extension program	
Ms.PoorvaWaingankar	Extra-Curricular activities			
5.00pm – 5.30pm	Concluding remarks by External Peer Team			

Re: Academic Performance Audit by "External Peer Team" as per UGC guidelines

Raghavendra Sedamkar <rr.sedamkar@thakureducation.org>

Sun 18-07-2021 20:59

To: Kamal Shah <kamal.shah@thakureducation.org>; lochan jolly <lochan.jolly@thakureducation.org>; Sanjay kumar <sanjay.kumar@thakureducation.org>; sheetal.rathi <sheetal.rathi@thakureducation.org>; Dr. Siddesh Siddappa <siddesh.siddappa@thakureducation.org>; payel.saha <payel.saha@thakureducation.org>; bijith.marakarkandy <bijith.marakarkandy@thakureducation.org>; harshali.patil <harshali.patil@thakureducation.org>; Seema Jagtap <seema.jagtap@thakureducation.org>; Dr. Sanjay Patil <sanjay.patil@thakureducation.org>; Sunita Pachori <sunita.pachori@thakureducation.org>; Sanjeev Ghosh <sanjeev.ghosh@thakureducation.org>; hemant.kasturiwale <hemant.kasturiwale@thakureducation.org>; anand.khandare <anand.khandare@thakureducation.org>; sangeeta.vhatkar <sangeeta.vhatkar@thakureducation.org>; Sanjeev Chaudhari <sanjeev.chaudhari@thakureducation.org>; Rajeshwar Deshmukh <rs.deshmukh@thakureducation.org>; rohitkumar.singh <rohitkumar.singh@thakureducation.org>; yogesh.bhalekar <yogesh.bhalekar@thakureducation.org>; krishnakant.mishra <krishnakant.mishra@thakureducation.org>

Cc: TCET Principal <tcet.principal@thakureducation.org>; TCET Vice-Principal <tcet.vice-principal@thakureducation.org>; sir.deven@gmail.com <sir.deven@gmail.com>; TCET TEACHING <tcet.teaching@thakureducation.org>

1 attachments (660 KB)

TCET Academic audit schedule-09-7-21.pdf;

Dear Sir/Madam,

PFA the Schedule of "Academic Performance Audit" scheduled on 27th July 21. The audit shall be conducted in face-to-face mode. As per the telephonic communication received from Dr. Anil Kumar Singh, Chairman of the committee, all concerned including the faculty members should be aware of the UGC guidelines for Autonomous Colleges.

This is for your information and necessary action at your end. Please sensitize all faculty members about the same.

Thanks & Regards,

Dr. R R Sedamkar, Director - IQAC

Professor & HoD (Ph.D Programs)

Board Tel. Nos: 91-22- 6730 8000,106,107

Direct Nos.: 91-22-6800 8115,Cell: 9920640772

Email: rrsedamkar27@gmail.com

TCET

From: Raghavendra Sedamkar

Sent: Tuesday, June 22, 2021 11:15 AM

To: Kamal Shah <kamal.shah@thakureducation.org>; lochan jolly <lochan.jolly@thakureducation.org>; Sanjay kumar <sanjay.kumar@thakureducation.org>; sheetal.rathi <sheetal.rathi@thakureducation.org>; Dr. Siddesh Siddappa <siddesh.siddappa@thakureducation.org>; payel.saha <payel.saha@thakureducation.org>; bijith.marakarkandy <bijith.marakarkandy@thakureducation.org>; harshali.patil <harshali.patil@thakureducation.org>; Seema Jagtap <seema.jagtap@thakureducation.org>; Dr. Sanjay Patil <sanjay.patil@thakureducation.org>; Sunita Pachori <sunita.pachori@thakureducation.org>; Sanjeev Ghosh <sanjeev.ghosh@thakureducation.org>; hemant.kasturiwale <hemant.kasturiwale@thakureducation.org>; anand.khandare <anand.khandare@thakureducation.org>; sangeeta.vhatkar <sangeeta.vhatkar@thakureducation.org>; Sanjeev Chaudhari <sanjeev.chaudhari@thakureducation.org>; Rajeshwar Deshmukh <rs.deshmukh@thakureducation.org>; rohitkumar.singh <rohitkumar.singh@thakureducation.org>; yogesh.bhalekar <yogesh.bhalekar@thakureducation.org>; krishnakant.mishra <krishnakant.mishra@thakureducation.org>; zahir.aalam <zahir.aalam@thakureducation.org>; anilk.vasoya <anilk.vasoya@thakureducation.org>; Vijaykumar Yele <vijaykumar.yele@thakureducation.org>

Cc: TCET Principal <tcet.principal@thakureducation.org>; TCET Vice-Principal <tcet.vice-principal@thakureducation.org>; sir.deven@gmail.com <sir.deven@gmail.com>

Subject: Academic Performance Audit by "External Peer Team" as per UGC guidelines

Dear Collogues,

As directed by the Principal, the IQAC-NAAC of TCET shall initiate the process to carry on with the required process to complete the Academic Audit as per UGC guidelines. In this connection, I would like to draw your attention to the point No. 8, page 5 & 6 of the document attached, "Monitoring of Autonomous Colleges" as specified in the UGC guidelines.

In view of the above a "**External Peer Team**" has been formed by IQAC of TCET to review/assess the performance of the college and send yearly report to UGC . The following is the composition of the committee :

Prof. Anil Kumar Singh, Former Professor IITB - Chairperson
Dr. HariVasudevan, Principal D. J Sanghvi College of Engineering, Mumbai - Member
Dr. P.P Bhave, Associate Professor & HoD, Civil Engg. Dept., VJTI, Mumbai - Member

The committee is likely to visit in 2nd or 3rd week of July to carry out an "**Academic Audit**" of all the programs offered under Autonomy scheme for the AY 2019-20 and AY 2020-21. The committee has accepted to carry out the audit in face-to-face mode if the government regulations permit.

A consolidated report based on the inputs received from all the departments and sections will be presented to the **Team** and the **Team** is likely to interact one2one with all concerned to understand the **planning, design, deployment, measurements, outcomes, and innovations carried out for better offerings to the stakeholder's** post autonomy and suggest improvements if any.

All are requested to take note of the same and do the preparations accordingly as per the direction of the with Principal's office. You may feel free to talk to me personally in my office on first floor or virtually through the link for any clarifications/suggestions :

TCET-WFH Meetings/Discussions/Guidance (Prof. R R SEDAMKAR)

June 16 – October 30, 2021

Google Meet joining info

Video call link: <https://meet.google.com/bmw-nnxa-bwf>

Or dial: (US) +1 929-238-0675 PIN: 287 954 986#

Thanks & Regards,

Prof. (Dr.) R R Sedamkar, Director - IQAC
Professor & HoD (Ph.D Programs)
Board Tel. Nos: 91-22- 6730 8000,106,107
Direct Nos.: 91-22-6800 8115,Cell: 9920640772
Email: rrsedamkar27@gmail.com, rr.sedamkar@tcetmumbai.in

TCET

Proforma for Progress Report of College (Autonomous)

Progress report for the academic year: 2020-21

Thakur College of Engineering & Technology (TCET) since its inception has been instrumental in offering quality technical education to aspiring students through System-Driven-Student-Centric approach. In the last decade, the TCET has put its best efforts to focus on broad based education leading to holistic development of students as per international graduate attributes. TCET aspires to strengthen its programme offerings to make its graduates "Globally Competent, Locally Relevant and Skill Oriented."

The Choice-Based-Credit-Grading System for Holistic and Multidisciplinary Education (CBCGS- HME 2020) is based on AICTE model curriculum and UGC (Minimum standards of instruction for grant of First Degree through Formal Education) Regulations, 2003. Autonomy Scheme includes Scholastic, Co-scholastic and Non-scholastic Credits, which are Compulsory for every student. Additional Credits are assigned for the Student Achievers under Specialization (optional credits in Emerging Areas) and Achievers' credits (National/International level).

The curriculum also focuses on promoting Holistic Student Development (HSD), which includes courses on Professional Skills with the focus on Basic Technology Skills and Industry/ Research/ Entrepreneurship Skills. The Examination scheme is revised keeping in view the kind of pressure a student undergoes during continuous evaluation. The scheme includes Formative and Summative Evaluation methods, which would help in fostering development and improvement of students during the course. This would also enable to assess whether the results have been able to meet the set targets. This system is deployed systematically, which drastically reduces the burden on the students. Overall, the curriculum scheme is to help students to grow academically, professionally and holistically to become Globally Competent Professionals with Values.

Process of getting reports validated from departments/ section in-charges

The institute follows ISO 9001:2015 norms and guidelines. The reports are initially prepared and proposed by the respective Process In-Charges and then checked by the respective Head of the Department (HoDs)/ Section In-Charge. Reports received from different departments/ sections are reviewed by the Vice-Principal, who then recommends the reports to the Principal for consideration and final approval. Such validated and approved reports are then shared with the IQAC members, along with the IQAC Coordinator and Director. The integrated reports are then put up in the quarterly IQAC meetings, to discuss on the action taken points of the last quarter meeting, and further suggestions are made for the actionable points for the next quarter.

For the last quarter, the IQAC meeting was held in July, 2021. The data gathering was carried out using a reference template prepared by the Department of Computer Engineering, and the same practice was followed by other Departments. The reports comprised of action taken report of the last quarter (*i.e.*, April – June 2021) and the actionable points for the next quarter (*i.e.*, July – September 2021) as per all 7-NAAC criteria. The reports shared by each department also comprised of internal benchmarking on parameters including the Results, Placements, Feedback, Attendance and Publications.

1. Academic and research activities undertaken

1.1. Academic Activities

Curriculum Design and Development:

The engineering curriculum offered to the students, since inception of the institute under affiliated system of the University of Mumbai (UoM), was as per the Semester Pattern of UoM's UG programmes. This curriculum included basic and foundation courses, core engineering courses, design and development, engineering and technological applications and other supporting courses along with projects/ thesis/ dissertation. However, after getting the autonomous status in July 2019, the curriculum has been redesigned by the institute to bring learning simplicity, flexibility, learning diversity, and Holistic Students Development (HSD). This change widened the scope of providing beyond-curriculum components *viz.*, ABL, PBL, TBL, bridge courses, design-based experiments, mini-projects, case studies, etc., along with the perspective of national and international excellence and relevance. The objective has been to develop course specific technical knowledge with strong analytical skills, critical thinking, and innovative mindset among students. The curriculum designed in AY-2019-20 was with the theme to include core, multidisciplinary, industry linked, research-based learning and value-based HSD under autonomous system. All the above curriculum components *viz.* ABL, PBL, TBL, RBL, bridge courses, design-based experiments, mini-projects, case studies, etc. were added as a part of CBCG system with Holistic and Multidisciplinary Education with the offering of major and minor courses, additional credits and the recognition for national and international achievements through credits and citations. The PG syllabus is also redesigned and broadly follows the AICTE model curriculum with the scope for industry projects component. For Ph.D. programme, the UGC guidelines were followed.

a) Syllabus revision carried out during the academic year

Name of Programme	Programme Code	Date of Revision
F.E. All UG Programmes	Choice Based Credit Grading Scheme with Holistic and Multidisciplinary Education (CBCGS -HME 2020)	01-07-2020
S.E. (Computer Engineering)	Choice Based Credit Grading Scheme with Holistic Student Development (CBCGS - H 2019)	07-09-2020
S.E. (Information Technology)		
S.E. (Electronics and Telecommunication Engineering)		
S.E. (Electronics Engineering)		
S.E. (Mechanical Engineering)		
S.E. (Civil Engineering)		
T.E. (Computer Engineering)		
T.E. (Information Technology)		
T.E. (Electronics and Telecommunication Engineering)		
T.E. (Electronics Engineering)		
T.E. (Mechanical Engineering)		
T.E. (Civil Engineering)		
B.E. (Computer Engineering)		
B.E. (Information Technology)		
B.E. (Electronics and Telecommunication Engineering)		
B.E. (Electronics Engineering)		
B.E. (Mechanical Engineering)		
B.E. (Civil Engineering)		
B.Tech. (Artificial Intelligence and Data Science)	Choice Based Credit Grading Scheme with Holistic and Multidisciplinary Education (CBCGS -HME 2020)	07-09-2020
B.Tech. (Artificial Intelligence and Machine Learning)		
B.Tech. (Internet of Things)		

Programmes offered with specialisation:

Name of the programme	Specialisation offered
B.E. (Computer Engineering)	Artificial Intelligence
	Data Science
B.E. (Information Technology)	Block Chain
	Infrastructure Security
B.E. (Electronics and Telecommunication Engineering)	Wireless Communication
	Internet of Things (IoT)
B.E. (Electronics Engineering)	Very Large Scale Integrated Circuits (VLSI)
	Industrial Automation (IA)
B.E. (Mechanical Engineering)	Industry 4.0 Practices
	Product Design
B.E. (Civil Engineering)	Smart Infrastructure
	Structural Engineering
B.Tech. (Artificial Intelligence and Data Science)	AI&DS is the B.Tech. specialisation course.
B.Tech. (Artificial Intelligence and Machine Learning)	AI&ML is the B.Tech. specialisation course.
B.Tech. (Internet of Things)	IoT is the B.Tech. specialisation course.

b) Programmes/ courses focussed on employability/ entrepreneurship/ skill development during the academic year

Programme	Name of the Course	Course Code	Activities/Content with a direct bearing on Employability/ Entrepreneurship/ Skill development
B.E. (Computer Engineering)	Employability Skill Development – III	ESD-CS301	Advanced Java
	Employability Skill Development – IV	ESD-CS401	Expert Python Programming (EPP)/ Python for IoT (PI)
	Employability Skill Development – V	ESD-CS501	Web Development Skills
	Employability Skill Development - VI	ESD-CS601	Futuristic Web Development (FWD)
	Professional Skills- III	HSD -CSP5301	Object oriented Programming using Java
	Professional Skills- IV	HSD-CSP5401	Introduction to Python
	Professional Skill V	HSD -CSP5501	Web Development
	Professional Skill VI	HSD -CSP5601	Android App Development
	Professional Skill VII	HSDCSP5701	Software Testing
	Professional Skill VIII	HSDCSP5801	Cloud Computing
B.E. (Electronics and Telecommunication Engineering)	Professional Skills III	HSD-ETCP5301	Java
	Professional Skills IV	HSD-ETCP5 401	Python
	Professional Skills V	HSD-ETCP5501	Web Technology
	Professional Skills VI	HSD-ETCP5601	R Programming
	Employability Skill Development-I	ESD-ETC301	Advanced Java
	Employability Skill Development-II	ESD-ETC401	Advanced Python, Python with IoT
	Employability Skill Development-III	ESD-ETC501	Web Development Skills
	Employability Skill Development-IV	ESD-ETC601	Futuristic Web Development
B.E. (Information Technology)	Employability Skill Development-I	ESD-IT 301	Advanced Java
	Professional Skills III	HSD-ITPS301	Linux
	Employability Skill Development - II	ESD-IT 401	Expert Python Programming, Python for IoT
	Professional Skills IV	HSD -ITPS401	Data Pre-processing for Machine Learning
	Employability Skill Development - III	ESD-IT 501	Web Development Skills
	Professional Skills V	HSD -ITPS 501	ASP.NET
	Employability Skill Development - IV	ESD-IT 601	Futuristic Web Development
	Professional Skills VI	HSD -ITPS 601	Cloud Technology: AWS
B.E. (Electronics Engineering)	Employability Skill Development – I	ESD-ELE301	Advanced JAVA
	Employability Skill Development - II	ESD-ELE401	Advanced Python
	Employability Skill Development - III	ESD-ELE501	Web development skills
	Employability Skill Development - IV	ESD-ELE601	MongoDB
B.E. (Mechanical Engineering)	Internship / Seminar / Workshop	SI301	Internship / Seminar / Workshop
	Professional Skills III (Computer Aided Machine Drawing)	HSD MEPS 401	Training given on the Software related to the mechanical Engineering
	Professional Skills IV	HSD MEPS 401	SciLab Software
	Summer Internship	SI-ME601	Internship

Programme	Name of the Course	Course Code	Activities/Content with a direct bearing on Employability/ Entrepreneurship/ Skill development
	Employability Skill Development - IV	ESD-ME601	Training on the Python Software
	Professional Skill VI	HSD-MEPS601	Training on FEA and ANSYS software
B.E. (Civil Engineering)	Professional Skills- III	HSD-CEPS301	Auto CAD
	Professional Skills- IV	HSD-CEPS401	Google Sketchup
	Professional Skills- V	HSD-CEPS501	MIDASGEN
	Professional Skills - VI	HSD-CEPS601	Bar Bending Schedule
	Employability Skill Development - I	ESD-CE301	Introduction to Python, Decision Making and Functions, Object Oriented Programming in Python, Exception Handling in Python, Data Structure in Python
	Employability Skill Development – II	ESD-CE401	Introduction to Python OOP's Concepts, Packages & Atomisator, Web Services & Testing, Application Integration, Managing Code & Life Cycle
	Employability Skill Development – III	ESD-CE501	Introduction to IoT using Python, Python and IoT Connectivity, Networking with RESTful APIs, Web Sockets Using Flask, Connecting Your Raspberry Pi to the Physical World-Part I, Connecting Your Raspberry Pi to the Physical World-Part II
	Employability Skill Development – IV	ESD-CE601	Introduction to JavaScript, Control Structures: JSON, Node.js, Angular.js, ReactJS, Introduction to Progressive Web Apps, Service Workers, Web App Manifest, Web Applications Testing, Web security

1.1.2 Academic Flexibility

The proposed scheme/ syllabus is aligned with the model curriculum where courses on Basic Sciences, Engineering Sciences and Humanities & Social Sciences, are also offered by emphasizing on the fundamental role of Sciences in research and development in S&T. In addition to this, there was inclusion of specialization courses, employability skills development courses, and basic list of practical, including beyond curriculum components viz. design-based experiments, mini-project, and technical paper writing. The students were allowed to opt for elective subjects at inter-department and institute level using department level optional courses (DLOC) and institute level optional courses (ILOC). The students were provided the choice for opting specialization courses, for which credits are allocated in the scheme; the courses can be completed using Swayam-NPTEL, Coursera and FOSS-IIT-B certification. Academic flexibility is with regard to online delivery of lectures. If a student enrolls for NPTEL 12-week course mentioned in the specialization but has not completed final examination conducted by the NPTEL due to various reasons, then the students have to appear for in-house evaluation process, provided the student has completed mandatory assessment of NPTEL course, i.e. at least 8 assignments out of 12 assignments (for 12-week course). The respective faculty mentor is required to check the progress of assignment, marks of individual student, and have to verify/validate whether the student has completed the pre-requisite assignment. On fulfilling these requirements, the students are allowed for in-house evaluation process. The courses offered under specialization through NPTEL are of 4 or 8 weeks, wherein students are required to attend the in-house training by the mentor faculty of the respective course for remaining weeks and earn 3 credits. If the student clears the examination of 4/8-week NPTEL examination, then the proportional credit transfer is done as per UGC policy and for remaining credits of the respective subject/ course, students are required to submit assignments given by the mentor and appear for in-house evaluation. In case of credit transfer of 3 credits in any specific course, student has to attempt internal examination, which is to be conducted by the faculty in the specified structure which is adopted by the MOOCs platform and is required to submit MOOC Certificate to the concerned mentor faculty.

a) New programmes/courses introduced during the Academic year

Name of Programme	Programme Code	Date of Introduction
B.Tech. (Artificial Intelligence and Data Science)	Choice Based Credit Grading Scheme with Holistic and Multidisciplinary Education (CBCGS -HME 2020)	01-07-2020
B.Tech. (Artificial Intelligence and Machine Learning)		
B.Tech. (Internet of Things)		

b) Programmes in which Choice Based Credit System (CBCS)/Elective Course System implemented at the College level during the Academic year

Name of Programme	Level	Date of Implementation
B.E. (Electronics and Telecommunication Engineering)	UG	22-07-2019
B.E. (Computer Engineering)	UG	
B.E. (Information Technology)	UG	
B.E. (Electronics Engineering)	UG	
B.E. (Mechanical Engineering)	UG	
B.E. (Civil Engineering)	UG	
M.E. (Electronics and Telecommunication Engineering)	PG	05-08-2019
M.E. (Computer Engineering)	PG	
M.E. (Information Technology)	PG	
B.Tech. (Computer Engineering - Artificial Intelligence and Data Science)	UG	07-09-2020
B.Tech. (Information Technology - Artificial Intelligence and Machine Learning)	UG	
B.Tech. (Electronics Engineering - Internet of Things)	UG	

1.1.3 Curriculum Enrichment

a) Value-added courses imparting transferable and life skills offered during the academic year.

TCET has been providing quality technical education since its inception. Towards this, among several measures, it has also undertaken curriculum enrichment from time-to-time aimed at providing to students ample opportunity for their career and professional growth. In the curriculum, several beyond-learning components are included- viz., ABL, PBL, professional skills, RBL, etc. In addition, TCET has established a mechanism to guide and support students for making right career choice and decision. Students are provided with platforms for getting support of online certification through NPTEL, Coursera and other MOOC programmes. Students are also encouraged for higher studies and qualifications such as pursuing Master level programme in India and abroad, graded online courses and professional certification courses, various competitive examinations, etc. These measures, guidance and support have resulted in continual career and professional growth of the students.

Swayam-NPTEL:

Course Run	Enrolment	Present	Gold	Elite	Silver	Successful	Participation	Topper
Jul-Dec 2021	80	Enrolment Started						
Jan-Jun 2021	768	In process						
Jan-Dec 2020	3242	103	7	27	29	21	19	10
Jul-Dec 2019	2525	256	3	83	76	43	51	13
Jan-Jun 2019	1274	71	3	21	23	21	3	8
Jul-Dec 2018	1539	101	5	55	0	34	7	6
Jan-Jun 2018	1656	130	3	70	0	52	5	9
Jul-Dec 2017	2978	152	7	76	0	50	19	12
Jan-Jun 2017	2376	161	1	71	0	69	20	11

Other Courses:

Value-Added Courses	Duration	Number of Students Enrolled	Certification Completed
COURSERA	June 2020 to May 2021	3023	9371
FOSS-IITB	June 2020 to May 2021	924	918

One-to-One Counselling by HOC

HOC Cell organized a counselling session for all the students of final year, who gave consent for higher studies. All such final-year students participated in the activity, which was conducted with the objective of creating awareness amongst the students about higher education and also provide them guidance with regard to higher study programmes. The following main points were discussed during this counselling session:

- 1) Student profile building and guidance
- 2) Selection of higher study programme
- 3) Country selection for higher studies
- 4) Scholarship opportunities in higher studies
- 5) Competitive examination selection and scheduling
- 6) Scope after higher studies in India and abroad
- 7) Higher study process and guidance during current pandemic situation

Participation Analysis and Outcomes for 2020-21 Batch:

- 1) Event is conducted in online mode of communication on Zoom platform.
- 2) 188 students from different branches participated in the event.
- 3) Students' doubts regarding selection of higher study course, country, examinations, procedure, schedule, profile building, etc., were resolved.
- 4) Students learnt about higher studies program selection, and the processes for making application, education loan, Visa, scholarship opportunities, etc.

Sr. No.	Branch	Number of Students
1	Computer Engineering	26
2	Information Technology	15
3	Mechanical Engineering	50
4	Civil Engineering	63
5	Electronics and Telecommunication Engineering	29
6	Electronics Engineering	5
Total		188

b) Internships Undertaken

Internships are mandated to students to improve their technical skills, for all round development and to get the right career with the right type of job in all levels of organizations. The internship activities enhance knowledge, skill, attitude, and the right kind of aptitude to meet the manpower requirements of the industry. Such internships are structured and short-term, and involve supervised placements often focused around particular tasks or projects with defined timescales. The objectives to do internship include: test of theoretical knowledge in the real world, gain practical knowledge, hands-on experience, strengthen networking with industry personnel and understand industry's requirement and find role-models. The Training & Placement Cell of the institute is a facilitator and counsellor for training and placement related activities of internship both at the in-house and out-house. There has been a consistent growth in the students undergoing internships in their areas of interest during each academic year leading to improvement in their employability skills.

Academic Year	Number of Participants
2020-21	2931
2019-20	2106
2018-19	1022
2017-18	1139
2016-17	281
2015-16	185
Total	7714

Details of Internships undertaken during the academic year:

Sr. No.	Name of the Company	No. of Students
1	Engineers Denn	2
2	ASME-TCET & SAE India	45
3	Sahu Technologies	50
4	Nazareth Foundation	44
5	KP Webbate	12
6	Sahakar Infracon Projects Pvt Ltd	49
7	Sahu Technologies	44
8	Oswal Industries	4
9	Libratherm	4
10	TCET NIP E-samyak	6
11	Coursera	28
12	Tare Zameen Foundation	2
13	All Agri Online Pvt Ltd	1
14	Bhaktivedanta Hospital & Research Institute	21
15	Blitz Jobs	10
16	Dutta Aegis	4
17	iSchool Connect	8

Sr. No.	Name of the Company	No. of Students
18	Peacock Solar	4
19	The Sparks Foundation	49
20	M/s Edgate Technologies	1
21	Gustovalley Technovations LLP	19
22	Prof-Cess	2
23	ExamRobot	1
24	Brdgespan Consultants	1
25	Career kites	1
26	Cometa Intellect LLP	8
27	Muskurahat Foundation	4
28	Nuclei Technologies	1
29	NXT Gen Vidya LLP	8
30	Regex Software Services	1
31	Scholiverse Educare Pvt. Ltd.	1
32	Youth Empowerment Foundation	3
33	Anyboli Labs Private Limited	1
34	Nutronics India	1
35	INTERNSHALA	1
36	SkillSify	2
37	NEO Educational Foundation	1
38	Ace Overseas	1
39	Common Dove	1
40	Internshala Online Training Program	7
41	Maxgen Technologies Private limited.	2
42	Play and Shine	1
43	Infosys	1
44	Ecole des ponts paristech	2
45	Economic Census	1
46	Aashman foundation	1
47	Ace Overseas	1
48	AffableTechSolutions LLP	1
49	Alpha tech Academy	1
50	Ascenwork Technologies	1
51	Ask In City	1
52	Av enterprises pvt ltd	1
53	B.E.S.T	1
54	Brackets Infinity Private Limited	1
55	Brand Factory	1
56	Brihanmumbai municipal corporation	1
57	Chaitanya Developers	2
58	Chakliart	1
59	Codellion Solutions	2
60	Crio.Do	1
61	Data Science Wizards	1
62	Diyaan	1
63	EdVerb Learning Private Limited	1
64	Express Event Station	1
65	Go Gaga Matchmaking Pvt. Ltd.	1
66	Hackberry	1
67	HACK-X Security	1
68	Hemant Hi-Tech Pvt. Ltd.	1
69	High Volt Electrical ltd	4
70	IFFCO	1
71	India Road Safety Campaign	1
72	InTech Olympiad	1
73	International MUN	3
74	J.D Enterprises	4
75	Job Vacancy Result	1
76	Kaizen Globe	1

Sr. No.	Name of the Company	No. of Students
77	KansasTek	1
78	LaughGuru	1
79	LEONINE ENGINEERS PVT. LTD	1
80	Locobuzz	1
81	Mahindra & Mahindra Limited	3
82	Man infraconstruction limited	1
83	Mira Bhayandar Municipal Corporation	6
84	Mohan Majoor Shakari Sanstha Maryadit	1
85	MyCaptain	3
86	National Internship Program (NIP)	2
87	Path Finder	2
88	Path Found IT	1
89	Prime management and consultant	1
90	Projecto Interior Design	1
91	Pugmarks Eco tours Private limited	1
92	Samyak Solutions	1
93	Sanghvi Reality	1
94	Simcon designers & consultants Pvt Ltd	1
95	Springfield Olympiads	1
96	The Climber - MyCaptain	1
97	The entrepreneurship network	1
98	The Sparks Foundation	41
99	Track Rf Link Pvt. Ltd	1
100	Transfarm Technologies Pvt Ltd.	1
101	Uinsports	3
102	URJJA DIGITAL	1
103	UXGorilla	1
104	Viraj Profile Ltd	1
105	Vishal trading co.nx	3
106	WebGrowHub	1
107	Western Railways	3
108	Widhya	1
109	Sachi Enterprises	4
110	Common Dove	2
111	Riddhi Heatron	1
112	ZKTeco	1
113	Umbeo Technologies	1
114	Sparsh innovators private limited	1
115	Yuva Pvt. Ltd.	1
116	Social Synergy Foundation	1
117	Xoance software and service pvt ltd.	1
118	Just Offers India Mart Pvt Ltd	4
119	ESSPEE Sales and services	1
120	Techciti Pvt Ltd	1
121	Smart knowers duration	1
122	Anlage Infotech	1
123	Expertrons	1
124	VPS techhub Pvt ltd(Global interz)	2
125	Suven Consultants & Technology Pvt. Ltd.	5
126	Mahendra K Jain & Associates	1
127	Kala paper	1
128	Sangaya Pvt Limited	1
129	Voltas	1
130	Cabfair	1
131	Techknocks Solutions	1
132	Prolink computer PVT LTD..	2
133	Prabhu enterprises	1
134	Budgetary Interiors	1
135	BITCON INDIA INFRASTRUCTURE AND DEVELOPERS PVT LTD	1

Sr. No.	Name of the Company	No. of Students
136	S.K CORPORATION	1
137	Siddhi Services	1
138	Infowiz a software solutions	1
139	Kumar constructions	1
140	UGOOCOMMUTE LLP	1
141	Teleformance	1
142	Sharekhan	1
143	Google digital garage	2
144	Anish electricals and engineering	1
145	Petxtras	2
146	Google cloud	1
147	Vhatkar & Associates	1
148	Gomboc edu tech pvt. ltd.	1
149	Verzeo Campus Ambassador	1
150	Aashman Foundation	1
151	Aashman Foundation	1
152	HALKO INFRAPROJECTS	2
153	INTEGRATED SPACES LIMITED	2
154	Manash Construction Company	1
155	Mann Infraconstruction Limited	1
156	JD Enterprises	1
157	MITACS GRI INTERN'21,,at York University Toronto	1.
158	Tripathi Group Washim	1
159	Aam Aadmi Party	1
160	Buildcon Developers	1
161	K.N.Patel & Associates	1
162	M/S KONARK STRUCTUTAL ENGINEER PVT LTD	1
163	Mahadev construction	1
164	Customized Gift Adda	1
165	Rotorcare Solutions Pvt. Ltd.	1
166	Techficient	1
167	Rotortech	1
168	BRILLIANT ENGINEERING WORKS	1
169	Aerotics Technologies	1
170	FUTURZ Staffing Solutions PVT. LTD.	1
171	Skill Nation-Microsoft Trainer	1
172	Twist and Tours.	1
173	Mahadev Construction	1
174	Rotorcare solutions Pvt Ltd	1
175	HN Bending Works	1
176	NANTECH	1
177	Mahadev construction	1
178	Chaitanya Developers	1
179	Static.Int Educare	1
180	Skylark infrastructures	1
181	TCR Innovation	1
182	Abhipra Capital Limited	3
183	ABS ENTERPRISES	1
184	Aces Digitale	1
185	AG INFRASTRUCTURE	4
186	Ashok Plastic	1
187	Bekal gupta architects	1
188	CAMRIS CORPORATION	2
189	DHRUV INTERIORS	1
190	Divya developers	2
191	Drshti Strategic Research Service Private Limited	1
192	Edvicer	2
193	Hare Krishna enterprise	1
194	H SQUARE INFRA	1

Sr. No.	Name of the Company	No. of Students
195	I2e consulting Pvt Ltd	1
196	Junkminds	1
197	Jaiswal auto sales	1
198	K. N. Patel associates	1
199	Kadamba Kanan Private Limited	1
200	K.N. Rai Engineers & Contractors	1
201	Krupasindu Enterprises	1
202	K.b Industries	1
203	Ligheo-Advanced Lighting	1
204	MM CONSTRUCTION CO	1
205	Mansi enterprises	1
206	M.M. GHAG	1
207	NMRM Infotech Pvt Ltd	1
208	NPTEL	1
209	Netzwerk academy	1
210	Phonepe Private Limited	1
211	Pathanwadi young bridge foundation	1
212	Prakash Industries	1
213	Pantech Solutions	1
214	PR Buddy	1
215	Rakesh enterprises - Ink point	1
216	Ruloans Distribution Services Pvt Ltd	1
217	Raj spring works	1
218	RETROFIT INDIA	3
219	Static.Int Educare	2
220	Shivshakti Enterprises	3
221	Simcon Designers & Consultants Private Limited	2
222	Star Tech	1
223	Sai crystal Group	1
224	Siddhi vinayak	1
225	SANSKAR INFRA	5
226	Trushna Exim	1
227	Young Butterfly (VIVEFX CONSULTING LLP)	2
228	Urja Setu institute of technology	1
229	YOGI DECOR	1
230	YUSHO CORP & GLOBAL	2
231	VIGNESH INC	1
232	Digi Streaks	1
233	Dayal Zippers LLP	1
234	Viral Fission	1
235	Halko infraprojects	2
236	Commondove	1
237	Tummy Full	1
238	RSWEBTECH	1
239	NetCube Solution	1
240	Byju's	1
241	Alphaa AI	1
242	Star Health insurance	1
243	Flow Tech Forging & Engg. Co.	1
244	Ankur entershup	1
245	Yashraj Corp	1
246	Ashish Infratech System	1
247	Autodesk	1
248	Across the Global	1
249	Squad	1
250	Stactics.in	1
251	Anish Electrical & Engg	1
252	Arya Communications	1
253	AVS Infotech	1

Sr. No.	Name of the Company	No. of Students
254	Gemini EngiFab Ltd	1
255	Starworks Pvt Ltd	1
256	Raj Springwork	1
257	Shivshakti Enterprises	1
258	Shirsh Technosolution	1
259	Technical Coding Research	2
260	C Anjaidh Yadav Contractor	1
261	Parth Hirani Site	1
262	Doywnne Media	1
263	Shree Kshemkari Appraisel	1
264	BQ Pharmacy	1
265	RAP Fitness	1
266	Abibna	1
267	Krishna Diamond	1
268	Prans Accessories forging company	1
269	CADD Course	1
270	Sanskar Infra	1
	Total	791

Outhouse Internship Summary of the academic year:

	COMP	ELEX	E&TC	IT	MECH	CIVIL	Overall
Internship by Institute	51	14	41	10	3	2	121
Internship by Dept.	7	0	52	102	53	69	283
internshala	15	6	9	3	8	6	47
Students selected internship by their Own	76	53	44	24	74	69	340
Total -A	149	73	146	139	138	146	791

In-House Internship Summary department wise, track-wise of the academic Year

Departments:	
ES&H	
Name of the internship tracks provided by department	Number of students who completed the internship
Android Application Development	41
Arduino	22
Cloud Computing	68
Data Science using Excel & R	34
Digital Marketing	68
Interior Design using Google Sketch up	63
IOT Application	34
Linux/ Unix	17
Machine Learning	78
Python Programming	116
Video Making	32
Web Development	302
COMP	

Name of the internship tracks provided by department	Number of students who completed the internship
Art of living	155
Machine Learning	57
Software testing	55
UX Design	57
Data Science Using R	66
ELEX	
Name of the internship tracks provided by department	Number of students who completed the internship
Nazareth Foundation (Social Internship)	106
IoT Applications	33
Applications of Solar Technology	22
E&TC	
Name of the internship tracks provided by department	Number of students who completed the internship
GIS	8
Arduino	45
Data Networking & Cyber Security	79
Datri Foundation	37
IT	
Name of the internship tracks provided by department	Number of students who completed the internship
Website development	132
Digital Marketing	64
Bhaktivedant Hospital	138
MECH	
Name of the internship tracks provided by department	Number of students who completed the internship
Internship carried out in January- 2021 (Social internship)	
We can Foundation	35
Datri foundation	5
Bhakti Vedanta Hospital	20
Dhyan Foundation	4
Nazareth foundation	10
Art of living	50
Internship carried out in June- 2021	
CNC Simulator	29
3 D printing	40
Digital marketing	18
Data Science	7
Applications of solar technology	4
Machine Learning	8
AutoCad	8
Arduino	8
Data Networking	5
Internet of Things	10
CIVIL	

Name of the internship tracks provided by department	Number of students who completed the internship
Dhyan Foundation (Social Internship)	45
Interior Design	14
Extreme Civil Engineering	68
AUTOCAD/QCAD	22
Traffic Simulation	39
Total - B	2190

**Total (A+B) students completed internship are:
791 (out house internship) + 2190 (In-house Internship) = 2981**

Note: There is an increase in total no. of 875 students who have undertaken internship during the AY 2020-21 w.r.t A.Y 2019-20. There were total 48 different internship tracks from all departments conducted during AY 2020-21.

1.1.4 Faculty Profile and Quality

The faculty profile and quality is measured on the basis of faculty qualification, faculty cadre, faculty retention, experience, and faculty appointments on regular basis. It is noted that, at regular intervals as per the increase in student sanctioned intake, the institute has taken timely action and complied with the statutory and regulatory guidelines with respect to faculty recruitment for effective and smooth conduct of the academic programmes and other related activities. There has been a consistent increase in gender ratio proportion, faculty qualification enhancement (during their tenure at the institute), faculty cadre, and faculty retention.

Gender Ratio																				
	TCET					COMP					IT					E&TC				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
Male	101	90	93	99	87	8	7	10	10	11	13	14	15	15	16	10	11	12	13	11
Female	106	82	82	90	83	24	21	21	24	21	13	14	13	15	14	18	17	18	18	18
Total	207	172	175	189	170	32	28	31	34	32	26	28	28	30	30	28	28	30	31	29

	ELEX					MECH					CIVIL					ES&H				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
Male	5	6	5	5	4	22	20	20	23	20	11	11	12	14	8	32	21	19	19	17
Female	10	9	10	13	10	4	3	3	3	5	13	9	9	7	6	24	9	8	10	9
Total	15	15	15	18	14	26	23	23	26	25	24	20	21	21	14	56	30	27	29	26

Faculty Qualification																				
	TCET					COMP					IT					E&TC				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
PhD/M Phil	45	40	30	30	31	10	9	4	4	3	5	7	4	4	5	6+1*	5	5	5	5
ME/MT ECH	146	123	133	144	120	22	19	26	29	27	21	21	24	26	23	21	22	24	26	24
MSc/M A/MBA	16	9	10	8	8	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0
BE/BTE CH	0	0	2	7	11	0	0	1	1	1	0	0	0	0	2	0	0	0	0	0
Total	207	172	175	189	170	32	28	31	34	32	26	28	28	30	30	28	28	30	31	29

	ELEX					MECH					CIVIL					ES&H				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
PhD/M Phil	2+1*	2	2	2	2	2+1*	2	2	2	2	2	2	2	1	15	13	11	11	11	13

ME/MT ECH	12	13	13	15	12	23	21	21	22	19	22	18	18	16	10	25	9	7	10	5
MSc/MA/MBA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	8	9	8	7
BE/BTECH	0	0	0	1	0	0	0	0	2	4	0	0	1	3	3	0	0	0	0	1
Total	15	15	15	18	14	26	23	23	26	25	24	20	21	21	14	56	30	27	29	26

* Thesis Submitted

	Faculty Cadre																			
	TCET					COMP					IT					E&TC				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
Professor/Adjunct Prof.	13	15	12	10	10	2	3	2	1	1	3	4	3	3	3	5	5	4	3	3
Asso. Professor	14	13	10	12	12	5	4	2	2	2	2	2	2	2	2	2	1	3	3	3
Asst. Professor	179	142	147	156	133	25	21	25	29	27	21	22	23	24	22	21	21	25	25	23
Lecturer/Other	1	2	6	11	15	0	0	2	2	2	0	0	0	1	2	0	0	0	0	0
Total	207	172	175	189	170	32	28	31	34	32	26	28	28	30	30	28	28	30	31	29

	Faculty Cadre																			
	ELEX					MECH					CIVIL					ES&H				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
Professor/Adjunct Prof.	1	1	1	1	1	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0
Asso. Professor	3	3	3	3	3	0	0	0	0	0	2	2	2	2	1	0	0	0	0	0
Asst. Professor	11	11	11	13	10	24	21	21	22	19	22	18	18	16	10	55	28	24	27	22
Lecturer/Other	0	0	0	1	0	0	0	0	2	4	0	0	1	3	3	1	2	3	2	4
Total	15	15	15	18	14	26	23	23	26	25	24	20	21	21	14	56	30	27	29	26

	Faculty Experience in Years.Months (Not decimal)																			
	TCET					COMP					IT					E&TC				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
Min.	0.02	1.10	0.05	0.06	0.11	1.00	3.05	1.08	1.02	0.11	7.00	3.10	0.05	2.00	1.03	2.03	2.06	1.08	0.08	2.01
Max.	36.00	40.00	39.00	48.10	47.10	27.00	40.00	39.00	25.06	24.05	24.08	23.11	22.11	21.11	20.11	36.00	36.08	35.08	30.02	29.02
Avg.	09.06	13.01	11.11	10.11	11.01	11.03	13.05	11.11	9.11	10.06	08.05	14.08	13.07	12.05	11.01	15.03	16.01	13.11	13.03	13.01
Med.	11.05	12.02	11.00	9.09	10.07	11.05	12.05	11.00	9.11	9.11	13.05	14.06	13.06	12.06	11.05	16.08	17.07	15.03	14.08	14.03

	Faculty Appointment																			
	TCET					COMP					IT					E&TC				
	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17	2020-21	2019-20	2018-19	2017-18	2016-17
Regular	127	132	137	146	143	20	20	22	24	26	22	24	24	25	24	23	23	25	29	28
Ad-Hoc	80	40	38	43	27	12	8	9	10	6	4	4	4	5	6	5	5	5	2	1
Total	207	172	175	189	170	32	28	31	34	32	26	28	28	30	30	28	28	30	31	29

Regular	13	14	15	16	14	17	19	19	19	19	16	15	15	14	10	16	17	17	19	22
Ad-Hoc	2	1	0	2	0	9	4	4	7	6	8	5	6	7	4	40	13	10	10	4
Total	15	15	15	18	14	26	23	23	26	25	24	20	21	21	14	56	30	27	29	26

1.1.5 Honours and Recognitions Received by the Faculty

The faculty members, who joined at the initial stage of the institute, have gained experience and attempted to create their presence felt through their contributions at various levels. The faculty members have strengthened the R&D through research publications, patents and copyrights, peer recognitions and awards, and research grants from various funding agencies such as UoM, AICTE, IEDC, DST, etc. The faculty members also participate in inter-university, inter-state, and national-level competitions like the Smart India Hackathon (SIH), where they have been winners in a few selected categories. The students and faculty members are encouraged to take part in various national and international S&T events and competitions to enhance their technical competency. Innovative ideas are encouraged and considered for IPR/ copyrights and patents, awards and recognitions. Various workshops and webinars are organized, where students are given exposure to latest technologies beyond syllabus. This activity also helps in bridging the gap between academia and industry, and provides opportunity to students for further enhancing their professional skills.

List of Expert/ Invited Talks Delivered During 2020-21

S. No.	Name of Speaker / Faculty	Talk title	Event	Organizing Institution and Date
1.	Prof. Kamal Shah	Basics of Block Chain and Bitcoin	Faculty Development Programme (FDP) on 'Blockchain Technology: Challenges and Opportunities'	Gujarat Technical University, Gandhinagar. 31/08/2020
2.	Prof. Kamal Shah	Application of Block chain in Pandemic	Online FDP on "Blockchain Technology: Challenges and Opportunities	Gujarat Technical University 04/09/2020
3	Prof. Kamal Shah	Designing of Rubrics and use in Evaluation process	Invited talk	TIMSR for faculty members. 24/10/2020
4	Prof. Kamal Shah	Framework for Mapping of RBT and Activity Based Learning For Better PO Attainment	FDP	TIMCDR faculty members 3/12/2020
5	Prof. Kamal Shah	Outcome Based Academic Research –OBAR supported by KSA	FDP	LR Tiwari college of Engineering 9/3/2021
6	Prof. Kamal Shah	Measures for Entrepreneurship Development Cell	Invited Talk	St.John's College of Engineering and Technology 7/7/2021

7	Prof. Kamal Shah	Outcome Based Academic Research –OBAR for better Po attainment	STTP on OBE sponsored by AICTE	SPIT, Mumbai 30/11/2020
8	Prof. Kamal Shah	Basics of Block Chain	Invited Talk for students and teachers	Sarvajanik College of Engineering and Technology, Surat 20/9/2019
9	Prof. Kamal Shah	Basics of Quantum Computing	Faculty Development Program	ATAL FDP at Tahkur College of Engineering and technology 22/1/2021
10	Prof. Kamal Shah	Basics of Block Chain with Hands on Tools	STTP	Sal College of Engineering and Technology, GTU, Gujarat 17/2/2021
11	Prof. Kamal Shah	Entrepreneurship Opportunities for Block chain start-ups	Talk for industry persons and start ups	TIE India 12/3/2021
12	Prof. Kamal Shah	NEP 2020 –Highlights for Higher Education	FDP	Shah and Anchor Kutcchi College of Engineering, Mumbai 23/4/2021
13	Prof. Kamal Shah	Strengthening Research culture in Campus	Invited talk	MH Sabusiddiki College of Engineering, Mumbai 16/4/2021
14	Prof. Kamal Shah	NEP 2020 implementation	Invited talk	ST. Francis Institute of Management Studies and research in international FDP 9/6/2021
15	Prof. Kamal Shah	Quality tools and Entrepreneurship	ATAL FDP	D Y Patil University, Pune 18/6/2021

16	Prof . Lochan Jolly	IoT: Emerging technology	Under student exchange program	At thakur college of engineering and Technology Mumbai with partner colleges 17/08/2021
16	Prof R.R. Sedamkar	NEP 2020	FDP	Thakur college of Engineering and Technology 09/03/2020
17	Prof R.R. Sedamkar	National education policy 2020	Invited talk	Vikrant Group of Institution, Indore. 26/05/2021
18	Prof R.R. Sedamkar	Leveraging Technology & driving change for national development –a need for society	National Technology Day talk	National Technology Day celebration with NASI Mumbai Chapter 11/05/2021
19	Prof R.R. Sedamkar	National education Policy NEP 2020 with Perspective of School and higher education & post covid Education	Invited talk	Rotary club of Mumbai 03/09/2020
20	Dr Sanjay kumar	Decision Theory	Invited talk	DJ Sanghvi college of Engineering, Mumbai 20/5/2021- 22/5/2021
21	Dr Sheetal Rathi	Data analytics with Python	One-week short term training programme	Sandeep Institute of Engineering Nasik, Maharashtra 21/05/2021
22	Dr Sheetal Rathi	Big data analytics	webinar	For students and Teaching staff, Thakur science college, Mumbai Maharashtra. 15/02/2021
23	Dr Vivek Mishra	Ordinary differential equation	Invited talk	Amity Institute of applied Sciences, Noida

				11/06/2021
24	Dr Vivek Mishra	Application of Fractional calculus	Invited talk	Govt MGM PG College, Itarsi, MP 04/03/2021
25	Dr S. V. Chaudhary	concrete for the future	Induction Training programme	Yashwant Rao Bhosle Polytechnique Sindhudurg, Maharashtra. 16/02/2021
26	Dr S. V. Chaudhary	Simulation of concrete using Abaqus	Induction training Programme	Yashwant Rao Bhosle Polytechnique Sindhudurg, Maharashtra 17/02/2021
27	Dr S. V. Chaudhary	Introduction to LaTeX	FDP	Xavier Institute of Engineering Mumbai. 15/06/2021
28	Ms Shiwani Gupta	Machine Learning Using Python	Workshop	Vikrant group of Institution Indore 25/05/2021

1.1.6 Preparation of Academic Calendar

Academic Calendar is prepared on semester basis considering the university calendar, the list of holidays, students' activities, etc. Initially, a tentative academic calendar is released 21 days before the semester commencement. The tentative calendar is finalized 15 days before the semester commencement. The Heads of the Departments prepare departmental calendar in alignment with the institute's academic calendar. Academic calendar is notified on notice board and website. It is also included in the faculty diary (only relevant activities) for compliance.

According to the academic calendar prepared at the institute level, the following academic activities are conducted during a semester: i) 6 to 11 weeks conduct of lectures/ practical; ii) In-semester assessment during 12th week; iii) Retest during the 14th week; iv) Term work submission during the 18th week; v) Oral/ practical examinations during the 21st week; vi) Semester-End Examination during the 23rd week; and, vii) all ATKT/ supplementary examinations during 24th to 25th week.

Students are informed about these internal examinations well in advance by the department and examination section. Internal assessment dates are also provided by the college in the proposed academic calendar prepared at the beginning of each semester. Students are informed about the

university notices and circulars related to the examinations from time to time through student notice board, departmental notice boards, and college website.

1.1.7 Curricular, Co-Curricular, Extra-Curricular and Professional Body Activities

a) Curricular Activities: Curriculum under autonomy prepared for global career through holistic and multidisciplinary education with provision for specialization and minor subjects.

Odd Semester Activities AY 2020-21

Activity	Start Date	End Date
Semester Duration (SE to BE)	01-07-2020	31-12-2020
Semester Duration (FE)	18-01-2021	18-04-2021
Mid Term Exam (SE to BE)	28-09-2020	03-10-2020
Mid Term Exam (FE)	ISA-1: 08-03-2021	13-03-2021
	ISA-2: 30-03-2021	03-04-2021
Sem End Exam Oral/Pract. (SE to BE)	01-12-2020	09-12-2020
Sem End Exam Oral/Pract. (FE)	05-04-2021	09-04-2021
Sem End Exam Theory (SE to BE)	16-12-2020	28-12-2020
Sem End Exam Theory (FE)	12-04-2021	19-04-2021
Sem Review (SE to BE)	27-11-2020	NA
Sem Review (FE)	28-11-2020	NA
Results Regular (SE to BE)	13-01-2021	NA
Results Regular (FE)	10-05-2021	NA
Results ATKT (SE to BE)	20-01-2021	NA
Results ATKT (FE)	20-01-2021	NA

Even Semester Activities AY 2020-21

Activity	Start Date	End Date
Semester Duration (SE to BE)	01-01-2021	30-06-2021
Semester Duration (FE)	21-04-2021	18-07-2021
Mid Term Exam (SE to BE)	08-03-2021	12-03-2021
Mid Term Exam (FE)	31-05-2021	04-06-2021
Sem End Exam Oral/Pract. (SE to BE)	19-04-2021	24-04-2021
Sem End Exam Oral/Pract. (FE)	28-06-2021	04-07-2021
Sem End Exam Theory (SE to BE)	03-05-2021	07-05-2021
Sem End Exam Theory (FE)	05-07-2021	11-07-2021
Sem Review (SE to BE)	28-04-2021	-
Sem Review (FE)	30-04-2021	-
Results Regular (SE to BE)	27-05-2021 (BE)	NA
Results Regular (FE)	14-05-2021	NA
Results ATKT (SE to BE)	31-05-2021	NA
Results ATKT (FE)	31-05-2021	NA

As the academic institutes are not allowed to open for students owing to the COVID-19 pandemic, the institute has adapted to this new normal and started to work/ study from home using online digital platforms. The online teaching activities of the institute commenced in pandemic situation since 26-

03-2020 of the previous academic year. All current semester activities for students were also carried out in online mode.

Innovative Learning Leading to Effective Evaluation and Assessment:

The objective was to ensure and continue the teaching learning process in a seamless manner, strengthen the students' critical thinking and problem-solving skills, apply the knowledge gained in real-time situations, develop research and innovation capacity and design and development skills, with overall holistic development of the student.

- Digital platforms like the Google Classroom, Zoom and Google Meet are used by the teachers for teaching and learning process. Online lectures & practical, necessary study material are uploaded on GCRs and ERP.
- Due to pandemic, sessions were conducted using flip classroom mode by sharing resource material such as PPTs, notes, links etc. and then conducting formative and summative assessment followed by doubt solving, revision lecture and practice tests.
- Zoom platform was used for doubt solving sessions, project progress demonstrations/ presentations and oral/ practical examination.
- Google classroom was used for sharing learning resources- PPTs, notes, Topic wise contents, Conduct Formative Assessment test and Summative Assessment.
- Assignments and notes are uploaded in ERP-Academic Monitoring module.

The online TLP planned for AY 2020-21 is aimed at generating more and more interest among students towards technical subjects. The endeavour is to make the students understand the topics properly during the lectures/ practical, by conducting brief online test and checking students learning through interactive software platforms like the Padlet, Mentimeter, etc. In the future, blended TLP involving both online as well as offline modes would be used.

• Technical Seminar:

Sr. No.	Department	Name of Program	Dates	No of Students
1	ELEX	Technical seminar on "IoT in real life and its Industrial applications" for SE and TE ELEX	14-09-2020	99
		Technical seminar on "Automation and Robotics" for SE	23-03-2021	42
		Technical seminar on "Integrated Digital Marketing" for TE and BE	24-03-2021	71
2	E&TC	IOT and it's application, Ms. Geeta Hayagreev Software Engineer Hella India Automotive (SE)	19-09-2020	82
		Machine Learning (Clustering), Dr. Priyanka Desai Data Scientist and Consultant Iprosonic systems pvt ltd, (TE)	19-09-2020	91
		Cyber security, its recent trends and Future career scope, Mr. Pratik Sonawane Technical Consultant Network Intelligence institute of Information Security (BE)	19-09-2020	64
		E waste Management, Mr. Pankaj Athawale E waste Hub Proprietor (SE)	20-03-2021	82
		Embedded Artificial Intelligence for the IOT, Mr. Rohit Prajapati Digitoad Technologies Technical Manager (TE)	20-03-2021	102
		Cloud Security, Mr. Pratik Sonawane Technical Consultant Network Intelligence Institute of Information Security (BE)	20-03-2021	93
3	IT	Kali linux (Linux), Dr. Saurabh Patil, Asst Professor, XIE, Mahim (SE)	22-09-2020	103
		Recent Trends in Web Technologies (Web Technology), Mr. Harshit Sahu, Sr. S/W Developer PRDXN Thane. (TE)	23-09-2020	100
		Recent Trends in Testing (Software Testing and Quality Assurance), Mr. Ashish Pandey, Sr. Consultant, Simelo solutions. (BE)	22-09-2020	62

Sr. No.	Department	Name of Program	Dates	No of Students
		Network design & management using packet tracer. (Computer Networks), Dr. Bhushan Jadhav, TSCE Mumbai (SE)	22-03-2021	118
		Business Intelligence (Data Mining Business Intelligence), Mr Pramod Bhide, SPIT Mumbai (TE)	23-03-2021	129
		Current trends in Security (Internet of Everything), Mr. Adarsh Rai, Global Practice Manager-Security Operations, Micro Focus. (BE)	22-03-2021	87
4	CIVIL	Webinar on "Waste and by-product use in Road Construction", Mr. David K. Hein (SE, TE, BE)	20-9-20	151
		Webinar on 'Innovative Trends in Concrete Technology', Mr. Girish Joshi, Senior Manager, RMC Division at Prism Johnson Limited (SE, TE, BE)	10-10-2020	150
5	MECH	Webinar on "Technology & Spirituality", Art of Living (Mr Ramnik Bansal)	13-03-2021	22
		Seminar on "CAD/CAM/CAE software & Mechanical Engineering", CADD Centre	13-02-2021	200
6	COMP	Role of Blockchain, Mrs. Sayali Karekar	19-09-2020	156
		High Performance Computing. Mr. Chirag Raul	19-09-2020	119
		Devops, Mr. Shailesh Sonare (BE)	19-09-2020	86
		IOT, Mr. Deepak Maurya (SE)	22-03-2021	156
		Cloud storage, Mr. Chirag Raul (TE)	22-03-2021	128
		Social Media Marketing, Mr. Sharad Karnekar (BE)	22-03-2021	130

b) Co-curricular Activities: Under autonomy, co-curricular activities are incorporated through TBL, PBL and RBL with well-defined curriculum and the credits. Activities are spread over the semester and in alignment with the professional development as per the AICTE guidelines. Similarly, ABL events are conducted on every Friday as per timetable for 2 to 3 hrs through well-defined curriculum. Outreach, Extension, and Social programmes are also the part of co-curricular activities. Moreover, it includes teaching-learning on life skills as per UGC and Induction programme curriculum of AICTE. To expose the student to industry/ corporate environment, institute has created the provision of internship at UG and PG levels during summer vacation. In addition, a large number of activities are conducted as per the previous practices under professional and social bodies of student chapter. These activities include activities done at institute level, department level and section level. These activities are to promote Holistic Student Development (HSD).

The following activities have been conducted:

i) ABL activities were conducted from 27th July, 2020 to 1st August, 2020 on the theme of problem, solution, design, and product. Many students came out with the prototype on waste management (Technical and Non-Technical).

ii) PBL activities were conducted for SE during PBL week 1st to 5th February, 2021 and for TE during PBL week 8th to 13th February, 2021 on the theme of 'Online Educational Game Design Based on Graduate Attributes'. Many students came out with interesting online /offline games on various technical subjects. Further, inter-department Educational Gamethon competition was organised on 26th April, 2021. This event was judged by the eminent judges from different universities of India.

iii) Orientation on ESD training was conducted on 04th August, 2020 for all SE students to enhance their technical skills as per the industry requirement. Out of 603 Second Year students, a total of 525 (around 87%) attended the programme.

iv) ESD programme was also conducted for SEM-V from 26th to 31st July, 2020, and this event was attended by 799 students.

v) An ESD programme was conducted for SEM-III from 04th to 09th August, 2020. Total 856 students attended.

c) Extra-Curricular Activities: Since June 2020, more than 40 programmes were conducted in online mode. Student participation and productivity were found to be progressively increasing in these programmes.

- The Leadership Programme was conducted in the orientation week, where the senior leadership gave the training to plan, do, check and act (PDCA) with respect to various student activities for the office bearers of all professional, social bodies and the council. The second part of the programme was conducted by the ex-office bearers for the new team along with the faculty in-charges. The third part of the programme was to develop case studies related to various student issues as per the input received by the industry experts in the field of creative and design thinking. This programme was monitored by TSDW.
- AICTE has launched 100 Activity Point Programme for the students, which needs to be completed in 4 years. In this regard, the institute is initiating Activity Point Diary, where the students' participation in various activities can be recorded and verified by student heads and faculty in-charges. Later, at the end of 4 years, after verification by the Dean in-charge, Vice-Principal and Principal, the transcripts will be generated. This will be essential part of granting the Degree.
- During the current pandemic, physical format is not possible to run the institute activities. Hence, virtual format has been adopted to keep the students engaged. The institute plans to make these activities theme-based, so that these can be aligned with the 100 AICTE activity points. Activities are organized at Intra-/ Inter-College levels. All these activities and events are receiving good response from outside. Some of the programmes conducted during this pandemic include:
 - STEM-PROMO: 6th to 10th July, 2020 by F.E. (ES&H) Department
 - Leadership Programme: 12th to 14th August, 2020 (Student Engagement Week) organized by TSDW
 - Student Fitness Week: 01st to 06th September, 2020 (organized by TSDW)
 - Teachers' Day and many more such activities: 05th September, 2020 (organized by TSDW)
 - TEDx: 27th September, 2020 - A programme of local, self-organized event that brings people together to share a TED-like experience (organized by TEDx Team/ of Electronics Engineering Department).

d) Professional Body Activities:

- **ACM**
 - Core Committee formation: 08th August, 2020
 - Working Committee formation: 29th August, 2020
 - Webinar on IT Domains: 05th September, 2020
 - Coding Competition: 12th September, 2020
 - Technical Rush: 19th September, 2020
 - Technical Seminar: 26th September, 2020

- **CSI**
 - Core Committee formation: 08th August, 2020
 - Working Committee formation: 29th August, 2020
 - Technical Quiz Competition: 05th September, 2020
 - Expression of ideas (A Debate Competition): 12th September, 2020
 - Seminar/ Webinar on Budding Technology: 19th September, 2020
 - Coding Competition" 26th September, 2020

- **ASCE Activities**
 - Core Committee formation: 08th August, 2020
 - ASCE recorded Webinar on Decentralized Recharge and ReUse - Innovative Wastewater Systems: 29th August, 2020
 - Disaster Proof Housing ideas: 05th September, 2020
 - Industry Awareness Program: 12th September, 2020
 - Miniature Project Making/ Model making: 19th September, 2020
 - Webinar: 26th September, 2020

- **ASME /SAE Activities**
 - Core Committee formation: 08th August, 2020
 - Webinar: 29th August, 2020
 - Technical Quiz Competition: 05th September, 2020
 - A Technical Debate Competition: 12th September, 2020
 - Alumni Interaction: 19th September, 2020
 - Technical Workshop (Robotics/ Industry 4.0): 26th September, 2020

- **IEEE Activities:**
 - Core Committee formation: 08th August, 2020
 - Working Committee formation: 29th August, 2020
 - Technical Quiz Competition: 05th September, 2020
 - Expression of Ideas - A Debate Competition: 12th September, 2020
 - Alumni Interaction: 19th September, 2020
 - Industry Talk - Project Discussion and Guidance

All these activities are planned to integrate with IIC activities in future.

1.1.8 Evaluation and Evaluation Process Reforms

Reforms Initiated on Continuous Internal Evaluation (CIE) System at the Institutional Level:

Continuous evaluation is carried out for assessing the learning of the students on regular basis from the start of semester on weekly and monthly basis as well as mid-semester and semester-end examinations. Weekly evaluation is done for practical performance/ tutorial/ project, quizzes, surprise test, etc. Monthly evaluation is for Formative assessment and remedial work done by the students who are weak on certain points (academically weak, slow learners, and others). Mid-term evaluation includes compliance for term work, assignment, internal examination and mid semester review of the student classroom participation, and the laboratory work. At each stage of evaluation, students are categorized into three levels (Level-I: Low, Level-II: Medium, Level-III: High) and the students' performance is communicated to them. The In-semester assessment is planned during the 8th-9th week of the semester, which is followed by the Retest during the 10th-11th week of the semester, term work

submission during 18th week, oral/practical exams in 19th week, followed at the end of semester in 21st week and all ATKT/ supplementary examinations in the 24th week as per academic calendar.

The evaluation of the term work is done and granted by the subject teacher. Further this granted list is to be approved by the competent authority. The term work is assessed on regular basis and the records are maintained with the concerned laboratories. In the examinations, the effort is taken to align the question paper with Revised Bloom's Taxonomy (RBT) model, which helps the institute to understand the attainment of course outcomes (COs) and programme outcomes (POs), as per the institute guidelines within the framework of a Choice Based Credit Grading System for Holistic Development (CBCGS-H).

The AICTE examination reforms help in attainment of POs. For the development of POs to meet requirements of outcome-based learning (OBE) model, the examination system is learner-centric to ensure that learning be tested using the RBT model and Performance Indicator (PI), which in turn is linked to CA (competencies to be attained) and then to POs.

Institute Level Reforms: The examinations (In-Semester assessment, Semester-End Examinations, Practical/ Projects/ Orals) were conducted in online mode owing to Covid-19 pandemic. Conduct of blended examination was adopted using digital platforms (Google Classroom, online apps viz. Zoom, Microsoft Teams, Google Meet, etc.), open-book, open-choice questions, while maintaining quality and integrity.

Open house was conducted after provisional result declaration with amendment in marks to resolve the grievances and supplementary examinations were also conducted.

1.1.9 Student Performance for the Academic Year

The students' performance measured as academic results for the past batches has been consistently over 95% in the informal teaching. The addition of beyond curriculum components such as PBL, RBL, ESD, professional skills, blended learning, etc. in autonomous formal system has sustained and improved the overall success rates of all the batches across the Departments.

			2020-21	2019-20	2018-19	2017-18	2016-17
COMP	No. of Students	Appeared	141	149	163	144	153
		Passed	141	149	161	143	151
		Pass %	100%	100%	99%	99%	99%
E&TC	No. of Students	Appeared	142	144	153	149	138
		Passed	142	144	150	145	119
		Pass %	100%	100%	92%	97%	86%
IT	No. of Students	Appeared	145	151	154	154	152
		Passed	145	151	154	149	147
		Pass %	100%	100%	100%	97%	97%
ELEX	No. of Students	Appeared	68	74	78	73	74
		Passed	68	74	76	71	68
		Pass %	100%	100%	97%	97%	92%
MECH	No. of Students	Appeared	154	140	149	157	141
		Passed	154	140	144	150	124
		Pass %	100%	100%	97%	96%	88%
CIVIL	No. of Students	Appeared	149	136	151	135	-
		Passed	149	136	142	131	-
		Pass %	100%	100%	94%	97%	-
TCET	No. of Students	Appeared	799	794	858	812	658
		Passed	799	794	827	789	609
		Pass %	100%	100%	96%	97%	93%

Graduate Aptitude Test in Engineering (GATE) Training by the Department of Civil Engineering

Under the auspices of Thakur Institute of Career Advancement (TICA), the Department of Civil Engineering conducts an efficiently-monitored course for preparing students for the Graduate Aptitude Test in Engineering (GATE). The second batch, with 20 students was started on September, 2019. In GATE-2021, a total of 20 students benefitted from this course, with performance as recorded in the Table.

GATE-2021

Sr.No	Name	GATE marks	GATE Score	AIR	Batch
1	AMEY SHANKHE	53.15	602	2976	2019-20
2	VIBHA JAIN	49.78	566	3834	2019-20
3	VISHAL SONI	49.44	563	3926	2019-20
4	MOHIT KESARIA	47.08	538	4643	2018-19
5	SHIVAM MISHRA	42.7	492	6316	2019-20
6	ASHISH GOKLANI	36.29	421	9724	2020-21
7	ANIKET SAVARDEKAR	35.28	414	10383	2020-21
8	BURHAN WANI	34.99	411	10504	2020-21
9	PIYUSH KURIL	33.35	393	11930	2020-21
10	HARSH TRIVEDI	31.57	375	13500	2019-20
11	GAUTM BAGHEL	30.89	368	13696	2019-20
12	RITIK MEHTA	30.54	364	14475	2020-21
13	MUHAMMED TALHA MUHAMMED SHAFI SAYYED	30.2	360	14811	2019-20
14	HARSHAL PANCHARE	29.17	350	15848	2020-21
15	ALISHA CHAUDHARY	28.19	339	16790	2020-21
16	SURYAKANT SINGH	26.51	--	--	--
17	KRISHNA JAISWAL	24.48	--	--	--
18	SHREYAS JAIN	24.15	--	--	--
19	SHAILESH MAURYA	21.45	--	--	--
20	MALLIKA MISHRA	21.3	--	--	--

After successful completion of second batch, the institute proposed for third batch but due to COVID-19 pandemic, it was not conducted. Once the situation gets under control, it will get started the next batch. However, mentoring and guidance to aspiring students for the GATE examination is being regularly provided by the faculty of the Department of Civil Engineering.

1.1.10 Students Mentoring System

Teacher-Guardian scheme is available in the institute, where around 20-22 students are allotted to each faculty member. Each faculty mentor maintains a handbook that records the overall performance of a student under them. The handbook contains following details:

- Personal details of students like residential address, contact number, parents' occupation, parent's contact details
- Score before taking admission in engineering i.e., HSC and SSC marks

- Workshops attended
- Competitive examinations given
- Internships
- Projects undertaken
- Extra/co-curricular activities participation.

Other than this, a record of the attendance per month, subject-wise in-semester assessment marks obtained during the semester and overall CGPA attained is also maintained. The mentor interacts with each mentee (student) at-least two times in a semester or as per need to gauge the performance of the mentees, difficulties faced during the semester and other kinds of personal discussion as per the comfort level between the mentor and mentee. The mentee's academic record, co-curricular and extra co-curricular activities and counselling record is maintained in Teacher-Guardian book.

Mentee's performance is monitored and based on his/her strength and weakness, guidance is provided to understand the challenges and opportunities present in college and develop a smooth transition to campus life at first year level and to enhance the mentee's growth, improve self-confidence, manage conflict, and help to achieve their goals from second to final year level. Counselling is done for improvement in attendance, participation in co-curricular/extracurricular activities and improvement in academic results. Students are motivated to participate in technical events, competitions, and paper publication.

In the pandemic situation, the mentors and professional counsellors adopted virtual interaction sessions with students to keep them motivated for online learning and participation in doubt-clearing sessions, evaluation, internships, and online courses for holistic development.

Year	Number of students enrolled in the institution	Number of fulltime teachers	Mentor: Mentee Ratio
2020-21	3337 (UG) + 25 (PG) + 30 (PhD) = 3392	206	1:20
2019-20	3049 (UG) + 36 (PG) + 30 (PhD) = 3115	168	1:20
2018-19	3172 (UG) + 39 (PG) + 30 (PhD) = 3251	183	1:20
2017-18	3175 (UG) + 44 (PG) + 9 (PhD) = 3228	177	1:20
2016-17	3021 (UG) + 65 (PG) + 9 (PhD) = 3095	169	1:20

1.2. Research Activities

Understanding the need of encouraging engineering graduates towards pursuing research, the TCET Research & Development Cell was setup in the year 2013. Under this Cell, the technical talent of students is nurtured. It gives them a platform to check the feasibility of their ideas by developing small circuits or projects under hobby club facilities. The projects developed by students are evaluated at various levels, first at the department level and then at institute level by experts from reputed academic institutes and industries for maintaining quality of work. The projects which have the potential of being converted into products are reviewed by expert entrepreneurs and industrialists. Furthermore, students are encouraged to take part in various national and international level competitions to enhance their technical competency. Innovative ideas are even consider for Intellectual Property Right like copyrights and patents. Various workshops and webinars are also organized, where students are given exposure for latest technologies beyond syllabus which helps them to bridge the gap between academia and industry, and for skill enhancement.

1.2.1 Research Funds Sanctioned and Received from Various Agencies during the academic year

Name of the Investigator	Dept.	Title of the project and duration	Amount sanctioned	Funding Agency	Year
Dr. Sangeeta Mishra	E&TC	Electronic Oxygen Tree	40,000/-	UOM	2015-16
Ms. Anvita Birje	E&TC	QuadCopter controlled by Android mobile	30,000/-	UOM	2015-16
Mr. Deepak Shete	E&TC	7am Arivu – The Seventh Sense	25,000/-	UOM	2015-16
Mr. Sanjeev Ghosh	E&TC	Image Processing based book reader, facial recognition along with GPS tracker for visually impaired	35,000/-	UOM	2015-16
Mr. Manoj Shyam Chavan	E&TC	Hidden Markov Model based Online Handwritten Signature Verification using Hybrid Wavelet Transform	25,000/-	UOM	2015-16
Mr. Vaibhav Gijre	ELEX	TCETDUINO-AVR Development Board	10,000/-	UOM	2015-16
Mr. Kiran Bhandari	COMP	Portable Wireless Patient Monitoring System Using GSM– 2015-16	32,000/-	UOM	2015-16
Mr. Rajesh Behra	MECH	Magnetic Wheel based on magnetic propulsion and levitation	35,000/-	UOM	2015-16
Ms. Nita Jain	ES&H	Heat transfer analysis of magneto hydrodynamic non-Newtonian fluids	25,000/-	UOM	2015-16
Dr. Poonam Ojha	ES&H	Ethical Behaviour among TCET Engineering Undergraduates	25,000/-	UOM	2015-16
Total-A			2,82,000/-		
Dr. Vinitkumar Dongre	E&TC	Slotted Dual Band Patch Antenna Embedded with Metamaterial for WLAN and WiMAX Application	20,000/-	UOM	2016-17
Mrs. Aradhana Manekar	E&TC	Telepresence Robot with Stereoscopic Vision	30,000/-	UOM	2016-17
Ms. Sukruti Kaulgud	E&TC	On Panel Signalling with autobraking of Train and Monitoring of Railway Tracks	22,000/-	UOM	2016-17
Ms. Sujata Kulkarni	E&TC	Smart Parking Management System	25,000/-	UOM	2016-17
Ms. Rupali Mane	E&TC	Smart Medibox	20,000/-	UOM	2016-17
Dr. Bijith Marakarkandy	IT	A Portable Dental Caries Detection and Classification system	20,000/-	UOM	2016-17
Mr. Anil Vasoya	IT	Virtual Computing Lab in College using Hybrid Cloud	25,000/-	UOM	2016-17
Mrs. Neha Patwari	IT	Transmitted Advanced Safety Assistance Automobile System (TRASAS)	27,500/-	UOM	2016-17
Mr. Bhushan Nemade	IT	Cloud based surveillance system using Adaptive Automatic Video Tracking Learning and Detection	31,000/-	UOM	2016-17
Mrs. Neha Kapadia	IT	IoT (Internet of Things) based Highway Toll Deduction System	25,000/-	UOM	2016-17
Ms. Sangeeta Vhatkar	IT	PEGASIS based Irrigation Control System in WSN using IOT	24,500/-	UOM	2016-17

Dr. Sandhya Save	ELEX	PLC Based Waste Segregation System for Green Environment	30,000/-	UOM	2016-17
Mr. Krishnakant Mishra	ES&H	Study of Electro-Optical properties of Quantum Dots Doped in Liquid crystal Polymer system	30,000/-	UOM	2016-17
Dr. Kamal Shah	IT	Bus Tracking System for safety of school kids	100000/-	DST	2016-17
Dr. Lochan Jolly	E&TC	Leaf Disease Detector	100000/-	DST	2016-17
Dr. Sangeeta Mishra	E&TC	Facile - The Smart Home	100000/-	DST	2016-17
Mr. Anil Vasoya	IT	Low Power smart class room teaching learning using Raspberry Pi	100000/-	DST	2016-17
Mr. Rohitkumar Singh	ES&H	Design and Development of electrolytic cell for production of Hydrogen from Urine	100000/-	DST	2016-17
Total-B			8,30,000/-		
Ms. Neha Chauhan	MECH	Oxygen Generation through electrolysis from Solar Tree	25,000/-	UOM	2017-18
Mrs. Pranjali Kasture	IT	IoT Based Guest Tagging System	60,000/-	UOM	2017-18
Mr. Namdeo Badhe	IT	A Healthcare System to help mentally challenged person to create	30,000/-	UOM	2017-18
Mrs. Vaishali Nirgude	COMP	IoT Based Fire Fighting Robot using Arduino	25,000/-	UOM	2017-18
Dr. Seema Jagtap	CIVIL	A Self Balancing Tower Crane	25,000/-	UOM	2017-18
Ms. Megha Gupta	E&TC	Designing of Energy Efficient Smart Classroom using image processing and embedded system	24000/-	UOM	2017-18
Mrs. Rashmita Kumari Mohapatra	E&TC	Locomotion System for ALS Patients using Artificial Intelligence	20,000/-	UOM	2017-18
Dr. Deven Shah	IT	Cloud Based Web Application Profiling and Security	100000/-	DST	2017-18
Dr. Vinitkumar Dongre	E&TC	High Resolution FMCW RADAR Gauge	100000/-	DST	2017-18
Dr. Sandhya Save	ELEX	Steps towards Clean City	100000/-	DST	2017-18
Mrs. Poorva Waingankar	ELEX	Artificial Simulation of Brain using Binaural Frequency	100000/-	DST	2017-18
Mr. Anand Khandare	COMP	Smart Weighing Machine	100000/-	DST	2017-18
Total-C			7,09,000/-		
Mr. Shailendra Shastri	E&TC	Design of Hybrid boat using microcontroller	20000/-	UOM	2018-19
Ms. Kalawati Patil	E&TC	An Enhanced Density and Priority based traffic light control system using Artificial Intelligence	20000/-	UOM	2018-19
Dr. Sangeeta Mishra	E&TC	To Implement a tactile device for visually impaired people to read documents	25000/-	UOM	2018-19
Mr. Deepak Shete	E&TC	Designing cost effective Vending Machine and implement online ordering and payment system for it	15000/-	UOM	2018-19
Ms. Rutvi Thakar	E&TC	Implementation of Low Cost Hand Gesture Based Wireless Robotic Arm Control	18000/-	UOM	2018-19

Mr. Nikhil Tiwari	E&TC	IoT enabled floor cleaning system	15000/-	UOM	2018-19
Mrs. Hetal Amrutia	IT	Smart Bag – IoT based Application	40000/-	UOM	2018-19
Mr. Shridhar Kamble	IT	Sensing heart Rate and Respiratory Rate using smart geophone sensor network and early detection of heart attack/stroke using Pulse Sensor	25000/-	UOM	2018-19
Dr. Vivek Mishra	ES&H	Radioactive Waste-disposals by Transport and Reaction Diffusion using Lattice Boltzmann Method	30000/-	UOM	2018-19
Dr. Sunita Pachori	ES&H	Investigating the need of Arogya Yojana in Saiwan, District Palghar, State Maharashtra, A Step towards Ayushman Bharat	40000/-	UOM	2018-19
Mr. Pritesh Bhana	CIVIL	Comparative Evaluation of Dense Graded Bituminous Concrete With Different Nominal Maximum Aggregate Sizes	30000/-	UOM	2018-19
Mr. Krishna Gaikwad	MECH	INARI – Automated rice plantation machine	25000/-	UOM	2018-19
Mr. Rupesh Deshbhratar	MECH	Adaptable Bladeless Disc Wind Turbine	50000/-	UOM	2018-19
Mr. Vinay Bhatkar	CIVIL	Commercial module for fuel synthesis from Waste Plastics	50000/-	UOM	2018-19
Dr. Siddesh Siddappa	MECH	Alternate driving mechanism to Run a Centrifugal Pump	40000/-	UOM	2018-19
Dr. Sheetal Rathi	COMP	Development of Predictive analytics Model in Mental Healthcare for school students	25000/-	UOM	2018-19
Mr. Anand Khandare	COMP	IoT Based Weighing Scale for Farmer: Linking Small-Scale Farmers and Consumers to market using Internet of Things	25000/-	UOM	2018-19
Mrs. Harshali P. Patil	COMP	Development of Futuristic Water Conservation System using Enhanced Technique	25000/-	UOM	2018-19
Mrs. Shiwani Gupta	COMP	Design and Development of Wet and Dry waste Segregation using Smart Dustbin	35000/-	UCM	2018-19
Mrs. Roohi Mehta	ELEX	Eco friendly smart solar panel cleaning system	18000/-	UOM	2018-19
Mr. Rupesh Deshbhratar	MECH	Water Less cooling for machining by Vortex Tube	100000/-	DST	2018-19
Mr. Arpit Vyas	CIVIL	Plastocrete	100000/-	DST	2018-19
Mr. Mahendra Shelar	MECH	Eco-Friendly Chainless Bicycle	100000/-	DST	2018-19
Dr. Kamal Shah	IT	Hygiene alert system for Toilets	100000/-	DST	2018-19
Dr. Sangeeta Mishra	E&TC	Emergency Service Drone	100000/-	DST	2018-19
Total-D			10,71,000/-		
Mr. Rajeshwar S. Deshmukh	MECH	Development of Automatic Flame Control Burner Powered By Portable Biogas Plant	25000/-	UOM	2019-20
Mrs. Swetha Suresh Kumar	MECH	Automated Waste Segregator System (AWSS)	35000/-	UOM	2019-20

Mr. Mahendra Shelar	MECH	Improvement in Physical Properties of Polymer Composites through different Nanofillers	32000/-	UOM	2019-20
Mr. Arpit S. Vyas	CIVIL	Utilization of Single Use Plastic Waste to Enhance Properties of Soils for Subgrade	25000/-	UOM	2019-20
Mr. Anuj Pawar	CIVIL	Enlightening the Strength and Stabilizing Properties Paver blocks by using Terrazyme with Cost Optimization	25000/-	UOM	2019-20
Ms. Anvita Birje	E&TC	Development of Learning Platform based on STEM	25000/-	UOM	2019-20
MS.Aradhana Manekar	E&TC	EEG based Diagnosis of Addiction using Statistical Methods	35000/-	UOM	2019-20
Mr. Niket Amoda	E&TC	Development of Disaster Management Setup to Raise Alarms using Sensor Network to Prevent Loss of Life and Property	40000/-	UOM	2019-20
Mr. Sunil Khatri	ELEX	Predictive Model for Examination and Analysis of Water Logged Zones in Mumbai Locale	30000/-	UOM	2019-20
Mr. Hemant Kasturiwale	ELEX	Low Cost Development Data Acquisition board for Real Time Application	10000/-	UOM	2019-20
Dr. Kamal Shah	IT	Smart Warehouse For Grain Storage Based on Innovative First In First Out (FIFO) Technique with IoT enables Sensors to Reduce Quality losses of Grains	25000/-	UOM	2019-20
Ms. Ashwini Patil	COMP	Design and Development of Embedded System Remote Controlled Automobile using RFID	20000/-	UOM	2019-20
Mr. Mahendra Shelar	MECH	Recumbent Human powered vehicle	100000/-	DST	2019-20
Mr. Krishna Gaikwad	MECH	Full body Exoskeleton suit with enemy detection	100000/-	DST	2019-20
Mr. Sudhir Dhekane	IT	Clubbing College Projects across India	100000/-	DST	2019-20
Mr. Sailesh Sangle	COMP	The box	100000/-	DST	2019-20
Dr. Lochan Jolly	E&TC	Structural health Monitoring	100000/-	DST	2019-20
Total-E			8,27,000/-		
Total-F					
Grand Total (A+B+C+D+E)			37,19,000/-		

IEDC Grant 2020-21				
Sr. No.	Title of Project	Faculty In-Charge	Department	Fund Sanctioned
1	Automatic Sanitization Chamber	Ms.Sukruti Kaulgud	E&TC	1,00,000
2	App Based Tele Medical and Information System for Covid-19 patients in quarantine	Dr.Aaditya Desai	IT	1,00,000
3	UV Disinfectant BOX	Mr.Pankaj Rawool	MECH	1,00,000
4	AR based Holographic System for healthcare monitoring	Mr.Hemant Kasturiwale	ELEX	1,00,000
5	Connect Rural Artisan through web portal like Amazon for online shopping	Dr.Harshali patii	COMP	1,00,000
Total				5,00,000

AICTE - Grants					
Sr.No.	Name of the Program/Scheme/Project	Name of the Faculty In-Charge received grant	Department	Sanction date, duration of grant	Total Sanction Amount (in Rs.)
1	FDP on Photo IC.s	Dr.Lochan Jolly	E&TC	2020-21	93,000.00
2	FDP on Quantum Computing	Dr.Kamal Shah	IT	2020-21	93,000.00
3	Multicon W 2021 (A platform for multiple conference and workshop)	Dr.Vivek Mishra	ES&H	2020-21	1,66,667.00
Grand Total					3,52,667.00

1.2.2 Innovation Ecosystem

Research plays a vital role in the success of any institution. Fundamental research in the field of engineering is a national challenge. Quality research in technology is the need of the hour for sustainable growth. In order to provide a strong platform to the researchers, academicians and scholars, the institute regularly organizes various national and international-level conferences, symposia and seminars, workshops and colloquium and encourages for copyrights and patent activities. These initiatives enable the stakeholders to build their capacity for critical examination and sound judgment, thereby facilitating them to contribute to the existing body of knowledge through R&D activities.

- a) Workshops/Seminars Conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative Practices During the Year

Title of Workshop/Seminar	Name of the Dept.	Name of the faculty coordinator	Date(s)
Webinar on effective utilisation of Urkund S/W for plagiarism check	Computer Engineering	Ms. Shiwani Gupta	31-10-2020
Patent awareness and requirements for copyright	Computer Engineering	Ms. Shiwani Gupta	25-07-2020
Plagiarism free publication using Urkund S/W	Computer Engineering	Ms. Shiwani Gupta	12-03-2021
Approach before formulating patent for start-up	Computer Engineering	Ms. Shiwani Gupta	06-03-2021
Webinar on effective utilisation of Urkund S/W for plagiarism check	Electronics and Telecommunication Engineering	Dr. Vinitkumar Dongre	31-10-2020
Patent awareness and requirements for copyright	Electronics and Telecommunication Engineering	Dr. Vinitkumar Dongre	25-07-2020
Plagiarism free publication using Urkund S/W	Electronics and Telecommunication Engineering	Dr. Vinitkumar Dongre	12-03-2021
Approach before formulating patent for start-up	Electronics and Telecommunication Engineering	Dr. Vinitkumar Dongre	06-03-2021
FDP on Opportunities for Book Publications	Electronics and Telecommunication Engineering	Dr. Vinitkumar Dongre	08-3-21 to 10-3-21
AICTE- AQIS Sponsored One-week STTP on Next Generation Communications and Networks	Electronics and Telecommunication Engineering	Dr. Vinitkumar Dongre	14 to 19-06-2021
ATAL FDP "Quantum Computing"	Information Technology	Dr. Kamal Shah	18 to 22-01-2021
AICTE -AQIS STTP on Moral Values Ethical and Behavioural Science	Information Technology	Dr. Vikas Kaul Dr. Aditya Desai	14-6-2021 to 19-06-2021

- b) Details of Teachers Awarded with National/International Fellowship for Advanced Studies/ Research During the Year

Name of the teacher	Name of the Award/Fellowship	Month and Year of Award
Dr. Kamal Shah	Golden Aim Award Excellence in Leadership, Education and Entrepreneurship	Jul-20

- c) No. of Incubation Centres Created, Start-ups Incubated on Campus During the Year

Sr. No.	Company Name	Person
1	MakingGrad Overseas Education Consultants Pvt. Ltd.	Abhijit Bhati
2	Rotech Smart Ventures LLP	Rahul Puri
3	Global Anytime	Kisan Raithatha
4	MY DIGI JACK	Ashish Sharma
5	Gromor Finance Ltd.	Amit Mungekar
6	Analystt AI Technology Pvt. Ltd.	Malhar Lakdawala
7	Phionix Solution Pvt. Ltd.	Roopam Mishra
8	Innowrap Technology	Aman Gangawal
9	Nilee Games and Future Technologies Pvt. Ltd.	Anand Jha
10	VIVEFX CONSULTING LLP	Vivek Jain
11	Samaya Enterprises	Ashwini Kadam

1.2.3 Research Publications

Thakur College of Engineering & Technology brought out the first issue of its annual magazine QUASAR in the year 2010. Since then, every issue of the magazine has been meticulously handled by the Editorial Committee, which comprises of both faculty and student members. In QUASAR are showcased inspiring and enlightening articles of interest to students, researchers, and teachers.

There is yearly increase in the faculty and students' publications in international conferences. The institute has also provided a platform for the conduct of conferences each year, with different affiliations, viz. Springer, IEEE, ACM, Scopus Indexed Journals, UGC approved Journals, etc. The departments also have with them newsletters and technical magazines, wherein all stakeholders contribute articles.

a) Faculty Publications Summary:

Departments: ES&H					
Year	ICWET+ Multicon-W	International /National Journals	International National Conference	Book Publications	Resource Book
2016-17	17	07	05	02	9
2017-18	22	10	03	04	9
2018-19	32	06	02	04	9
2019-20	29	02	02	04	9
2020-21	26	06	03	03	9
COMP					
2016-17	30	44	5	30	5
2017-18	84	40	28	30	14
2018-19	88	22	29	30	14
2019-20	93	19	6	38	15
2020-21	67	19	5	38	11
E&TC					
2016-17	35	3	3	0	24
2017-18	81	2	3	0	24
2018-19	128	3	2	0	24
2019-20	25	4	2	0	24

2020-21	40	5	4	0	10
IT - ICCSOD+ Multicon-W					
2016-17	54	20	17	15	18
2017-18	72	14	18	15	19
2018-19	42	19	23	15	24
2019-20	53	9	21	18	25
2020-21	17	6	15	18	25
ELEX					
2016-17	0	7	1	0	1
2017-18	6	11	8	0	1
2018-19	5	9	0	0	1
2019-20	3	12	1	0	1
2020-21	0	7	2	0	1
MECH – ICWAME + Multicon-W					
2016-17	71	2	71	0	5
2017-18	38	1	38	0	5
2018-19	53	7	53	0	5
2019-20	20	4	20	0	5
2020-21	37	0	37	0	5
CIVIL - ICAMCE + Multicon W					
2016-17	6	20	10	0	0
2017-18	17	9	19	0	4
2018-19	17	22	19	0	4
2019-20	38	4	38	0	9
2020-21	35	1	41	0	21
Total	1381	376	554	264	389

b) Research Publications in the Journals Notified on UGC Website during the Academic Year

Name of the Author(s)	Department of the Author(s)	Title of the Paper	Name of the Journal	Month and Year of publication	ISSN
Dr. Rashmi Thakur	Computer Engineering	Detection of diabetic retinopathy using Transfer Learning Approach	BioInfoLet	Feb 2021	9731431
Dr. Megharani Patil	Computer Engineering	Online-Fraud Detection, Web-Scraped Dataset Analysis and Algorithm Performance Evaluation	IJARIT	May 2021	2454-132X
S Ghosh, S Unnikrishnan	Electronics & Telecommunication Engineering Department	M/G/1 Queue-Based Reduction of Power Consumption and Latency in Wireless Sensor Networks	ICTACT Journal on Communication Technology	Apr-21	2229-6948 (Online)
Anil Vasoya et al.	Information Technology	The Parallelization of Algorithm based on Horizontal Partition for Association Rule Mining on Large Data Set	International Journal of Engineering Research & Technology (IJERT),	Dec-20	ISSN: 2278-0181
Anil Vasoya et al.	Information Technology	A novel algorithm to optimize performance of frequent pattern mining on large data set"	Pensee International Journal	Dec-20	ISSN: 0031-477
Anil Vasoya et al.	Information Technology	A Way to Generate Frequent Pattern Mining using Vertical Partitioning of Data with Parallel Computing"	International Journal for Research in Applied Science & Engineering Technology (IJRASET)	Jan-21	ISSN: 2321-9653;
A. Talhar, S. Bodkhe and V. Borghate,	Electronics Engineering	"Proposed Electricity Tariff Model for Residential Consumers in Maharashtra,"	2020 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES), 2020	March 2021	Electronic ISBN:978-1-7281-5672-9 Print on Demand(PoD) ISBN:978-1-7281-5673-6
Sandhya Sandeep Save;Sumit Kumar	Electronics Engineering	E- Learning based Evaluation Tool for Performance Improvement in Technical Courses for Higher Education	2020 Sixth International Conference on e-Learning (econf)	2020	Electronic ISBN:978-1-6654-1550-7 Print on Demand (PoD) ISBN:978-1-6654-1551-4

Name of the Author(s)	Department of the Author(s)	Title of the Paper	Name of the Journal	Month and Year of publication	ISSN
Dr. Sanjay Kumar	Mechanical Engineering	Analysis of surface roughness during turning of AISI 52100 hardened alloy steel using minimal cutting fluid application	Taylor & Francis	Oct-20	ISSN 2374-068X
Dr. Sanjay Kumar	Mechanical Engineering	Response Surface Modelling and Optimization of Cutting Temperature in Turning of AISI 52100 Hardened Alloy Steel under Minimal Cutting Fluid Application	Advances in Science and Technology	Nov-20	1662-0356, Vol. 106, pp 60-67
Varun Sushil Chaurasia, Pawan Prabhunath Pandey, Atulkumar Vinod Mishra, Sandeep Shyamnarayan Gupta, Anuj U. Pawar	Civil Engineering Dept	Stabilization of Soil Using Terrazyme for Road Construction	Proceedings of the Indian Geotechnical Conference 2019. Lecture Notes in Civil Engineering, vol 136. Springer, Singapore	April 2021	Online ISBN978-981-33-6444-8, Print ISBN 978-981-33-6443-1
Dr. Shilpagauri Prasad Ganpule, Mr. Nivant Kambale	Engineering Sciences & Humanities	Voices of Voiceless: A Study of Svetlana Alexievich's Non-Fiction- Voices from Chernobyl: The Oral History of a Nuclear Disaster.	LangLit, An International Peer-Reviewed Open Access Journal	November, 2020	2349-5189
Karuna Nikum & Abhay Wagh	---	Hardware Implementation of Step-Switched SVCs to Correct Power factor and Mitigate Harmonics for Large DC Variable Loads:	Springer - Journal of The Institution of Engineers (India): Series B	August (2020)	Electronic ISSN 2250-2114 Print ISSN 2250-2106
Shivani Singh, Pravin More, Subhash Kondawar, Yogesh B. Kholam	---	Enhancing hydrogen gas sensing properties of Rb-modified Graphene	Elsevier: Materials Chemistry and Physics	February 2021.	0254-0584

c) Books and Chapters in Edited Volumes / Books published, and Papers in National/International Conference Proceedings during the Year

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Shiwani Gupta, R R Sedamkar	Intelligent Computing and Networking	Genetic Algorithm for feature selection and parameter optimization to enhance learning on framingham heart disease dataset	--	International conference on Intelligent computing and networking	International	Nov 2020	--	TCET, Mumbai	Springer Nature
Vaishali Nirgude, Sheetal Rathi	Hybrid Intelligent Systems	An extensive survey on Deep Learning Approach for crop diseases management	--	International conference on hybrid intelligent systems	International	Dec 2020	3030730492	TCET, Mumbai	Springer Nature
Anand Khandare, Megharani Patil	Lecture Notes in Networks and Systems	----	Intelligent Computing and Networking, Proceedings of IC-ICN 2020	IC-ICN 2020	International	2021	eBook ISBN 978-981-15-7421-4	TCET, Mumbai	Springer Singapore
Dr. Vinitkumar Dongre and Archana Deshpande	Planar Antenna: Design, Fabrication, Testing, and Application	Book chapter on Design Frequency Optimization for Dual Band Patch Antenna	--	--	International	Yet to be published	Yet to be obtained	TCET	NOVA SCIENCE PUBLISHERS, USA

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Dr Deven Shah Dr Kamal Shah Dr R Bansode	---	---	IC-BCT Proceedings on "Blockchain Technology" from Springer Book series	Blockchain Technology	International	2021	Hardcover ISBN 978-981-15-4541-2 Series ISSN 2661-8338	TCET	Springer Publication
Dr Deven Shah	Advanced Internet Technology	---	---	---	---	2020	---	TCET	Wiley Publication
Dr Deven Shah	Cloud Computing & Services	---	---	---	---	2020	---	TCET	Wiley Publication
Dr. Bijith M	Digital Signal & Image Processing	---	---	---	---	2020	---	TCET	Techno_Nec Publications
Rutuja Srinde, Dr. Seema Jagtap, Ugandhara Gaikwad, Anuj Pawar, vinod Salunke	---	---	---	E-Conference on Green Technology and Conference	International	Nov-20	---	TCET Mumbai	---
Sanjeev Chaudhary, Vinayak Bachal, Ninad Khandare, Pritesh Bhana, Ashwini Shanbhag	---	---	---	E-Conference on Green Technology and Conference	International	Nov-20	---	TCET Mumbai	---

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Priyanka Deshmukh	---	---	---	E-Conference on Green Technology and Conference	International	Nov-20	--	TCET Mumbai	--
Priyanka Deshmukh, Swapnil Raut, Prashant Narayane, Ghanshyam Pal, Darshan Mali	---	---	---	E-Conference on Green Technology and Conference	International	Nov-20	--	TCET Mumbai	--
Arpit Vyas	---	---	---	E-Conference on Green Technology and Conference	International	Nov-20	--	TCET Mumbai	--
Ghanshyam Pal	---	---	---	E-Conference on Green Technology and Conference	International	Nov-20	--	TCET Mumbai	--
Arpit Vyas	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Arpit vyas	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Anuj Pawar	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Anuj Pawar	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Anuj Pawar	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Ghanshyam Pal	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Ghanshyam Pal	--	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Ghanshyam Pal	--	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Ashwini Shanbhag	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Ashwini Shanbhag	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Ashwini Shanbhag	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Pritesh Bhana	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Pritesh Bhana	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Pritesh Bhana	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Rutuja Shinde	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Rutuja Shinde	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Priyanka Deshmukh	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Priyanka Deshmukh	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Priyanka Deshmukh	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Seema Jagtap	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Seema Jagtap	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Seema Jagtap	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Vinod Salunkhe	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Vinod Salunkhe	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Prashant Narayane	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Prashant Narayane	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Prashant Narayane	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Vinayak Bachal	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Swapnil Raut	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Ugandhara Gaikwad	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Dr. Sanjeev Chaudhari	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Dr. Sanjeev Chaudhari	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Ninad Khandare	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

Name of the Teacher	Title of the Book published	Title of the Chapter published	Title of the proceedings of the conference	Name of the conference	National / International	Year and month of publication	ISBN of the Book/Conference Proceeding	Affiliating Institute of the teacher at the time of publication	Name of the Publisher
Darshan Mali	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--
Darshan Mali	---	---	---	International Conference on Advances in Mechanical and Civil Engineering 2021	International	Feb-21	--	TCET Mumbai	--

d) Details of Books Published at institute Level

Sr. No.	Proceeding Title Name	Name of the Editors	ISBN No.	Details	Year of publishing
1	Multicon-W 2021 Proceeding	Dr.B.K.Mishra	9781736964002	Published with 41 papers	2021
2	Proceedings of International Conference on Intelligent Computing and Networking - 2021 (IC-ICN)	Dr.Bijith.M Dr.Harshali Patil Dr.Sangeeta Vhatkar Dr.Anand Khandare	978-1-7369640-1-9	Publication in Process with Departmental Proceedings=111 Springer =32 papers (Communicated) Special Issue of "Artificial Intelligence Systems" =23 papers (communicated) Springer SN computers =20 (communicated)	2021
3	Proceedings of International conference on advances in Mechanical & civil engineering - 2021 (IC-AMCE)	Dr.Siddesh Sidappa Dr.Seema Jagtap Dr.Sanjiv Chaudhary Mr.Rajeswar Deshmukh Mr.Iqbal Mujawar Mrs.Priyanka Deshmukh	978-1-7369640-2-6	Ready to Print with 75 articles and 14+9=23 of technology conference will be published in this week	2021

Sr. No.	Proceeding Title Name	Name of the Editors	ISBN No.	Details	Year of publishing
4	Proceedings of Conference on Humanities, Science and Technical Education - 2021 (CHSTE)	Dr.Sunita Pachori Dr.Krishnakant Mishra Mr.Rphit Kumar Singh Mr.Yogesh Bhalekar Dr.Vivek Mishra Mr.Amol Dapkekar Mr.Vimal Gosar Mr.Sajankumar lal Mr.Ashwin Pathak Mr.Nivant Kamble	978-1-7369640-3-3	Ready to print with the 21 articles will be printed in this week	2021
5	Proceedings of International Conference on Trends in Electronics & Telecommunication – 2021 (IC-TELCON)	Dr.Pyel Saha Dr.S.C.Patil Ms.Sujata Alegavi Ms.Rutvi Thakkar	978-1-7369640-4-0	Ready to print after addition of preface with 144 articles and 13 article of iC Page and 18 articles of IOT. JITM is the Scopus Index journal where 7 papers are communicated E -Anvesa 10 papers are communicated	2021
6	National Symposium: Enhancing Quality & Driving Change in Higher @ Technical Education Through NEP 2020 on 27 April 2021	Dr.R.R.Sedamkar Dr.Rajesh Bansode Dr.Vivek Mishra	---	18 papers Communicated to Journal of Engineering Education and Transformation (JEET).	2021

1.2.4 Faculty Participation in Seminars/Conferences and Symposia during the Academic Year

For effectively translating the curriculum in improving Teaching-Learning Process (TLP), the faculty members are encouraged to continuously update and improve their knowledge by obtaining support from IITs, Government of India Schemes conducted for Teachers, AICTE/ UGC sponsored STTP, ISTE approved Faculty Development Programmes (FDPs), Industry linked training programmes and the training programmes conducted at/ by the institute. The faculty members of the institute actively participate in such FDPs and training programmes. The faculty members have advanced in their technical knowledge and skills, and now are also delivering lectures / share their acquired knowledge with other institutes and industries, and in turn bringing recognition to themselves and to the institute as well.

	COMP	E&TC	ELEX	IT	MECH	CIVIL	ES&H
International Level - Attended Seminars/ Workshops (Dept-Faculty)	--	18	--	02	01	--	--
National Level- Attended Seminars/ Workshops (Dept-Faculty)	--	12	26	10	03	7	02

State Level - Attended Seminars/ Workshops (Dept-Faculty)	--	14	2	--	04	--	01
Local Level Attended Seminars/ Workshops (Dept-Faculty)	6	11	35	--	--	--	--
International Level – Presented papers (Dept-Faculty)	45	12	8	72	26	27	--
National Level- Presented papers (Dept-Faculty)	--	--	--	--	--	--	63
International Level – As resource persons (Dept-Faculty)	--	1	5	--	--	--	--
National Level- As resource persons (Dept-Faculty)	--	5	--	--	--	--	--
State Level - As resource persons (Dept-Faculty)	--	5	--	--	--	--	-
Local Level As resource persons (Dept-Faculty)	6	8	--	--	1	--	--
Total	57	86	76	84	35	34	66

1.2.5 Patents Published/Awarded During the Academic Year

The implementation of recommendation on enhancing the research and development (R&D) culture in the institute is resulting in participation of more and more student and staff in R&D activities. Research funding has been increasing and so are the applications for research proposals. However, there is a good scope of improvement on this front.

The research publications by the students and faculty members have been increased. Also, awareness regarding IPR has improved and as a result, today the institute is also working on having copyrights, patents and trademarks. The R&D cell of the institute has defined the MVS and the R&D objectives.

Patent Details	Patent status Published/ Filed	Patent Number	Date
Utilization of Citrus Bio-enzymes to enhance the compressive strength of recycled concrete	Published	202121026359	14/06/2021
An improved cement concrete and method of preparation of thereof	Published	202121026358	14/06/2021
IOT based Smart Energy management system with surveillance for automation devices.	Published	202021033500	28/08/ 2020

1.2.6 Revenue Generated from Consultancy during the Academic Year

At the institute, as per the design of curriculum, technical core subjects are taught to students from second year of engineering. During each semester and in each branch, institute identifies specific subject in one of the specialized domains, wherein students learn industry relevant technologies. Good research-oriented projects are allotted to students in consultation with R&D cell, which increases the involvement of industry mentors. At the end of the year, project evaluation is carried out by industry experts. Projects with potential for further product development are handed over to Entrepreneurship cell for start-up formalities and business plan development. The 3I Cell (Industry Institute Interaction) supports students and faculty to associate themselves with reputed industries for research and product development. Some of the tie-ups with industries are developed in the form of establishing centres of excellence. Faculty members also learn new technologies and apply knowledge in developing various projects which boosted the consultancy work of faculty members. The policy of sharing of revenue by institute and the faculty is 30:70 wherein 30% after deduction of the expenditure as envisaged here in above shall be paid to the institute, while 70% shall be retained by the concerned faculty.

Consultancy Name	Initiator of Programme (Dept.)	Dept.	Amount of Consultancy	Year
Pal India Computer Education (INS Hamla training programme)	Dr. Bijith Marakarakandy	IT	2,00,000.00	2020-21
Lab Systems India Pvt. Ltd. (Technology transfer)	Dr. Deven Shah	IT	5,50,000.00	2020-21
	Dr. Rashmi Thakur	COMP		
Mission Career	Dr. Harshali Patil	COMP	10,000.00	2020-21
Samyak Software	Mr. Anand Khandare	COMP	10,000.00	2020-21
Star Lite Constructions	Dr. Megharani Patil	COMP	3,000.00	2018-19
Lab Systems (I) Pvt. Ltd.	Dr. Deven Shah	IT	2,00,000.00	2018-19
	Mr. Sandip Bankar	IT		
	Mr. Hiten Mehta			
R-Vision	Dr. Lochan Jolly	E&TC	78,000.00	2018-19
Zhypility Technologies Pvt. Ltd	Dr. Deven Shah	IT	5,00,000.00	2017-18
	Dr. Kamal Shah	IT		
Staredu Solutions (Devops)	Dr. Deven Shah	IT	3,50,000.00	2017-18
	Dr. Kamal Shah	IT		
	Dr. Rajesh Bansode	IT		
	Dr. Rekha Sharma	COMP		
	Mrs. Hetal Amrutia	IT		
	Mrs. Purvi Sankhe	IT		

	Mrs. Veena Kulkarni	COMP		
	Mrs. Kalpana Gangwar	COMP		
Indian Space Research Organization (ISRO)	Dr. Deven Shah	IT	3,00,000.00	2017-18
Gopal Garden High School	Mr. Vikas Kaul	IT	7,000.00	2017-18
	Mrs. Neha Kapadia	IT		
	Anshul Dalmia	IT		
	Varun Mishra	IT		
	Abhijit Kushwaha	IT		
	Nilesh Gupta	IT		
Bhaktivedant Hospital	Mr. Namdeo Badhe	IT	15,000.00	2017-18
	Mr. Vikas Singh	COMP		
Singh Brothers Educare	Mrs. Harshali Patil	COMP	15,000.00	2017-18
Staredu Solutions (IoT)	Dr. Deven Shah	IT	1,50,000.00	2017-18
	Mr. Rahul Neve	IT		
Staredu Solutions (Block Chain)	Dr. Deven Shah	IT	5,00,000.00	2017-18
	Dr. Kamal Shah	IT		
HoT Technology	Dr. Deven Shah	IT	1,00,000.00	2017-18
	Dr. Kamal Shah	IT		
Bhaktivedanta Hospital	Dr. Kamal Shah	IT	1,79,400.00	2016-17
	Dr. Vinayak Bharadi	IT		
	Mr. Vikas Kaul	IT		
	Ms. Vandana Munde	IT		
	Ms. Pranjali Kasture	IT		
	Mr. Bhushan Nemade	IT		
	Mr. Aaditya Desai	IT		
Thakur Institute of Management Studies & Research	Dr. Kamal Shah	IT	10,000.00	2016-17
Grand Total			31,77,400/-	

2 Administrative Activities Including Meetings of Statutory Bodies

TCET's organizational and governance structure comprises of three levels: strategic, operational, and advisory. At the strategic level, there is the Trust consisting of the Chief Executive Officer, Board of Trustees and the Trustee In-charge. The Chairman of the Trust (the Trustee-in-Charge of the Institute) is responsible for setting the direction, defining policies, and guiding the Institute's activities in consultation with the Principal and institute senior leadership team.

At the advisory level are two bodies, the Governing Council and an Advisory Committee formed as per the AICTE/ University of Mumbai (UOM)/ Department of Technical Education (DTE) guidelines. These two advisory bodies review the Institute's performance and recommend additional programmes, changes required in the institutional functioning (academic and research environment) student and faculty development (personal, professional and social), outreach and advocacy programmes to sustain institutional growth, welfare of students and staff, etc.

The operational level is a matrix structure and comprises of Principal, Vice-Principal, Deans and Head of the Departments (HODs), assisted by the various Local Managing Committees (LMCs). Each Committee comprises of cross functional and inter-departmental staff. Day-to-day management work is the responsibility of the Principal who develops rules and procedures to implement the policies outlined by the Board of Trustees. Vice-Principal and Deans form the senior leadership team to support Principal for the operation of the institute. The meetings of statutory committees, viz. the Governing Body, Advisory Committee, College Development Committee, Academic Council, Board of Studies, and Finance Committee are conducted twice during each academic year.

2.1 Meetings of Statutory Bodies

Sr. No.	Statutory Body	Meetings Dates	
		1	Governing Body
2	Advisory Committee	17-10-2020	To be conducted
3	College Development Committee	17-10-2020	To be conducted
4	Academic Council	10-09-2020	20-03-2021
5	Board of Studies	13-02-2021	03-06-2021 to 12-06-2021
6	Finance Committee		

2.2 Practices of Decentralization and Participative Management during the Academic Year

TCET has a clearly defined organizational hierarchy with well-defined roles and responsibilities for each and every staff member.

- TCET has instituted committees for all activities in the institute, and for which members from various units of the institute are appointed. Apart from the staff members, students and Alumni are also involved in many of these committees, which ensures participative environment within the organization. The parents are also involved in the advisory committee so that they know about the activities planned in the institute and provide their valuable inputs for improvement.
- Each department is headed by a Head of the Department (HOD). The Departments are assigned a Mentor Dean from the Institute. Under the leadership of Dean and HOD, each department conducts various curricular and co-curricular activities independently. The Departments are also supported by a Deputy HOD and two Co-ordinators, who look after all the academic and administrative activities of the Department. For each and every class, there is a class teacher who is responsible for academic and administrative activities related to that class. This ensures appropriate academic control in the Department. The delineation of responsibilities facilitates a healthy work environment throughout the organization. The academic monitoring team is also formed to ensure smooth conduct of academic programmes. The role of Mentor Dean has been

instrumental in guiding people in the Departments for bringing better administration at the Department level.

2.3 Strategy Development and Deployment

2.3.1 Quality Improvement Strategies Adopted

- **Curriculum Development:** Under the Autonomy structure, various courses were introduced to match industry requirements. Societal impact was considered as the key point in developing the curriculum. The concepts of Design-based experiments and mini projects for most of the courses have been introduced at the Institute level. Students are encouraged to take online courses such as NPTEL, Coursera, etc. for which the institute's faculty members act as Mentors. Also, the Holistic Student Development approach adopted by the Institute since 2016 has been implemented and successfully continued in this Academic Year. Faculty members are also nominated to various Academic Bodies at the University level.
- **Teaching and Learning**
 - Faculty members plan the academic conduct as per the syllabus, detailing and developing resource book and course file, designing practice sessions, assignments, and experiments, IAT paper, and effective conduct of the academics.
 - All lectures and practical classes are to be conducted as per the plan and are reviewed time to time to improve the efficiency and effectiveness of teaching learning during the semester. The latest available teaching methods and various modes of learning are also adopted by the faculty members during the pandemic. Various digital platforms viz. Zoom, Google Classroom, Flipped Classroom concept, etc. were used for content delivery, and the recordings of lectures provided to the students.
 - The TLP is monitored at 3 levels: Faculty, HOD and leadership mentors.
- **Examination and Evaluation (Online Evaluation in Even Semester)**

The Examination Committee is formed to ensure smooth conduct of the examinations. Continuous evaluation through different methods like internal assessment test, assignments, presentations, projects, etc. is carried out in each semester. At the end of each semester, the University conducts the semester-end examination as well as the A.T.K.T. students. Examinations are mainly for Term Work, Practical, Oral, Project viva-voce, and Theory.

Institute communicates the results on the internet through Institute website. After announcement of the results, students can request for revaluation of the semester-end theory examination answer scripts within a stipulated period. After revaluation, records are updated with changes if any and the student is issued a revised memorandum of marks.

Due to the COVID-19 pandemic, the examinations for all students were conducted in online mode (as per UGC guidelines) and results were declared on time. Online ESE examination for FE to BE was conducted and results were declared within the timeframe without impacting on the academic year of the students.

- **Research and Development**

Areas of domain specific research in various programmes are identified and all faculty members and students are encouraged to explore various research avenues. Domain development support like formal partnerships with external entities, facilitating faculty participation, resource procurement in various domains is provided. R&D committee ensures compliance of various research proposals granted to the institute. Pilot projects are launched for successful development and execution of the challenges so that good ideas can be implemented on a small scale to verify feasibility and impact. Students are encouraged to participate in State/National level Hackathon competitions.

- **Library, ICT and Physical Infrastructure/ Instrumentation**

The institute provides the learning resources to students/scholars and faculty to ensure effective teaching-learning process with optimum resource utilization at the institute. Following strategies are adopted for improving teaching-learning environment:

- Procurement of books (as per regulatory body).
- Deputing additional staff for circulation of books during peak period.
- Providing additional reading rooms during examinations.
- Motivating students to utilize library services *via* orientation programmes.
- Availability of library services also on non-working Saturdays during examination
- Remote access facility made available through mobile app Nimbus.
- ICT 155 Mbps 2 Mbps and Physical infrastructure/ instrumentation.

- **Human Resource Management:**

The Governing Body is the supreme body, which is headed by the Chairman of the Management Council of TCET. The Governing Body comprises of: i) two members of the Management (Correspondent and Secretary), ii) one nominee of State Government, iii) one nominee of University of Mumbai, iv) one nominee of the UGC, v) Principal of TCET, vi) Director, Trustee, vii) two external members (as educationists), and viii) two senior professors of TCET.

A well-established team of the institute is responsible for ensuring compliance with employment and government laws. Proper care is taken in the selection process for keeping quality in the appointments. Staff members are sent for various types of training programme and workshops for enhancing their competence. Works are distributed as per qualifications and experience of the staff member.

- **Industry Interaction / Collaboration (International Evaluator for Project Examination from Industry and Academia)**

Training & Placement (T&P) cell takes initiatives for collaboration with various MNCs and Local Industries for industrial training and internships for students of all departments.

There is also an in-house internship facility created for the students. Owing to COVID-19 pandemic, the internship programme is conducted in online mode. Also, experts from industry and academia were invited for project evaluation. T&P Cell organized a four weeks webinar series in which national-level as well as international-level experts from industry/ academia delivered talks on various topics.

Industrial visits for students and faculty are arranged at local level as well as outside state. Technical seminars and workshops are arranged by industry experts in every semester. In the international conference organized by the institute every year, special workshop sessions are conducted for students by industry experts.

- **Admission of Students**

- Maximizing publicity and brand building of the institute through various awards and recognitions.
- Extending courtesy to interested candidates seeking information related to admission.
- Prompt enquiry handling through adequate number of admission counters and helpdesks.
- Spreading awareness through outreach programmes to attract potential students.
- Publication of Informative Brochure and one page handout of brochure
- Website regularly updated with latest information related to admission.
- Timely compliance is met of various norms issued by statutory and regulatory bodies.

2.3.2 Implementation of e-Governance in Areas of Operations

- **Planning and Development:** The academic monitoring and control, and some of the administrative planning are done *via* ERP. The lecture planning of all faculty members, attendance, syllabus coverage, publishing notes/ study materials for students are also done through ERP. Also, leave application is made online through ERP. Students are also provided access to necessary documents.
- **Administration:** All records related to students' performance are prepared using software-based tools for checking attainments. Consolidation is achieved in effective manner.

- **Finance and Accounts:** The payment of salary to the faculty and staff is done through electronic clearance and deposited in the bank. The payment of student fees is also received through NEFT/RTGS mandates. Payment to affiliating bodies and other stake holders is also done online through e-portals.
- **Student Admission and Support:** Form filling, fees, notifications to concerned are published on Institute website. Online consents for Training and Placement, Higher studies, online certification cell activities, etc. are taken from students. Also, the feedback from students about faculty and Institute are taken online.
- **Examination:** All notices related to Examination form filling, fees, notifications, etc. are displayed through website. Remuneration for examination is disbursed electronically. The results are prepared using in-house software.

2.4 Faculty Empowerment Strategies

2.4.1 Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the academic year by the institute

Name of teacher	Name of conference/ workshop attended for which financial support was provided	Name of the professional body for which membership fee was provided	Amount of support
Mrs. Vaishali Nirgude	NABIC 2020: 12th World Congress on Nature and Biologically Inspired Computing, Indexed by Springer, 14th Dec 2020.	Indexed by Springer	5,000/- (In Process)
Ugandhara Gaikwad	Irrigation and Drainage	-	1,000/-
Rutuja Shinde	1) Vastu foundation course 1	-	360/-
	2) Vastu intermediate Course	-	360/-
Pritesh Bhana	Online Short-Term Course on Data Collection and Analytics in Pavement Management Systems	-	1,000/-
Ms Poorva Waingankar	NPTEL-Op-Amp Practical Applications: Design, Simulation and Implementation	-	1,000/-
Ms Poorva Waingankar	STTP on Advanced Research Methodology	-	300/-
Ms. Leena Chakraborty	Python Basics for IoT	-	360/-
Dr. Kiran Sanap	Two Week Online Faculty Development Programme on Advanced Concepts for Developing MOOCS	-	760/-
Dr. Sunita Pachori	Two Week Online Faculty Development Programme on Advanced Concepts for Developing MOOCS	-	760/-
Dr. Sunita Pachori	NPTEL Course (8 weeks)	-	1,100/-
Dr. Ela Agarkar	Two Week Online Faculty Development Programme on Advanced Concepts for Developing MOOCS	-	760/-
Mr. Vimal Gosar	Two Week Online Faculty Development Programme on Advanced Concepts for Developing MOOCS	-	760/-
Mr. Vimal Gosar	Advanced Machining Processes	-	1,100/-

2.4.2 Number of professional development / administrative training programmes organized by the College for teaching and non-teaching staff during the academic year.

Title of the professional development programme organised for teaching/ non-teaching staff	Department	No. of participants, Teaching/ Non-Teaching	Dates
Online FDP on "Creating Digital Content for Effective Online Academic Delivery"	COMP	21, Teaching	June 1st - 12th 2020
Online FDP on "Effective Blended Academic Delivery" Dec 10th - Dec 12th 2020	COMP	21, Teaching	Dec 10th - Dec 12th 2020
FDP on "Opportunities for Book Publication and content creation as per NEP 2020"	COMP	21, Teaching	March 8th - March 10th 2021
FDP on "Implementation of NEP 2020"	COMP	32, Teaching	April 28th - April 30th 2021
FDP on Stress Management & Meditation	COMP	21, Teaching	Jan 8th 2021
Training for non-teaching staff on Online Teaching Tool	COMP	3, non-teaching	20th Feb, 6th March, 20th March 2021
ATAL FDP "Quantum Computing" was conducted from 18th Jan to 22nd Jan 2021 in which around 80	IT	16, Teaching	18-22 Jan 2021
AICTE- AQIS Sponsored One Week Short Term Training Programme (Sttp)	IT	Teaching	Planned during 14th to 19th June 2021
Two Days FDP ON LaTeX	ELEX	2, Teaching	14th - 15th May, 2020
Two-week FDP on Creating Digital content for effective online academic delivery	ELEX	13, Teaching	1st June to 15th June 2020
One week FDP on Python 3.4.3	ELEX	6, Teaching	15-20 June 2020
Webinar Series by TCET in Holistic Development during pandemic 2020	ELEX	13, Teaching	16 June - 4 July 2020
ATAL FDP on Photonics	ELEX	1, Teaching	23rd Nov 20 to 27th Nov 2020
FDP on "Opportunities for Book Publication and content creation as per NEP 2020"	ELEX	13, Teaching	8/3/2021 to 10/3/2021
Training on Camera operating for support staff	ELEX	2, non-teaching	15/02/2020
Effective Blended Academic Delivery	MECH	16, Teaching	10/12/2020 to 14/12/2020
Opportunities for Book Publication & Content Creation as per NEP 2020	MECH	16, Teaching	08/03/2021 to 10/03/2021
Implementation of National Education Policy (NEP) 2020	MECH	16, Teaching	28/04/2021 to 30/04/2021
Implementation of National Education Policy (NEP) 2020	CIVIL	14, Teaching	28/04/2021 to 30/04/2021

2.4.3 Welfare Schemes

a) **Teaching and Non-Teaching Staff:** Credit Co-operative Society, Health Insurance, PF, Gratuity

b) **Students:** Scholarships (Full and Partial), Project Finance through Hobby Clubs

2.4.4 Activities and Support from the Parent – Teacher Association

The parent-teacher meeting is conducted every year during the First-Year batch Induction Programme.

In addition, Parents' meet is organized twice every semester at the Department level. Also, the feedback from parents is taken during such meets and suggestions made by the parents are noted and worked upon. In the Even semester, Parents' feedback during online examinations was also taken.

Apart from the above, parents are also included in the Advisory Committee of each Department where they can give suggestions towards the growth and development of the organization.

2.4.5 Internal Quality Assurance System Details

Submission of Data for AISHE portal	Yes
Participation in NIRF	Yes
ISO certification	Yes
NBA or any other quality audit	Yes

2.4.6 Number of Quality Initiatives Undertaken during the Year

- Specialization courses offered as part of curriculum, under Autonomous scheme.
- Conduct of online TLP, doubt solving session, and evaluation assessment during COVID-19 pandemic situation done with use and integration of different online platforms- Microsoft Teams, Zoom and Google Classroom.
- Employability Skills Development Programme for enhancing IT skills for students.
- Agile Methodology is followed for developing application-based BE Projects.
- Online conduct of in-house internship was successfully carried out.
- Training programmes for GATE, GRE, GMAT, conducted at institute level for students to get into higher studies.

2.4.7 Differently Abled (Divyangjan) Friendliness

Items Facilities	Yes/No
Physical facilities	Yes (Washrooms for Differently abled)
Provision for lift	Yes
Ramp/ Rails	Yes (1 Wheelchair)
Rest Rooms	Yes
Any other similar facility	Yes (Disability Resource Centre)

3 Extension Activities Undertaken

The institute has strengthened the extension and outreach activities, since it received the NAAC accreditation in the year 2017. It has started putting efforts to motivate faculty and students to take part in extension activities for overall professional development. The institute has also started organizing extension and outreach programmes.

The institute has NSS wing along with the programme officers of NSS units. Every student member of NSS serves for a period of at least two years with 120 hours of engagement in community service, per year, excluding annual camps. At the end of two years of satisfactory service, each student member receives NSS Certificate, which is considered as equivalent to a diploma in Social Service.

The Student Organisation for Reform & Transformation (SORT), a club established in October 2019 in association with Vyakti Vikas Kendra India, engages students for their development and the

development of society and the nation. With clear objective of Self Development, Talent Incubation and Spirituality, SORT Club stands out of all the committees; and club to focus solely on student's development. The SORT club has 61 members, including faculty. It has conducted 11 seminars and 9 workshops/ events till date.

In addition, the institute has started advocacy and outreach activities to expand the institute connect with the outside world. During the pandemic situation, the advocacy and outreach cell has conducted various programmes in online mode on National Technology Day, IQAC symposium on theme NEP-2020, and Technology Vision-2035.

3.1 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 Academic Year

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
1	21-06-2020	International Yoga Day	Enhance physical well-being and spread awareness regarding importance of proper health.	Volunteers successfully understood the use of yoga and meditation in the daily life for relaxation of mind, body, and soul.	Health	31
2	06-07-2020	Paper Strip Making Activity	Learn the need to take safety measures during the pandemic and implement various ways in which the same can be achieved.	Understood the need to take the precautionary measures in the pandemic and made paper strips out of the old newspapers and thus, reusing them to protect hands.	Education, Society	105
3	08-07-2020	Debate (Recruitment)	Understand about the various social topics and have a healthy debate about them.	Learned team- building and gained knowledge about the various social topics.	Education	142
4	16-07-2020	Stress Management Webinar	Understand the ill effects of stress on physical and mental health	Learned more about stress, how to cope with stress and stay healthy at all times and also what can be done to help people who are dealing with a lot of stress.	Education, Health	39
5	19-07-2020	Mask Making Activity	Understand the importance of taking precautions in the pandemic and understanding the advantages of making homemade masks.	Learned how to make masks at home and the care that must be taken during the pandemic.	Education, Health	79
6	26-07-2020	Kargil Vijay Diwas	Learn about this special day and respect the martyrs of the Kargil war.	Learned about this day and made an artwork to honour the martyrs of the Kargil war.	Education, Society	85
7	01-08-2020	Honouring The Great Leaders	To make volunteers understand the need to know about the great leaders of India and learn from them.	The volunteers realized the efforts taken by these great leaders and expressed their gratitude.	Education	124
8	02-08-2020	Group Discussion Activity	To make the volunteers aware about the current affairs in the society.	The volunteers came to know about the various current affairs in the society.	Education, Society	113

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
9	03-08-2020	Online Quiz Activity	Test the volunteers on the basis of their knowledge of the current affairs.	Understood the need to know what is happening in the society.	Education, Environment, Health, Society	123
10	08-08-2020	Thematic Roleplay	To learn how to convey a social message through a roleplay.	Understood the various problems in the society and convey the information to the society by a thematic roleplay.	Education, Society	142
11	12-08-2020	International Youth Day	Get to know about the youth day and the importance of being a leader and how to be a good leader.	Through a session conducted by a college alumni, the various leadership qualities needed to be a good leader were learnt.	Education, Society	105
12	12-08-2020	Tree Plantation	To educate the volunteers about the importance of conserving nature and preventing deforestation.	The volunteers took it as their responsibility to conserve nature and also aware others about the same.	Environment	21
13	15-08-2020	Gift Preparation for Frontline Warrior	To appreciate and admire the efforts been taken by the frontline warriors that is, not only doctors but even cleaners and policemen.	The volunteers made a handmade gift for the frontline warriors and felt a sense of giving.	Society	105
14	21-08-2020	Ganapati Celebration Awareness	To highlight various ways in which Ganapati celebration can take place in an eco-friendly and safe way in the pandemic.	Learned the various ways and alternatives in which Ganapati celebration can take place by staying safe and not harming the environment.	Education, Society	142
15	29-08-2020	Digital Literacy	To teach the needy children who are deprived of education due to unavailability of resources.	The volunteers in collaboration with the 'we can we will foundation' helped the underprivileged children with their education.	Education, Society	50
16	31-08-2020	Cloth & Paper Bag Making Activity	Learn the need to use cloth and paper bags instead of plastic bags as they are harmful for the environment.	The volunteers prepared several cloth and paper bags and understood the need to use them instead of plastic bags.	Education, Society	73
17	05-09-2020	Organ Donation Webinar	Learn about the organ donation options after death and understanding the process.	Understood the need to donate organs and cleared the common misconceptions about organ donation.	Health, Society	104
18	13-09-2020	Online Energy Conservation	To understand the need to save energy and reach out to families and giving them tips for saving energy.	Learned about the need to save energy, discussed the various ways in which energy can be saved and also reached out to different families and helped them reducing their bills.	Education, Society	70
19	20-09-2020	HIV & AIDS Awareness Webinar	To learn more about HIV and aids and break the stigma around it.	Learned about HIV and aids and the steps one should take to prevent getting this disease.	Education, Health	108

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
20	22-09-2020	Fitness Activity	Learn about the need to exercise and the benefits of exercising daily.	Various asanas and exercises were performed by the volunteers, and they also learnt about the benefits of these exercises.	Health	103
21	04-10-2020	Water Conservation Awareness	Learn the need to save water and come up with creative ways to promote this topic.	The volunteers made interesting parodies of songs in order to spread the message of water conservation.	Education, Society	87
22	05-10-2020	Each One Feed One	To understand that due to the lockdown the stray animals may go without food and doing something for them.	The volunteers fed stray animals and birds and also got a sense of satisfaction by doing so.	Society	83
23	06-10-2020	Pledge Taking Activity	To learn about the various problems in the nation and the need to take action on these problems.	Understood the various problems in the nation and pledged to make a change for the betterment of the country.	Society	127
24	07-10-2020	Covid-19 Awareness & Prevention Programme	Learn more about the current pandemic and the corona virus and the care which must be taken.	Learned more about the covid-19 pandemic and learnt how one can prevent from being infected by the virus through a course provided by who.	Health, Society	124
25	09-10-2020	A Talk with The Brave	Understand the career scope in defence after completing Bachelor of Engineering and motivate volunteers to serve the nation.	Learned about the various ways through which they can join the armed forces and thus serve the nation.	Society	115
26	11-10-2020	Aatmanirbhar Bharat	To discuss the Aatmanirbhar Bharat movement and talk about the various ways to make this change.	The volunteers talked about the various Indian origin brands which can be used instead of foreign brands in order to promote the Aatmanirbhar Bharat movement.	Society	66
27	12-10-2020	Pledge Taking - 2	To learn about the various problems in the nation and the need to take action on these problems.	Understood the various problems in the nation and pledged to make a change for the betterment of the country.	Society	142
28	23-10-2020	Mangrove Ecosystem Webinar	To learn about the mangrove ecosystem and why they are important to us.	The volunteers understood the need of preserving mangrove trees and got to know what they can do.	Education, Society	99
29	24-10-2020	Digital Literacy	Understand that not all children are getting the basic educational needs and thus prepare resources to help these children.	Prepared a syllabus which is interested and child-friendly.	Education, Society	82
30	31-10-2020	Pledge Taking Activity - 3	To learn about the various problems in the nation and the need to take action on these problems.	Understood the various problems in the nation and pledged to make a change for the betterment of the country.	Society	79

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
31	07-11-2020	Slogan Making Activity	To make the volunteers aware about the various social issues in society and come up with catchy slogans.	Volunteers became aware of the social issues and successfully came up with catchy slogans and attractive posters.	Society	58
32	17-11-2020	Smrutigandh Program	To make the volunteers know the work Balasaheb Thackeray. Towards the country	Volunteers realized about the efforts taken by Balasaheb Thackeray for the country.	Education, Society	20
33	17-01-2021	Webinar On Pcos	To create an awareness about pcos among the female volunteers.	The volunteers were able to express and clear their various doubts regarding this topic	Education, Health, Society	47
34	24-01-2021	Parakram Divas	To learn about the contribution of netaji chandra bose to this country.	The volunteers came up with drawings, poem, videos etc. To tribute our national hero.	Education, Society	78
35	26-01-2021	Debate Activity	To help the volunteers develop essential thinking skills and educate them about the various social topics.	The volunteers got acquainted with skills like group management, teamwork and critical thinking.	Education, Society	65
36	30-01-2021	Road Safety Quiz	To enlighten the volunteers about the protocol to be followed when on road.	The volunteers revised the driving rules and learnt about how to drive safely.	Education, Society	115
37	01-02-2021	Pledge Taking Activity - 4	To make the volunteers pledge for protection of environment.	The volunteers pledged to contribute towards a better environment and its conservation.	Environment, Society	120
38	09-02-2021	Tree Plantation Drive	To highlight the importance of trees among the volunteers.	The volunteers realized the importance of trees and their impact on the environment.	Environment	52
39	14-02-2021	Road Safety and Traffic Management	To make the drivers and pedestrians aware about the traffic rules.	The volunteers came up with different posters, slogans and parodies about traffic management and raised awareness about the traffic rules.	Society	49
40	19-02-2021	Road Safety Webinar	To raise awareness about the danger of reckless driving and educate the volunteers about the rules when on road.	The volunteers were educated about the various aspects of road safety.	Education, Society	43
41	21-02-2021	Stand Up Training	To shed light on mistreatment of women in public and what one can do as a victim or even as a witness.	The volunteers learnt what they can do if they land themselves in a bad situation.	Education, Society	105
42	28-02-2021	Swachhta Abhiyan	To invoke a sense of responsibility in the volunteers to keep their surroundings clean.	The volunteers cleaned the area around them and contributed to the Swachh Bharat Abhiyan.	Society	82
43	14-03-2021	Interaction With Elders	To make volunteers spend quality time with their elders and also to awaken a sense of gratitude for those who cared for us	The volunteers made various gift and some even prepared meal for the first time and learnt something new also they spent quality time to bond with their elders.	Society	56

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
44	30-03-2021	Awareness On Covid-19 Vaccination	To make the volunteers understand the importance of covid-19 vaccine and also to clear myths and stigma about the same.	The volunteers interacted with those who were sceptical of taking the vaccine and cleared all the misconceptions about the same and also encouraged everyone eligible to take the vaccine.	Health, Society	27
45	31-03-2021	Webinar On Nutrition & Health	To make the volunteers aware about various lifestyle changes and also guide them about healthy diet, importance of exercise and other factors to live a healthy life.	Volunteers understood the importance of having a healthy life and decided to take care of themselves.	Health	93
46	07-04-2021	Organ Donation Drive By Mumbai University	Learn about the organ donation options after death and understanding the process.	Understood the need to donate organs and cleared the common misconceptions about organ donation.	Health, Society	145

Extension Work Details Reflecting the Contribution to the Society

The Extension Work Team (EWT) Programme is aimed to extend educational programmes and opportunities to the less privileged sections of the society with the aim to enhancing and improving their quality of life. The EWT work was conducted even during the COVID 19 pandemic situation. All the activities were conducted in online mode. Earlier only the students in slum area from Dahisar to Malad were taught and mentored. However, during the Pandemic situation, with the support of NGOS, the volunteers were able to reach out online and could teach/ mentor students staying at distant places, like Gujarat, Rajasthan, Bihar and other places in Maharashtra.

Objectives:

- To gain career orientation and job orientation.
- To apply classroom knowledge for the benefit of the community.
- To interact with the community in which TCET EWT work.
- To make the students aware of the social problems in the community.
- To educate the volunteers about avoiding wastage of food.

Activities conducted

- Vidya Vikas Sabha
- WCWW Teaching Activity
- Resource Generation for Online Teaching Sessions
- EWT Magazine Launch

Outcomes: Students were able to

- Achieve career orientation and job orientation.
- Apply classroom knowledge for the benefit of the community.

- c) Better understanding of social problems in the community.
- d) Interact with the community in which we work.
- e) Understand the importance of saving food

STEM - Promotion by F.E. Department

The 21st century is a knowledge-based economy, where STEM education and related skills create a wide variety of exciting career opportunities for the highest paid jobs in the current market. In an ever-changing, increasingly complex world, it is more important than ever that our nation's youth are prepared to bring knowledge and skills to solve real world problems, make sense of information, and know the ways to gather and evaluate evidence for the decision-making process. These are the kinds of skills that students develop in Science, Technology, Engineering and Mathematics—disciplines collectively known as STEM. The program needs to remind students that this kind of learning can be fun and STEM-PROMO 2020 is an effort in this direction.

Events Organized:

- a) AT-STEM (Aptitude Test in Science, Engineering, Technology and Mathematics)
- b) Code Overload (An activity based on coding knowledge using C, C++, and Java)
- c) Da-Vinci Code (Treasure Hunt)
- d) Artify (A digital poster making activity in the field of STEM)
- e) Just A Minute (JAM)

Objectives:

- To imbibe the importance of STEM education.
- To inspire and develop Scientific/ Engineering temperament.
- To help the students understand their capabilities to pursue STEM education.
- To ignite passion to experience hands-on and skill-based technical knowledge to become a skilled professional by pursuing STEM education.

Feedback Analysis:

- Google document-based feedback forms were shared with all participants in all the events. Feedbacks were obtained on the following questions.

Q1: What was your level of satisfaction?

Q2: How would you like to rate the overall organization of the event?

	Artify		Code Overload		JAM		Da Vinci Code		ATSTEM 3.0	
Total Responses	247		235		127		334		187	
Parameters	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Excellent	118	151	102	122	75	91	134	164	114	115
Good	86	56	77	76	39	25	134	115	48	53
Satisfactory	22	27	19	22	10	8	39	41	20	9

Not Satisfactory	17	9	19	12	3	3	19	8	3	6
Poor	4	4	18	3	0	0	8	6	2	4

Outcomes:

- Event was conducted as per the schedule.
- Out of 1273 registered participants, a total of 1130 participants appeared for the entire STEM-PROMO-2021.
- Participants came up with diversified thoughts for poster presentations.
- It has given a good platform for budding young minds to come up with talent.
- It has emphasized participants for critical thinking.
- Participants understood the important aspects of the basics of Engineering course, such as sciences, mathematics, and their role in technology development.
- The event could help in enhancing the participant's interest in pursuing engineering courses.

3.2 Awards and recognitions received for extension activities from Government and other recognized bodies during the academic year

Name of the Institution / Teacher / Student	Name of the Award/ Recognition	Name of the Awarding Body/Agency	Month and Year of award
TCET-EWT Programme Officers: Dr. Ela Agarkar Mr Ashwin Pathak Mr. Nivant Kambale	Valuable Philanthropist of the year 2020	We Can We Will Foundation - NGO (Reg: Abhinavan Foundation - U85300MH2018NPL317242) Borivali (West), Mumbai 400091	Sep-20
Kadam Shivam Satish Shraddha SE Div- A Roll No-28			
Kumawat Harsh Bhawarlal Sarita SE Div- A Roll No-33			
BHAVSAR TANAY KANHAIYALAL ARCHANA SE Div- A Roll No-7			
Mutatkar Aditi Ratnakar Chhaya SE Div- B Roll No-4			
Shaikh Maeed Abid Ali Zarina SE Div- B Roll No-21			
Jaiswal Abhisek Umeshchandra kusumdevi SE Div- B Roll No-2			
SINGH ANUP RAJESH SABAY SE Div- B Roll No-27			
SINGH SUMEET SATYAJEET SUNITA SE Div- B Roll No-30			
Rawat Rashmi Girish Deepa SE Div- B Roll No-15			

3.3 Students participating in extension activities with Government Organisations, Non-Government Organisations, and programmes such as Sv'achha Bharat, Aids Awareness, Gender Issue, etc. during the academic year

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
1	21-06-2020	International Yoga Day	Enhance physical well-being and spread awareness regarding importance of proper health.	Volunteers successfully understood the use of yoga and meditation in the daily life for relaxation of mind, body, and soul.	Health	31
2	26-07-2020	Kargil Vijay Diwas	Learn about this special day and respect the martyrs of the Kargil war.	Learned about this day and made an artwork to honour the martyrs of the Kargil war.	Education, Society	85
3	01-08-2020	Honouring The Great Leaders	To make volunteers understand the need to know about the great leaders of India and learn from them.	The volunteers realized the efforts taken by these great leaders and expressed their gratitude.	Education	124
4	12-08-2020	International Youth Day	Get to know about the youth day and the importance of being a leader and how to be a good leader.	Through a session conducted by a college alumni, the various leadership qualities needed to be a good leader were learnt.	Education, Society	105
5	05-09-2020	Organ Donation Webinar	Learn about the organ donation options after death and understanding the process.	Understood the need to donate organs and cleared the common misconceptions about organ donation.	Health, Society	104
6	07-10-2020	Covid-19 Awareness & Prevention Programme	Learn more about the current pandemic and the corona virus and the care which must be taken.	Learned more about the covid-19 pandemic and learnt how one can prevent from being infected by the virus through a course provided by who.	Health, Society	124
7	11-10-2020	Aatmanirbhar Bharat	To discuss the Aatmanirbhar Bharat movement and talk about the various ways to make this change.	The volunteers talked about the various Indian origin brands which can be used instead of foreign brands in order to promote the Aatmanirbhar Bharat movement.	Society	66
8	17-01-2021	Webinar On Pcos	To create an awareness about pcos among the female volunteers.	The volunteers were able to express and clear their various doubts regarding this topic	Education, Health, Society	47
9	24-01-2021	Parakram Divas	To learn about the contribution of Netaji Subhash Chandra Bose to this country.	The volunteers came up with drawings, poem, videos etc. To tribute our national hero.	Education, Society	78
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12	07-04-2021	Organ Donation Drive By Mumbai University	Learn about the organ donation options after death and understanding the process.	Understood the need to donate organs and cleared the common misconceptions about organ donation.	Health, Society	145

3.4 Initiatives taken to address local and national advantages and disadvantages during the academic year

Sr. No.	Date	Name of Activity	Objective	Outcome	Domain	Count of Volunteers
1	06-07-2020	Paper Strip Making Activity	Learn the need to take safety measures during the pandemic and implement various ways in which the same can be achieved.	Understood the need to take the precautionary measures in the pandemic and made paper strips out of the old newspapers and thus, reusing them to protect hands.	Education, Society	105
2	08-07-2020	Debate (Recruitment)	Understand about the various social topics and have a healthy debate about them.	Learned team- building and gained knowledge about the various social topics.	Education	142
3	16-07-2020	Stress Management Webinar	Understand the ill effects of stress on physical and mental health	Learned more about stress, how to cope with stress and stay healthy at all times and also what can be done to help people who are dealing with a lot of stress.	Education, Health	39
4	19-07-2020	Mask Making Activity	Understand the importance of taking precautions in the pandemic and understanding the advantages of making homemade masks.	Learned how to make masks at home and the care that must be taken during the pandemic.	Education, Health	79
5	02-08-2020	Group Discussion Activity	To make the volunteers aware about the current affairs in the society.	The volunteers came to know about the various current affairs in the society.	Education, Society	113
6	03-08-2020	Online Quiz Activity	Test the volunteers on the basis of their knowledge of the current affairs.	Understood the need to know what is happening in the society.	Education, Environment, Health, Society	123
7	08-08-2020	Thematic Roleplay	To learn how to convey a social message through a roleplay.	Understood the various problems in the society and convey the information to the society by a thematic roleplay.	Education, Society	142

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11	29-08-2020	Digital Literacy	To teach the needy children who are deprived of education due to unavailability of resources.	The volunteers in collaboration with the 'we can we will foundation' helped the underprivileged children with their education.	Education, Society	50
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26	26-01-2021	Debate Activity	To help the volunteers develop essential thinking skills and educate them about the various social topics.	The volunteers got acquainted with skills like group management, teamwork and critical thinking.	Education, Society	65
27	30-01-2021	Road Safety Quiz	To enlighten the volunteers about the protocol to be followed when on road.	The volunteers revised the driving rules and learnt about how to drive safely.	Education, Society	115
28	01-02-2021	Pledge Taking Activity - 4	To make the volunteers pledge for protection of environment.	The volunteers pledged to contribute towards a better environment and its conservation.	Environment, Society	120
29	09-02-2021	Tree Plantation Drive	To highlight the importance of trees among the volunteers.	The volunteers realized the importance of trees and their impact on the environment.	Environment	52
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Prepared By

Checked By

Verified By

Reviewed & Recommended By

Approved By

Purnima
4/4/2022
Ms. Purnima
Chandrashekar
Dr. Vidyadhari
Singh
Mr. Amol
Dapkekar
IQAC Members

B. Ravi
04/4/22
Dr. Rajesh
Bansode
IQAC
Coordinator

B. Ravi
Dr. R.R. Sedamkar
Director, IQAC

Dr. Deven Shah
Dr. Deven Shah
Vice Principal

Dr. B. K. Mishra
Dr. B. K. Mishra
Principal/IQAC
Chairperson



Summary of Observation/Suggestions/Actionable points Arising out of Academic Performance Audit conducted by "External Peer Team" on 27/7/2021

**Quarterwise Action Taken Report Format - AY 2021-22 (reference document for next Audit)
 Criterialwise NAAC Score Received during 2017 are listed for reference**

Criteria Name, Criteria no.as per NAAC	Observations/ Suggestions Received from External Peer Team of Experts as per UGC requirement of Academic Performance Audit and NAAC 4th Quarter
Curricular Aspects, Criteria- 1	<p>As per UGC Academic Performance Audit held on 27-7-21 :</p> <ul style="list-style-type: none"> i. Syllabus, course and the B.E. / B.Tech. Program to be revamped and redesigned as per the need. ii. To teach Latex in Semester-VI instead of Semester-VII. iii. Increase the involvement of Industry Experts in curriculum and syllabus design; taking Inputs of Alumni working in industry, other experts from industry, Guest lectures, and Seminars. iv. Create a vertical for IT/Computer based subjects in curriculum for other branches. v. Focus on the Value Additions (ABL/PBL/RBL/ESD/Internship) in scheme to differentiate it from the curriculum being taught in affiliated colleges. vi. Question paper setting, assessment and time line of all activities are important for examination cell. vii. Question paper should be set as per Bloom's Taxonomy. To maintain confidentiality, it cannot be checked before the examination; however, after examination the respective department can check and improvement as required can be brought from the subsequent examinations. viii. If students are securing more than expected marks, they never complain for assessment. To maintain quality of assessment, high scoring marks can be moderated / rechecked by external examiner. <p>As per NAAC-IQAC 4th Quarter Meeting held on 31-7-21</p> <ul style="list-style-type: none"> i. To align the TE and BE subjects as per industry requirements to cater latest trends & technology. ii. To restructure the laboratory exercises because of the pandemic; if practical exercises are to be conducted in offline mode, ensure that these are done in COVID-19 appropriate manner. iii. To ensure enough subscription of e-journals to inculcate research culture among students and faculty members. iv. In case of newly introduced courses, certification can be granted to benefit students; it would be an add-on to students resume (along with the degree).
Teaching-Learning & Evaluation, Criteria - 2	<ul style="list-style-type: none"> i. Department to be flexible, adaptive, able to respond and cater to the changing scenario in the Mechanical Engineering job market, skill, and knowledge requirements of the students. ii. All academic departments can make a comparative study of their credit structure to bring general uniformity. iii. In view of increasing demand for Vocational / Certificate Courses, the departments can explore and start such courses, if required with the support of other department and Industries. iv. Inculcate, incentivise and nurture research culture across the Departments. v. Encourage and enhance R&D activities through extra-mural research funding, industry support, etc. vi. Faculty should be motivated, guided and encouraged to publish their research articles and other academic works in quality journals/ publications of high repute. vii. Industry related course contents/ subjects can be added in the curriculum, in association with reputed industries. viii. Increase connect with the industries; collaboration with reputed Industries in R&D; connecting with industry professional; via student's projects, major projects, RBL, Hackathons, etc. ix. Encourage students to do multidisciplinary projects and increase the number of funded R&D projects. x. Study the need of stakeholders before designing the curriculum; devise innovative means of course content delivery, developing curiosity and interest of students towards the course. xi. Study the impact of activity and incorporate valuable inputs for effective implementation. xii. Teachers training programs for enhancing S&T research communication skills can be arranged in forms of expert talks, workshops, etc. xiii. Faculty need to be trained on how to set up question paper for different levels, keeping in view COs and POs, etc. (proper mapping is needed). xiv. ABL activity being currently common across the departments could be made department-specific. <p>As per NAAC-IQAC 4th Quarter Meeting held on 31-7-21</p> <ul style="list-style-type: none"> i. To conduct STTPs with appropriate topic selection; Concentrating on uncommon topics and proper resource person selection. ii. To have effective conduct of programme assessment test; based on course-wise GATE questions inclusion; improving students technical understanding among all courses. iii. To encourage more students to participate in e-Hackathons and other competitive examinations. iv. To increase open access usage for better learning in pandemic situation; enhance use of e-books, e-journals through available standard digital platforms.

Research, Consultancy & Extension, Criteria -3

As per UGC Academic Performance Audit held on 27-7-21 :

- i. Regular lecture of Researchers to motivate student for work In COE and create research culture and prepare R&D calendar for talk.
- ii. Create Institute-Industry Interface Cell; Increase Industry-academia connect and Interaction, R&D; Joint research culture should also be encouraged.
- iii. Enhance interaction with national/ international S&T academies, and other reputed professional societies and bodies.
- iv. Improve publication quality; Encourage and Incentivise for quality publication.
- v. Faculty Grooming for research and entrepreneurial mind set.
- vi. Faculty member be encouraged to write research proposals to various funding agencies and obtain extra-mural research funds.
- vii. Also encourage Patents; have Institutional mechanisms for patent filing and maintaining the same as required.
- viii. Entrepreneurship: Improving the rapport with students having family business in civil field.
- ix. Increased connect with the Alumni; create policy and systematic method and reviewing process.
- x. Need to study the impact of NABL certification for all labs.
- xi. Publications cumulative citations and Impact, etc. should be specified (I.e., self citation, citation by others, etc.)
- xii. Extension work is to be highlighted in reports which will reflect the contribution to society.

As per NAAC-IQAC 4th Quarter Meeting held on 31-7-21:

- i. Increase start-ups; invite new start-ups, old start-ups that have restarted.
- ii. To improve quality of research publications, industry interaction at various levels; students during a project at industry where faculty as a mentor can do shadowing with the industry people, should be more targeted.
- iii. To integrate scientific communication related course; content to be incorporated in curriculum for which work is in progress.
- iv. To introduce appropriate course work on research methodology for PG students.
- v. To encourage faculty members to pursue Ph.D.
- vi. Enrol for relevant domain advancement training in the industry.
- vii. Up-gradation of laboratories considering the introduction of the new courses.

Infrastructure & Learning Resources, Criteria -4

As per UGC Academic Performance Audit held on 27-7-21 :

- i. To the extent possible, all laboratories and the facilities therein should be accessible to all faculty and students for their research work. UG Labs can be separate. Besides having department-level integrated research facilities, endeavour to develop institute-level sophisticated instrumentation facility for research work, accessible to all.
- ii. Recalibration of departmental laboratories for starting of online TLP from offline mode, if need arises.
- iii. Inter-Department Committee for specialization Mentor(s).

As per NAAC-IQAC 4th Quarter Meeting held on 31-7-21

- i. To recalibrate departmental laboratories for starting of online TLP from offline mode, if need arises.
- ii. To establish inter-department committee for mentor of specialization.

Student Support & Progression, Criteria -5

As per UGC Academic Performance Audit held on 27-7-21 :

- i. Placement: Increasing the reach to companies for increasing number of placements, making students competent with appropriate attitude and aptitude.
- ii. Outreach and extension programs connect with industries for better placements in core departments - Civil, Mechanical and also in other departments, including circuit branches.
- iii. Placement through industry - Department interaction, Understand and analyze the job requirements of few industries in proximity and redesign the program courses, labs, and practical training accordingly.
- iv. Placement improving the interaction with the industry through out-house internship.
- v. Placement by connecting the students with alumni so that they will get correct platform for the placement.
- vi. Highlight in report about one to one counselling for HOC.
- vii. College-level policy for resolution of academically and otherwise weaker students.
- viii. The committee enquired about the faculty involved in the conduct of ESD program.
- ix. Encouraging students for higher studies (M.Tech. in IITs/ NITs and other reputed institutions) in India.
- x. GATE and STEM promotion activities need to be strengthened.
- xi. Outreach has to take input from department.

As per NAAC-IQAC 4th Quarter Meeting held on 31-7-21

- i. Providing opportunity to students, other than the EDC, new type of scholarship (from Trusts/ other philanthropists); facilitate and increase student awareness towards this.
- ii. Develop institutional mechanism to help academically weak students (not to address them as 'Defaulters'; Identify and address their needs in a careful manner)
- iii. Encourage institute-society interaction, student involvement in society-relevant projects, group projects, etc.
- iv. To identify the lacunae in placements; (can be identified with regards to students' skill set and employability, and other important parameters, in consultation with faculty members of all departments).

Governance, Leadership & Management , Criteria -6

As per UGC Academic Performance Audit held on 27-7-21 :

- i. statements in sync with the Vision and mission statement of the College. Coordination needed.
- ii. Uniqueness of academic programs and other activities undertaken or planned to be undertaken can be identified and highlighted (differentiators of TCET from other institutions).
- iii. Future plan need to be included.
- iv. S&T topics mentioned in TV 2035 as future challenges can be considered for inclusion in the syllabus, if possible. Workshops/ discussion meetings, etc. on all ten challenges in TV-2035 can be organized.
- v. Keep specialization courses

i. To bring the Vision and Mission

As per NAAC -IQAC 4th Quarter Meeting held on 31-7-21

- i. To conduct co- and extra-curricular activities for the students after 3.30 pm, and consider this as 100 points activity.
- ii. To plan a strategic goals in sync with institute perspective plan developed in 2013; (after autonomy, within three years institute shall apply for the deemed university or the private university status; Institute working towards submitting application).
- iii. To collaborate with other institutions/ universities in future for the student group projects (in process).
- iv. To organize periodic forums for all departments for sharing their ideas and experiences, views, contributions, etc. with each other.
- v. To properly and carefully prepare various reports being submitted/ to be submitted to regulatory authorities, and to others. Submit only after thorough checking and verification of data and editorial/ language corrections.

- As per UGC Academic Performance Audit held on 27-7-21 : i. TLP should be strengthened; enhance course content delivery quality; develop mechanism to sustain.
- ii. Improve Faculty recruitment, development, nurture and sustain.
 - iii. Bring uniformity in the credit structure across all the departments of the institute and remove inconsistencies.
 - iv. Scientific writing/ S&T communication skill development program should be conducted for faculty and student.
 - v. Also, focus on the value additions (ABL/PBL/RBL/ESD/Internship, etc.) in scheme to differentiate it from the curriculum being taught in other affiliated colleges.
 - vi. Question paper should be set as per Bloom's Taxonomy.
 - vii. Enhance inter- and intra-departmental collaborative work culture.
 - viii. The Departments should continually strive to improve TLP and bring innovativeness and improve sustainability.

As per NAAC-IQAC 4th Quarter Meeting held on 31-7-21

- i. To complete NBA SAR work, which is due for June-2022; initiate and identify faculty team's criteria wise. Meanwhile the pre-qualifier is to be completed with department's data and same is to be uploaded on NBA portal.
- ii. To identify and mention the innovative works undertaken/ to be undertaken by the departments; elaborate and put clearly defined specific plans; not just abstract.

Innovations and Best Practices, Criteria-7

PROFORMA FOR PROGRESS REPORT OF COLLEGE (AUTONOMOUS)

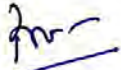
Academic Performance is conducted by External peer team

Date of Audit conduct by External Peer Team: 27th July, 2021

Progress Report for the Academic Year: 2020-2021

- Academic and research activities undertaken: YES
- Administrative activities including meetings of Statutory Bodies: YES
- Extension activities undertaken: YES
- Financial Report:

Item	Utilized Grant available from previous year	Resources generated through fees and other sources	Grant received from UGC and other funding agencies during the year	Expenditure during the year	Unspent balance	Remarks
NA	Nil	Nil	Nil	NA	NA	Self-financing institute



(Dr.B.K.Mishra)



Principal – Thakur College of Engineering & Technology,
Thakur Village, Kandivali (East), Mumbai

Place: Mumbai

Date: 16-4-22

PROFORMA FOR PROGRESS REPORT OF COLLEGE (AUTONOMOUS)

Academic Performance is conducted by External peer team

Date of Audit conduct by External Peer Team: 27th July, 2021

Progress Report for the Academic Year: 2020-2021

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- Financial report: YES



(Dr.B.K.Mishra)



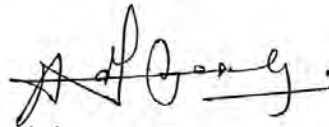
Principal – Thakur College of Engineering & Technology,
Thakur Village, Kandivali (East), Mumbai

External Peer Team

Prof. Anil Kumar Singh – Chairperson
Director (Independent), RCF Ltd., Mumbai,
Former Professor IIT-B



Dr.Hari Vasudevan – Member
Principal
D. J Sanghvi College of Engineering, Mumbai



Dr. P.P Bhawe – Member
Associate Professor & HoD,
Civil Engg. Dept., VJTI, Mumbai



Place: Mumbai

Date: 16-4-22