



YEARLY STATUS REPORT - 2020-2021

Part A

Data of the Institution

1.Name of the Institution

THAPAR INSTITUTE OF ENGINEERING
AND TECHNOLOGY UNIVERSITY

- Name of the Head of the institution **PRAKASH GOPALAN**
- Designation **Director**
- Does the institution function from its own campus? **Yes**

- Phone no./Alternate phone no. **0175-2393022**
- Mobile no **8288008118**
- Registered e-mail **registrar@thapar.edu**
- Alternate e-mail address **deputydirector@thapar.edu**
- City/Town **Patiala**
- State/UT **Punjab**
- Pin Code **147004**

2.Institutional status

- University **Deemed**
- Type of Institution **Co-education**
- Location **Urban**

- Name of the IQAC Co-ordinator/Director **Prof. Ajay Batish**
- Phone no./Alternate phone no **01752393521**
- Mobile **9815604119**
- IQAC e-mail address **registrar@thapar.edu**
- Alternate Email address **abatish@thapar.edu**

3. Website address (Web link of the AQAR (Previous Academic Year))

https://www.thapar.edu/NAAC/AOAR%202019-20_1.pdf

4. Whether Academic Calendar prepared during the year?

Yes

- if yes, whether it is uploaded in the Institutional website Web link:

5. Accreditation Details

Cycle	Grade	CGPA	Year of Accreditation	Validity from	Validity to
Cycle 3	A+	3.29	2019	04/03/2019	03/03/2024

6. Date of Establishment of IQAC

04/12/2009

7. Provide the list of Special Status conferred by Central/ State Government- UGC/CSIR/DST/DBT/ICMR/TEQIP/World Bank/CPE of UGC etc.

Institution/ Department/Faculty	Scheme	Funding agency	Year of award with duration	Amount
TIET-Chemical Engineering	FIST	DST	2018, 1825	19400000
TIET-School of Mathematics	FIST	DST	2018, 1825	5400000
TIET-School of Chemistry and Biochemistry	FIST	DST	2018, 1825	22000000
TIET-School of Physics and Material Science	FIST	DST	2019, 1825	36700000
TIET-Mechanical Engineering	FIST	DST	2020, 1825	9000000
TIET-School of Energy and Environment	FIST	DST	2020, 1825	9200000

8. Whether composition of IQAC as per latest NAAC guidelines **Yes**

- Upload latest notification of formation of IQAC [View File](#)

9.No. of IQAC meetings held during the year **2**

- The minutes of IQAC meeting and compliance to the decisions have been uploaded on the institutional website. (Please upload, minutes of meetings and action taken report) **Yes**
- (Please upload, minutes of meetings and **No File Uploaded**

action taken report)

10. Whether IQAC received funding from any of the funding agency to support its activities during the year? No

- If yes, mention the amount

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

The University has established, documented, and implemented a Quality Management System. Continuous improvement in the implementation and effectiveness of the quality management system is ensured through continuous reviews and internal audits. The University has identified the processes needed for the quality management system and their application throughout the organization process are being carried out in the University. Documented procedures have been developed for the management activities, provision of resources, instructional design, delivery and control and measurement.

The University continuity improves the effectiveness of the quality management system through the use of quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review. At the time of every management of review, through the measure of each objective and its comparison with earlier level of that objective, the trends are ascertained. Action points are then listed to continually improve the system. The status is reviewed in the subsequent management review meetings.

The University conducts internal audits every six months to verify whether quality managements system conform to the quality plan and to determine that it is effectively implemented and maintained. The review of the quality system is carried out once every six months to ensure continuing suitability, adequacy and effectiveness in satisfying the requirements of the standard and the quality policy of the University. The review includes assessing opportunities for improvement and the need for change to the quality management system. An internal audit of each department is scheduled during each semester in which faculty members from outside that department review the performance of the department during the last semester. The course files of all courses are scrutinized to verify all activities related to teaching learning and evaluation processes have been completed as per norms of the University. Discrepancies, if any, are reported in the form of non conformance report for which

the department must submit a corrective action.

Successfully organized an Advanced training program for 75 faculty members in partnership with Trinity College Dublin to improve teaching and learning pedagogy. 2. Academic audit of engineering programs by Trinity college Dublin. 3.NBA application for eligible programs. 4. Examination review board and exam papers review by external agencies. 5. ISO 9000 surveillance audit and management review meetings.

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

Plan of Action	Achievements/Outcomes
<p style="text-align: center;">Research Indicators</p>	<p>The University faculty have published 1116 Scopus publications in the last academic year out of which 903 were published in SCI journals of repute. The average citation for publications from institution has risen to 13.93 from last year's 12.03. The h-index of the institute has also been increased to 102. Overall, on average each faculty members have published at least 2 papers in Scopus/SCI journal meeting the expectation set in the last meeting. University faculty members secured a total grant of ₹475.88 Lakhs from various funding agencies for cutting edge research in their domains. A total of 638 students have been funded by the institute/MHRD/other govt. funding agencies at various levels for contributing to ongoing research projects and their PhD programs in various departments/schools. Overall, the Institute has kept a benchmark for research grant of Rs. 2 lacs per eligible faculty per year. Based on 2020-21 years</p>

data an average grant of Rs. 1.31 lac per faculty member has been received, which is meeting 65% of the benchmark value. A total of 92 students were awarded PhD degree in academic year 2020-21, whereas 790 ongoing PhD students doing their research in various departments/schools. The Institution has seen a remarkable increase in number of patents published during the last academic year 2020-21. A total of 64 patents were published, although many of these have been published without TIET affiliation. IQAC has advised all head of departments/schools to ensure that TIET is one of the applicant in every patent application. An amount of ₹224 Lakhs has been generated through consultancy by various faculty members and academic units. The committee appreciated the efforts made by the institute faculty members for the consultancy work and has applauded the Civil Engineering department for securing consulting services for third party design, geotechnical, safeguards, road safety and work zone safety review for Himachal Pradesh Road upgradation project sponsored by World Bank. The consulting amount for this project is Rs. 6.75 crores. TIET has experienced remarkable growth in research activity during the last 5 years, and growth is often the by-product of doing things better. Some initiatives cited above and

many, many more help explain TIET's journey till date. Going forward the institution aims to make targeted investments to develop new interdisciplinary and inter-institutional collaborations to establish six centres of excellence (COE) across identified research themes. TIET is also undertaking multiple other initiatives to build research excellence focused at solving real world problems and providing students with experiential learning for better application and analytical skills. TIET has already established three chairs to lead the Food Security, Emerging Materials and Advanced Manufacturing Centers during the last 20 months. The food security chair is led by Prof Yosi Shacham from Tel Aviv University and the Emerging Materials Chair is led by Prof Roop Mahajan from Virginia Tech. The third chair was established recently with appointment of Prof Noam Eliaz from Tel Aviv University to lead the Advanced Manufacturing Centre. All the three Chairs are eminent professors with wide research experience in their fields. Two of these centers are already operational at Patiala and both Chair Professors have followed similar strategies in running their respective centers. As the 6 CoEs get established, it is expected that close to 200 academic members of TIET staff, 100 Postdoc or PhD students would be working in these centres during the next five

<p>Academic Indicators</p>	<p style="text-align: center;">years.</p> <p>Admissions 2020-21 The Institute received a total of 24000 applications for 2850 seats indicating the demand ratio as 1:8. The Institute has set a target of 1:10 for the demand ratio, which is around 80% achieved. The Institute has 95.7% teachers who are PhD qualified. The faculty members of the Institute have conducted 25 conferences/workshops/seminars during the year. 4 New Programs Launched in the academic year 2020-21. All UG programs have been transformed into outcome-based education, where every course learning outcome is measured throughout the year. We have received 312 applications from students who have qualified NET/SET/GATE for around 750 seats, which is below the expectation of at least 50% applications. Placements 2020-21 In academic year 2020-21, 377 companies visited TIET for the recruitment of UG & PG students till date. Due to pandemic year, many core organizations will be visiting our institute in the last quarter of the year 2021 for the students those have already passed out in 2021. Of the students from BE/BTech branches who were eligible and had opted for campus placements 1119 were placed and having 1227 offers. In BTech Bio-Tech 10 out of 35, Civil 18 out of 48, Chemical 11 out of 25, Computer Science 564 out of 610, Electronics and Communication</p>
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146 out of 179, Electronics & Computers 146 out of 164, Electrical 64 out of 118, Electronics Instrumentation & Control 24 out of 36, Mechanical 111 out of 182, Mechatronics 16 out of 21 & Mechanical Production 9 out of 19 got placed through campus placement. The overall placement percentage of all eligible students of UG courses is around 80%. Apart from UG branches, 58 master students (MCA, ME, MTech, MSc, MA) also got placement through campus interviews, making it 21% overall in PG courses. Hence total numbers of offers received are 1285. Many organizations have extended the internship periods for the students due to pandemic and these students are likely to get offer in the coming times. The above data is updated till 30th Sep. 2021.

CAPSL 2021 a. New Directions Program (NDP): A new batch of new directions program (NDP) has started from 6th September 2021 for a week. The program runs for full semester till March 2022 and will continue for another 3-4 subsequent rounds of one week engagement of faculty members. There are 72 participants in the 6th batch of NDP, which has been divided into 4 groups. The faculty members will undergo 5 core modules, 5 Fellow optional (FO) and 3 CAPSL optional Modules during NDP.

IQAC of Thapar Institute of Engineering and Technology Patiala organized two days NAAC sponsored National workshop on "A Paradigm shift from Content

	<p>based to Outcome based Education" during 26-27th August 2021. The workshop hosted various participants from 20 different states of India. The workshop was inaugurated by AICTE chairman Prof. Anil Sahasrabudhe. Student Satisfaction Survey An annual student satisfaction survey has been conducted by the Institute over all the existing students. 2550 students participated in the survey. The survey measured satisfaction of students related to academics, research, and governance. The survey results are available at https://drive.google.com/file/d/156EeFe6wrss3BnQTSw7vL8UceiBXP2Jk/view?usp=sharing</p>
<p>Governance Indicators</p>	<p>Dean of Academic affairs reported a total of 180 days of teaching during 2020-21. The Institute took an average of 25 days for publishing the result from last day of examination. Most of the UG programs are either NBA or have applied for renewal. Five UG programs have applied for ABET re-accreditation. At this point none of the PG program are accredited. IQAC advised all the heads of programs to apply for accreditation of eligible PG programs during next two years. NIRF 2021- 29th In Engineering Category, 31st in University category, THE Ranking- v Ranked in 501-600 bracket worldwide v Ranked 5th amongst 71 Indian Institutions ranked Subject Rankings Engineering : • 401-500 bracket worldwide (last year</p>

	<p>501-600) • Joint 3rd in India (Last year joint 12th in India) Computer Science : • 301-400 bracket worldwide (last year 251-300) Physical Sciences: • 401-500 bracket worldwide • Worldwide - Ranked in 251-260 bracket worldwide (last year in 261-270 bracket) • India - Ranked 32nd in India along with NIT Trichi • In Private Institutions - 4th in India (after BITS, VIT & Manipal)</p>
Supporting data for Indicators above	<p>https://drive.google.com/file/d/17-QrvrbJX-P3z6lN9EbIJe9SzkG-O-ZP/view?usp=sharing</p>

13. Whether the AQAR was placed before statutory body? **Yes**

- Name of the statutory body

Name	Date of meeting(s)
Senate	27/11/2020

14. Whether NAAC/or any other accredited body(s) visited IQAC or interacted with it to Assess the functioning? **No**

15. Whether institutional data submitted to AISHE

Part A**Data of the Institution**

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<p>13. Whether the AQAR was placed before statutory body?</p>	<p>Yes</p>								
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16.Multidisciplinary / interdisciplinary	
17.Academic bank of credits (ABC):	
18.Skill development:	
19.Appropriate integration of Indian Knowledge system (teaching in Indian Language, culture, using online course)	
20.Focus on Outcome based education (OBE):Focus on Outcome based education (OBE):	
21.Distance education/online education:	
Extended Profile	
1.Programme	
1.1 Number of programmes offered during the year:	42
File Description	Documents
Data Template	No File Uploaded
1.2 Number of departments offering academic programmes	14
2.Student	
2.1 Number of students during the year	10019
File Description	Documents
Data Template	No File Uploaded
2.2	2312

Number of outgoing / final year students during the year:		
File Description	Documents	
Data Template	No File Uploaded	
2.3		10019
Number of students appeared in the University examination during the year		
File Description	Documents	
Data Template	No File Uploaded	
2.4		0
Number of revaluation applications during the year		
3.Academic		
3.1		1114
Number of courses in all Programmes during the year		
File Description	Documents	
Data Template	No File Uploaded	
3.2		476
Number of full time teachers during the year		
File Description	Documents	
Data Template	No File Uploaded	
3.3		548
Number of sanctioned posts during the year		
File Description	Documents	
Data Template	No File Uploaded	
4.Institution		
4.1		23843
Number of eligible applications received for admissions to all the		

Programmes during the year		
File Description	Documents	
Data Template	No File Uploaded	
4.2	1026	
Number of seats earmarked for reserved category as per GOI/ State Govt. rule during the year		
File Description	Documents	
Data Template	No File Uploaded	
4.3	127	
Total number of classrooms and seminar halls		
4.4	2562	
Total number of computers in the campus for academic purpose		
4.5	17730	
Total expenditure excluding salary during the year (INR in lakhs)		

Part B

CURRICULAR ASPECTS

1.1 - Curriculum Design and Development

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

The curricula at Thapar Institute of Engineering & Technology follow the national guidelines in helping the growth of the country. All the POs, PSOs, and COs are developed to match the local, national, regional, and global developmental needs. The outcomes are designed and the development procedure involves people from different strata, like students, faculty, employers, alumni, etc. The involvement of people from various strata helps to make sure that outcomes are relevant to the needs of all-around development. All the departments follow a set procedure to develop and circulate the outcomes.

Relevant supporting documents are attached.

File Description	Documents
Upload relevant supporting document	View File

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

24

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.1.3 - Total number of courses having focus on employability/ entrepreneurship/ skill development offered by the University during the year

1.1.3.1 - Number of courses having focus on employability/ entrepreneurship/ skill development during the year

609

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.2 - Academic Flexibility

1.2.1 - Number of new courses introduced of the total number of courses across all programs offered during the year

105

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.2.2 - Number of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented during the year

42

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.3 - Curriculum Enrichment

1.3.1 - Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

The curriculum of various departments and schools makes sure that students are aware and practice Professional Ethics, Gender, Human Values, Environment and Sustainability. To ensure it following courses are offered during the degree program: Energy and Environment, Humanities for Engineers, Innovation and Entrepreneurship, Capstone Projects, Project Semester, Start-up Semester, Generic Elective courses. The institute makes sure that the list consisting of these important issues is modified whenever required. The institute also organizes various extra curricular activities such as seminars, Nukkad natak etc through university societies.

File Description	Documents
Upload relevant supporting document	View File

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

481

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.3.3 - Total number of students enrolled in the courses under 1.3.2 above

1.3.3.1 - Number of students enrolled in value-added courses imparting transferable and life skills offered during the year

90449

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.3.4 - Number of students undertaking field projects / research projects / internships during the year

1715

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.4 - Feedback System

1.4.1 - Structured feedback for design and review of syllabus – semester wise / is received from Students Teachers Employers Alumni

- All 4 of the above

File Description	Documents
Upload relevant supporting document	View File

1.4.2 - Feedback processes of the institution may be classified as follows

- Feedback collected, analysed and action taken and feedback available on website

File Description	Documents
Upload relevant supporting document	View File

TEACHING-LEARNING AND EVALUATION

2.1 - Student Enrollment and Profile

2.1.1 - Demand Ratio

2.1.1.1 - Number of seats available during the year

3393

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.1.2 - Total number of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per applicable reservation policy during the year (Excluding Supernumerary Seats)

2.1.2.1 - Number of actual students admitted from the reserved categories during the year

220

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.2 - Catering to Student Diversity

2.2.1 - The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners

Every program assesses the learning levels of each student through direct and indirect approaches. The institution has a Mentoring Program in place to ensure that the students receive academic, emotional, professional, and personal support from the time they join the Institute. This is being facilitated through the teachers, Centre for Training and Development, Psychological Counselling Cell, in addition to appointing senior students for emotional and academic consultation. The Mentoring Program is for all the students of the institute, including advanced and slow learners. As a part of the Mentorship programme, the students, in groups of 25 or less, are assigned to faculty members. Preferably, the students of a particular department are assigned to the faculty members of that department. With effect from July 2016, these students are under continuous tutelage of the faculty mentor for all years of their study. Faculty mentors guide students and help them to adjust to the university life. The aim of the programme is to provide TIET students with a supportive environment that will motivate and assist them to develop to their maximum personal and academic potential. Mentoring has been found to increase students' academic success, social skills, self-efficacy, and the ability to refine their professional dispositions. Trained mentors, such as professionals in the Centre for Training and Development as well as the Professional

Psychological Counselling cell, along with teachers assigned, provide leadership and support to students during mentoring sessions. These sessions are designed to help connect learners, provide them with information on campus resources, give them a sense of belonging and open possibilities of connectedness to community within the campus as well as outside in the world. These mentors identify the slow and advanced learners.

Slow Learners: Every semester, academically weak students are identified and information is shared with the Student Counsellor. Such students are encouraged to seek guidance on academic issues on a fixed date and time (changes possible on request of the student). Such meetings are arranged at least twice in a semester. The students are advised to improve performance and are given suggestions or options for clearing their backlog courses. The advising process is designed to ensure that each student selects a set of courses during each semester that meets minimum grade requirements, and results in the student making efficient and orderly progress in meeting the academic requirements as listed in the course scheme. Also, the institute offers remedial classes for the courses generally considered tough by the students, and such classes are organised by best teachers. This helps such students to learn in a smaller group with focused monitoring.

Advanced Learners: Advanced learners are encouraged to pick up projects with a faculty mentor. Students are allowed to use the labs and workshops beyond office hours to carry out their project work. University also provides financial aid for fabricating these types of projects and participating in national and international events. Many advanced learners are also encouraged to choose summer programs at International Universities which are partially funded by the Institute.

File Description	Documents
Upload relevant supporting document	View File
Link For Additional Information	https://www.thapar.edu/academics/centerspaces/activity-tracker8

2.2.2 - Student - Full time teacher ratio during the year

Number of Students	Number of Teachers
10019	476

File Description	Documents
Upload relevant supporting document	View File

2.3 - Teaching- Learning Process

2.3.1 - Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

The institute promotes student centric methods of learning. These are executed through experiential learning, capstone projects, project semester. To define experiential learning (ELC), faculty members from all departments have been engaged to identify key skills that TIET will like to impart to our graduates in every engineering branch. Projects are being built around such skills and after pilot projects, tested on smaller groups of students during the semester or as internships during vacations. The scaled up projects will be rolled out as co-curricular projects or as projects interwoven in the curriculum. The guiding philosophy for ELC is to introduce the undergraduate students to real life engineering problems in every semester of their graduation. These projects will have an increasing focus on open ended problems requiring self-explored, innovative, engineered solutions by a teams of students, similar to real engineering job challenges. The motive is to move from prescriptive lab based experiments and model/simulation based projects to real life engineering problems to be solved using research based, student centric, and outcome based approaches to generate real solutions which are more tuned to industry requirements and emulate the practice based education adopted by the top academic institutions of the world. These projects also mesh well the teaching learning processes being imparted to faculty members under the CAPSL new directions program being run at TIET. They also serve as cornerstone projects for undergraduate students, preparing them for the Capstone Projects of the final year, and better meeting the expected outcomes.

These activities help students to develop problem solving methodologies and learn outside the curriculum.

File Description	Documents
Upload relevant supporting document	View File

2.3.2 - Teachers use ICT enabled tools including online resources for effective teaching and learning processes during the year

Yes, all the teachers used ICT enabled tools for teaching and learning processes. The university was well equipped and faculty members were using ICT enabled tools for many years, but during the COVID outbreak university added many more resources to the existing facilities. This includes,

1. Development and implementation of Moodle based LMS system,
2. Adobe captivate
3. Coursera full access to faculty members and students,
4. eDX access to faculty and students,
5. Interactive lecture delivery hardware: ipads, writing tablets, etc
6. Online Examination tools and solutions
7. Video recording facility in few lecture halls,
8. Zoom licenses,
9. Google meet,
10. Development of course websites.

These ICT enabled tools and professionally developed online resources helped the students and faculty to remain upto date. It also helped us to keep the teaching-learning process intact during the year. All the recorded lectures were made available by the faculty through course websites or LMS to the students.

File Description	Documents
Upload relevant supporting document	View File

2.3.3 - Ratio of students to mentor for academic and other related issues during the year

2.3.3.1 - Number of mentors

476

File Description	Documents
Upload relevant supporting document	View File

2.4 - Teacher Profile and Quality

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

476

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.4.2 - Total Number of full time teachers with Ph.D./D.M/M.Ch./D.N.B Superspeciality/D.Sc./D’Lit. during the year

373

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.4.3 - Total teaching experience of full time teachers in the same institution during the year

2.4.3.1 - Total experience of full-time teachers

4154

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.4.4 - Total number of full time teachers who received awards, recognition, fellowships at State, National, International level from Government/Govt. recognised bodies during the year

32

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.5 - Evaluation Process and Reforms

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

Nil

2.5.1.1 - Number of days from the date of last semester-end/ year- end examination till the declaration of results year wise during the year

26

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.5.2 - Total number of student complaints/grievances about evaluation against total number appeared in the examinations during the year

0

File Description	Documents
Upload relevant supporting document	View File

2.5.3 - IT integration and reforms in the examination procedures and processes (continuous internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution

To hold examinations and continuous assessment, the institute gives a number of options to the faculty and students. The institute has developed its own Learning Management System, uses enterprise Google based online assessment tools, Proctored examination through Licensed Zoom account, ERP access through VPN for Faculty and students, Access of Labs Servers to the students and faculty through VPN, Thapar-LMS Mobile App and Google App for Android/iOS and PC App for Windows/Mac to access online course. These tools have helped the institute to keep a track of the continuous performance of the students. During the pandemic, these tools helped the students to not lose any interest in learning, and faculty to keep a track of the performance of the students. In addition to these tools, the institute used VBox and Mettle platforms for conducting proctored examinations. The webkiosk, a Student Management System, helps the university to manage exam and course allocation activities.

The above mentioned tools have helped institute to improve the overall management of the examination and results timely result declaration.

File Description	Documents
Upload relevant supporting document	View File

2.5.4 - Status of automation of Examination division along with approved Examination Manual

A. 100% automation of entire division & implementation of Examination Management System (EMS)

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.6 - Student Performance and Learning Outcomes

2.6.1 - The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the website and other documents

The Program Educational Objectives (PEO), Program outcomes (PO), and Course Learning Outcomes(CLO) has been established through a consultative process involving all the stakeholders of the department, the future scope of each program, and the societal requirements. The PEOs, POs and CLOs of each program are published on the home page of the department/school The PEOs, POs and CLOs has been displayed at all prominent places in the Institute for exposure to one and all. All the employees of the university have been explained the meaning of and commitment to these. It has been ensured that all employees have clearly understood the policy with regard to its meaning, relevance and commitment to it. The outcomes and objectives are reviewed during review meetings for its continuing suitability. For example, The PEOs, POs, and CLOs were finalized in the year 2018. During the initial phase, the inputs were sought from industry, faculty, alumni and students. Industry representatives provided a direct voice of the employers and a first draft was prepared. Each department followed it up with a formation of a subcommittee to develop program objectives and PEOs. The committee finalized the second and the third draft of the PEOs, POs and CLOs and later in 2019 the faculty of the department approved these. During the development of PEOs, POs and CLOs all the stakeholders of the department were considered and their direct or indirect feedback was solicited. The stakeholders of each department include: 1.Students registered in the program 2.Program faculty 3.Program alumni 4.Industry and organizations

who hire our students

The PEOs are established on the basis of feedback taken from various sources including the stakeholders of the program. On the basis of feedback from various sources, the PEOs are reviewed at least once every accreditation cycle to ensure continuing suitability, adequacy and effectiveness in satisfying the requirements and the mission and quality policy of the university. The review includes assessing opportunities for improvement and the need for change. In addition to feedback from faculty, alumni, students, participating organizations in campus placement and other concerned sources, serious consideration is also given to action taken on the previous reviews and accreditation reports (NBA/AICTE). Each program is designed in such a way that the program educational objectives are met at the completion of the program. The students during the final year are generally hired by reputed organizations as graduate engineers. As they start to work, the professional traits (other than technical knowledge) imparted to the students to make them grow in the organization. The technical knowledge coupled with these soft skills help the student grow up the ladder in the organization as he/she gains work experience and blossom into a final professionally groomed manpower in about 5 years. The planned outcomes are fulfilled as the student gains experience and is then valued at his place of work.

File Description	Documents
Upload relevant supporting document	View File

2.6.2 - Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution during the year

Step-by-step process for assessing Outcomes

Step 1. The program coordinator analyses each student outcome by breaking down each outcome into several Performance Criteria (PC), assigns weightage, well-designed surveys have been used to assess each outcome.

Step 2. For each outcome, define performance indicators (Assessment criteria) and their targets.

Step 3. Identify/select courses that address the outcome (each

course contributes to at least one of the outcomes). Hence, each outcome is assessed in several courses to ensure that students acquire an appropriate level in terms of knowledge/skills of an outcome.

Step 4. The course coordinators collect the qualitative and quantitative data and is used for

outcome assessment in a continual process.

Step 5. If the assessed data meets the targeted performance value as specified in step 2, then the outcome is attained.

Step 6. The Department Academic Affairs Committee (DAAC)/DPPC recommends content delivery methods/course outcomes/ curriculum improvements as needed. In case the targeted performance for some outcome is not met, a corrective action plan is put in place which serves as a feedback to the process for continuous improvement.

File Description	Documents
Upload relevant supporting document	View File

2.6.3 - Number of students passed during the year

2.6.3.1 - Total number of final year students who passed the university examination during the year

2312

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.7 - Student Satisfaction Survey

2.7.1 - Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design its own questionnaire) (results and details need to be provided as a web link)

<https://www.thapar.edu/upload/files/Student%20Satisfaction%20Survey.pdf>

RESEARCH, INNOVATIONS AND EXTENSION

3.1 - Promotion of Research and Facilities

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

The institute has allocated a separate fund for the frequent update and development of research facilities. The fund not only helps various departments and schools to extend their research facilities through procurement of new equipment but also disburses merit based seed grants to the faculty members. Research scholars, students and faculty members can order books required to carry on their research. The library also subscribes to a large number of online journals for research. The detailed research policy of the institute is available on the website for general information. The office of Dean of Research and Sponsored Projects carries out the implementation of the research policy.

File Description	Documents
Upload relevant supporting document	View File

3.1.2 - The institution provides seed money to its teachers for research (amount INR in Lakhs)

274.32

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.1.3 - Number of teachers receiving national/ international fellowship/financial support by various agencies for advanced studies/ research during the year

76

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.1.4 - Number of JRFs, SRFs, Post-Doctoral Fellows, Research Associates and other research fellows enrolled in the institution during the year

277

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.1.5 - Institution has the following facilities to support research **A. Any 4 or more of the above**
Central Instrumentation
Centre Animal House/Green House Museum
Media laboratory/Studios Business Lab
Research/Statistical Databases Moot court
Theatre Art Gallery

File Description	Documents
Upload relevant supporting document	View File

3.1.6 - Number of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other recognitions by national and international agencies during the year

7

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.2 - Resource Mobilization for Research

3.2.1 - Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the year (INR in Lakhs)

209.99

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.2.2 - Grants for research projects sponsored by the government agencies during the year (INR in Lakhs)

539.03

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.2.3 - Number of research projects per teacher funded by government and non-government agencies during the year

1

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.3 - Innovation Ecosystem

3.3.1 - Institution has created an eco-system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge

The innovation and entrepreneurship is one the core values of education inculcated in the students. The students are exposed to the world of innovation and entrepreneurship through various modes, including a compulsory course on 'Innovation and Entrepreneurship' and regular series of programs and seminars. Various programs are organized by the Entrepreneurship Development Cell (EDC) society. The course 'Innovation and Entrepreneurship' introduces the academic aspects of the innovation and helps students to understand the development of Business Models Canvas and business plan.

The venture lab facilitates and catalyzes innovation, entrepreneurial development, and business success that foster sustainable economic growth of the area in which it is located. It is also in various ways nurturing innovation through a collaborative community of entrepreneurs which is one of the national priority area and one of the core mandates of TIET .

Activities of Venture Lab-Thapar:

- Accelerating the growth of the student startups coming through ED Cell, TIET.
- Helping to expand the professional network of entrepreneurs.

- Making entrepreneurs more technologically focused.
- Helping startups to be market-ready and find new clients
- Eliminating isolation and increasing entrepreneurs' self-confidence
- Providing cost efficient alternatives for budding entrepreneurs
- Taking care of Entrepreneurs' utility bills through shared infrastructure
- Providing a professional work environment to startups
- Organizing event for evangelizing & capacity building of startups and providing them with networking opportunities in association with ED Cell.

Venture Lab - Thapar is a viable platform for the budding entrepreneurs in getting their respective project to be done in a professional setting.

Venture Lab's Principles:

Thapar Venture Lab - Thapar is established on the following principles:

1. Flexibility: It is provided in three different areas:

- A. Flexible Plan Options: There are typically no year-long lease requirements. Hot seat, private desk, and private office memberships are offered on a month-to-month basis.
- B. Flexible Cost Options: With no upfront fees, no deposits, and a variety of option plans, Venture Lab provides entrepreneurs with a valuable opportunity for keeping costs down.
- C. Flexible Space Options: Start-up can increase team count by overnight subject to availability.

2. Community: Building a start-up can get kind of lonely sometimes. No matter the phase of growth, there are always new

things to learn, do, and evaluate. Surrounding with other entrepreneurs can help an entrepreneur to take the edge off when things get rough.

3. Greater Access to Key Players: Venture Lab focuses on the enhanced access to key players who can help Start-up business to grow. It has a strong contact to angel investors and Venture Capitalists looking for new opportunities. It will more likely to hit up networking events with government concerned, corporate/PSUs, academia, field experts/consultants, innovators, research organizations and angel investors.

4. Amenities + Services: When a start-ups lease a private space, they don't always have the luxury of just showing up and getting to work. In most cases, furniture needs to be bought, the internet and phone connections need to be secured, help for secretarial work and parking needs to be arranged for employees. Venture Lab with huge campus with all facilities like well furnished office space, internet, refreshment/canteen, play ground, car parking space to address the challenges of amenities and services.

Effective Outcomes:

- Networking opportunities with start-up entrepreneurs, investors, mentors etc.
- Community Engagement
- Building core competency & service framework of start ups
- Incubate & commercialize new technologies/business areas within the startup company
- Provides facilities and services (eg. business planning and legal, accounting and marketing support)

File Description	Documents
Upload relevant supporting document	View File

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

Nil

3.3.2.1 - Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development year wise during the year

37

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.3.3 - Number of awards / recognitions received for research/innovations by the institution/teachers/research scholars/students during the year

3.3.3.1 - Total number of awards / recognitions received for research/innovations won by institution/teachers/research scholars/students year wise during the year

57

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4 - Research Publications and Awards

3.4.1 - The institution ensures implementation of its stated Code of Ethics for research

3.4.1.1 - The institution has a stated Code of Ethics for research and the implementation of which is ensured through the following

A. All of the above

1. Inclusion of research ethics in the research methodology course work
2. Presence of institutional Ethics committees (Animal, chemical, bio-ethics etc)
3. Plagiarism check
4. Research Advisory Committee

File Description	Documents
Upload relevant supporting document	View File

3.4.2 - The institution provides incentives to

A. All of the above

**teachers who receive state, national and international recognitions/awards
Commendation and monetary incentive at a University function
Commendation and medal at a University function
Certificate of honor
Announcement in the Newsletter / website**

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.3 - Number of Patents published/awarded during the year

3.4.3.1 - Total number of Patents published/awarded year wise during the year

60

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.4 - Number of Ph.D's awarded per teacher during the year

3.4.4.1 - How many Ph.D's are awarded during the year

118

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

2.5

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.6 - Number of books and chapters in edited volumes published per teacher during the year

3.4.6.1 - Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings during the year

237

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.7 - E-content is developed by teachers For e-PG-Pathshala For CEC (Under Graduate) For SWAYAM For other MOOCs platform For NPTEL/NMEICT/any other Government Initiatives For Institutional LMS

C. Any 3 of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.8 - Bibliometrics of the publications during the year based on average Citation Index in Scopus/ Web of Science/PubMed

Scopus	Web of Science
Nil	Nil

File Description	Documents
Any additional information	No File Uploaded
Bibliometrics of the publications during the year	No File Uploaded

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

Scopus	Web of Science
Nil	Nil

File Description	Documents
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	No File Uploaded
Any additional information	No File Uploaded

3.5 - Consultancy

3.5.1 - Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy

RULES FOR INDUSTRIAL CONSULTANCY

1. PURPOSE

The University considers Consultancy projects as an important means for extending benefit of scientific research of the University to various sections of the industry and governance, thus broadening the experience base of the University community and as a tool for contributing to the country's industrial and economic growth. Consultation services are encouraged in specialized areas where the University has exclusive competency, and not in the areas of routine work. Appropriate consultancy projects, in addition to providing much needed service to the industry, also benefits the concerned faculty members and the University in several ways. They enrich the professional experience and knowledge of faculty members and thus make them better educators. Consultancy projects provide first-hand knowledge of the current problems of industry which is very helpful in tuning the curriculum to the present needs. While the University encourages the faculty members to undertake Consultancy projects, it is expected that the time spent by a faculty member on Consultancy projects will not exceed one day per working week. The faculty members, while undertaking such projects, are expected to uphold the reputation and prestige of the university at all times.

2. DEFINITIONS

- TU means Thapar University, Patiala
- Department means all the academic departments, schools, centres, centres of excellence and academic service centres at the University.

- Director means Director, Thapar University, Patiala.
- Dean of Research and Sponsored Projects (DORSP) means Dean of Research & Sponsored Projects (DORSP), Thapar University, Patiala.
- Type-I Consultancy Project means a Consultancy Project without the use of laboratory facilities.
- Type-II Testing Project means a project involving use of laboratory facilities of the University or repetitive jobs needing marginal intellectual input. Such projects will cover testing of material/ equipment in laboratory, wherein only the testing results are to be communicated.
- Principal Investigator (PI) means a member of the faculty/scientist of TU with necessary expertise and competence to conduct a consultancy work. Normally, the faculty who submits the project proposal and negotiates with the client sponsor and is instrumental in getting the project is the PI. PI is responsible for the deliverables to the client. PI shall decided involvement of other investigators and distribution of consultation fees.
- Co-Investigator (CI) means a person from amongst the faculty/scientist (including Emeritus) co-opted by the Principal Investigator to work jointly with him/her on the project.

3. ASSIGNMENT OF CONSULTATION

Depending upon the receipt of the project, the projects can be categorized into three:

1. Individual: In this case the project is received in the name of an individual or individuals. DORSP will approve one person as PI. The PI shall have overall responsibility of the project.
2. Department: In this case the project comes to the Department. The Head of the respective Department shall assign a PI for the project in consultation with DORSP.
3. University: In this case the project comes to the University and DORSP shall assign PI for the project.

4. CONSULTATION TIME

1. While the University encourages the faculty members to undertake Consultancy projects, it is expected that the time

spent by a faculty member on Consultancy projects will not exceed one day in a working week and shall also not disturb the normal teaching or other duties of the university. In case of traveling for consultation purpose Academic Leave rules will be applicable. No extra Academic Leave is admissible for consultation.

2. The consultancy work shall be considered to be over and above all other duties assigned.

5. GENERAL

1. Individuals or Departments may take up Consultancy work only after taking approval of the DORSP through the Head of the concerned Department. The report of Consultancy Projects will be signed by the Head of the Department and respective Investigator(s).
2. Consultation projects may be accepted only with prior approval of the DORSP.
3. All payments in connection with Consultancy Projects shall be received in the name of the Registrar, Thapar University, Patiala.
4. Each Consultancy project will be classified either as Type-I or Type-II. In case of multi- disciplinary/ inter- departmental projects, a single project can be divided into sub-projects on mutually agreed terms, by the consenting departments/laboratories.
5. Any travel outside the University for consultancy work shall be treated on academic leave.
6. Report(s) and data collected/ originated out of consultancy project are the joint Intellectual Property of the University and the investigators. If the client needs a different agreement, such agreement shall be entered into with the prior approval of the DORSP.
7. The responsibility of the successful completion of the project, maintenance of Standard Operating Procedures (SOP) and ethical standards lies with the PI.

6. EXPENDITURE NORMS

1. Student Assistants: The Investigator(s) may engage TU Students (who may or may not be getting fellowship) as Student Assistants with the approval of DORSP for consultancy and testing work on payment of Rs.100/- per hour

subject to a maximum of 50 hours per month. The expenditure on this account can be booked under manpower charges/ contingency.

2. Hospitality: Expenses incurred on reasonable hospitality not exceeding Rs.400/- per head per meal and Rs.150/- per head for snacks etc. in connection with the consultation work can be charged as expenses.
3. Travel: The most expeditious and convenient mode of travel should be used to minimize period of absence from TU. There will be no restriction placed by the TU on the mode of travel. Actual boarding & lodging expenses will be paid on production of receipt. Expenses on local travel by taxi will be reimbursed against cash receipt as per actuals. All these expenses will be met out of the consultancy project funds.

Approval for travel under Industrial Consultancy Projects may be accorded as per table given below:

Person Undertaking the Travel

Approving Authority for Travel

1. In all cases the leave is to be approved by the competent authority as per TU norms. It will be the duty of the traveling person to get the leave approved from the competent authority and also ensure that teaching hours are not disturbed.
2. Advances for travel will be

approved by the DORSP.

Investigator(s)

Head of the Department

If Investigator is Head of the

Department

Director

Other TU staff

Head of the Department on the recommendation of the

Investigator(s).

Payment of charges to travel agents for Air Ticket purchase assistance, Visa assistance, Insurance may be paid as per TU rules from project funds.

7.DISTRIBUTION OF CONSULTANCY FUNDS

1. Individual Consultancy Projects or Type - I Projects: For Consultancy work without use of Laboratory facilities, the norms for calculation of various percentages for distribution of the total money received from client (excluding service tax in every case) will be as follows:

Consultancy work without use of laboratory facilities (Type-I)

- Total money received from client = G Service Tax = L
- Total contracted amount T = G-L Amount of TU overhead F = 0.30 T Total expenditure on the project = E Remaining Amount S = T-F-E
- Amount S shall be distributed to Investigators, technical and other staff on the recommendation of the PI. Any laboratory equipment or service used in the consultation work shall be treated as expenditure E and the rates of all such items will be decided and published as a list. If any item is not included in the list DORSP shall decide the charges for that item.

Testing projects involving use of laboratory facilities (Type-II)

- For Consultancy work involving use of Laboratory facilities, the norms for calculation of various percentages for distribution will be as follows:
- Total money received from client = G Service Tax = L
- Total contracted amount T = G-L Amount of TU overhead F = 0.50 T Total expenditure on the project = E Remaining Amount S = T-F-E
- Amount S to be distributed to Investigators, technical and other staff on the recommendation of the Investigator(s)/Head of the Department.
- Distribution of remuneration shall normally take place at the completion of the project. However, for large projects interim disbursements shall be allowed on recommendation of PI and approval of DORSP. Distribution of remuneration among the partners of a project shall be the prerogative of the PI. If any consultation amount remains unclaimed after the employee ceases to work at the University the entire amount

shall be treated as University overhead.

Distribution of the University Overhead (F)

- The University overhead shall be utilized in fostering and nurturing excellence in research. The overhead amount received from projects will be kept in two funds, one for the entire University and the other for the concerned Department. The main purpose of the fund will be to renew and modernize the laboratory facilities. The equipment used frequently for testing purposes will be maintained from this fund. In addition, the fund shall be available to faculty members/Departments/Schools of the University for attending conferences, scientific meetings, national and international visits, shortfall funding for equipment etc. as per priority at the discretion of the University. The Departmental fund shall be utilized as per the discretion of the Department. The distribution shall be:

Type of Fund

Percentage

University Development Fund

80%

Department Development

Fund

20%

8.TOTAL REMUNERATION FROM CONSULTANCY/ TESTING WORKS

The total annual gross remuneration to be received from consultancy projects including departmental consultancy and testing during a financial year by an individual will limited to the gross salary (basic+gp+da) drawn by the concerned person.

9.BUDGETARY NORMS FOR CONSULTANCY PROJECTS

Total Charges: The total agreed charges of a Consultancy project will consist of the actual expenses, TU share, and the remuneration to be distributed to the faculty and staff. The actual expenses should cover the following costs related to the project:

- Permanent equipment to be procured / fabrication of equipment or models.
- Consumable materials.
- Travel expenses in connection with the project work.
- Computational or other charges the Investigator(s) may have to pay to TU or any other outside agency in the course of the execution of the work.
- Charges to be paid for the use of specific equipment in the departments or central facilities.
- Contingency expenses to cover cost of supplies, preparation of report, typing, word processing, drawing, drafting, stationery, reproduction, literature (books, journals, membership fee for professional societies), postage, courier, FAX and telephone (including rental and STD/ ISD call bills of telephone at residence or mobile phones), cost of insurance of personnel/ equipment being used for the project and medical reimbursement on duty (excluding major ailments) for staff etc.
- Expenses for work to be carried out on payment basis, remuneration to student assistants.
- Any other costs considered appropriate.

While preparing proposal, provision of Service Tax, as applicable, shall be made over and above the total contracted amount.

- The service tax will be applicable as per government rules.
- The allocations made to the different heads of the approved project budget should be carefully kept in view by the Investigator(s).
- The Investigator(s) while seeking approval of expenditure from Project funds should specifically mention the project budget head to which that expenditure will be debited.
- The approval of the DORSP to make any expenditure from the project funds assumes that funds are available in the project for the purpose. It shall be the responsibility of the Investigator(s) to ensure that the expenditure being made is within the approved limits and availability of funds in the project.

Consultancy Fee

There are no rigid norms for calculating the Consultation fee. This depends upon several factors such as the time spent, the importance of the advice and the experience of the faculty, etc. While estimating the Consultancy fee chargeable to the client, the Investigator(s)/Head of the Department should keep in mind that only part of the total fee is available for distribution among the faculty, staff, and students. The remuneration will be paid to the faculty / staff as per norms and on the recommendation of the Investigator/Head of the Department. Saving from the Consultancy charges will be divided between the TU and the faculty/ staff after taking into consideration all expenses as per norms for the purpose.

10. BUDGETARY NORMS FOR TESTING JOBS

TU may undertake testing at a standard fee where stipulated; otherwise the charges may be estimated by the faculty member/Head of the Department who will supervise the testing work. The testing report will be countersigned by the Head of the Department, if required by the client.

File Description	Documents
Upload relevant supporting document	View File

3.5.2 - Revenue generated from consultancy and corporate training during the year (INR in Lakhs)

3.5.2.1 - Total amount generated from consultancy and corporate training during the year (INR in lakhs)

252.25

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.6 - Extension Activities

3.6.1 - Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the year

TIET has more than 100 active student/faculty societies that work for societal causes and sensitizes students to social issues and

holistic development during the year. Some of the noted achievements by these societies are highlighted in the attached document.

In the ongoing era, our fragile earth needs acute attention for its prevalence. Paryavaran Welfare Society, TIET, endures maintaining biodiversity and conserving energy resources. Continuous depletion and decline in water level are posing threat to living creatures. The reducing area under vegetation cover is responsible for various environmental hazards like global warming, floods, soil erosion, etc. Energy resources available are very limited, encouraging demand for their very rational use in a very efficient manner to get maximum output. Poverty devoid the medical aid, for the sake of mankind we make efforts to furnish it, being secular. Paryavaran welfare society emphasizes all the major issues concerned with environmental and social degradation.

PRATIGYA, is a society that works consistently for social welfare. This society develops teams of student volunteers from the undergraduate, post-graduate, and Management programs, who teach the underprivileged kids from classes I to XII. These kids include children of class four employees of Thapar Institute as well as kids residing outside Thapar.

The National Service Scheme (NSS) at TIET is a part of the nationwide mission of providing service in the social sphere. The society of Thapar Institute organizes activities for the welfare of society and celebrates the days of national importance. Major activities include the organization of Blood donation camps, health check-up camps, cleanliness drives, etc. It is also a part of the nationwide 'Swachh Bharat' mission of the GOI.

Youth United Patiala Chapter is maintained by the students of Thapar Institute of Engineering and Technology, Patiala. YOUTH UNITED utilizes the power of unity in bringing various individuals for various public welfare projects and events. The objective of Youth United is to encourage the development of society through its activities like publishing periodicals on social issues, organizing community service events & visits. Youth United organizes painting competitions among small children, visits institutions like Pingalwara, Old age homes, School for Deaf and Dumb, etc. It also organizes 'The joy of giving week' as a part of its initiative to inculcate cultural and social values amongst the residents of the Thapar Technology campus.

With International Women's Day being celebrated all across the

globe, a splendid fiesta was conducted in Thapar University to celebrate womanhood, honor women, and salute their courage. Consequently, we bring to you the Women's Week Edition which will provide an insight into these engaging events.

<https://online.fliphtml5.com/yyjoi/mtjl/>

File Description	Documents
Upload relevant supporting document	View File

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

3.6.2.1 - Total number of awards and recognition received for extension activities from Government / Government recognised bodies during the year

8

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

16

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.6.4 - Total number of students participating in extension activities listed at 3.6.3 above during the year

2427

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.7 - Collaboration

3.7.1 - Number of collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students during the year

3.7.1.1 - Total number of Collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students during the year

275

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

43

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

INFRASTRUCTURE AND LEARNING RESOURCES

4.1 - Physical Facilities

4.1.1 - The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.

The institute has a sufficient number of classrooms, laboratories, computing and other facilities. With increase in demand, the institute consistently adds to the already existing facilities. These equipment are added to from the support received from the government agencies and Institute's own funds. A large amount of

funds are dedicated to the development and maintenance of the academic requirements. In addition to centrally available facilities, each department/school has their own computing and other facilities to meet the lab requirements.

File Description	Documents
Upload relevant supporting document	View File

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

The institute has a number of facilities for the students and staff for cultural activities and sports. Various student bodies frequently hold cultural and sports functions. Physical recreation through games and sports has been an important part of the Institute since its inception. TIET's sports section organizes the tournaments in all games like Cricket, Football, Basketball, Volleyball, Badminton, Tennis, Table Tennis, Chess, Handball, Swimming, and Athletics for boys and girls throughout the year. Tournaments are URJA (A National level tournament in which IIT's, NIT's and other Technology Institutes are participated) , Inter Technology University competition , Thaparlympics (a Inter department sports competition) , SPADES (an Inter year sports competition), IGNITE (an Inter hostel sports competition), Annual Athletic Meet (an inter Department Athletics competition) besides this competitions TIET's students also participate in All India inter university tournaments as well in invitational tournaments organized by the different AIU and IITS. And also has been showing tremendous performance in these tournaments. Today, the Institute has well equipped and best sports facilities in a number of games and sports like International standard synthetic Athletic track, synthetic Tennis courts, synthetic Basketball court, Swimming pool etc. The tradition continues, as students of the institute keep making use of the marvellous sports facilities to excel in sports and games. In order to motivate the students and to get them interested in sports, a wonderful tradition being followed in the Institute that all newly admitted students at Thapar Institute are provided with a track suit and a T-shirt bearing the Institute logo. To organize and coordinate the sports activities TIET has full-fledged sports section as it has one Director Sports and full time coaches in different games to coach the students.

Sports facilities at TIET :-

Sr. No.

Name of the Facility

No. of Facility

1

Synthetic Track 400m

1 Nos.

2

Synthetic Basketball Court

1 Nos.

3

Synthetic Tennis Court

4 nos.

4

Cemented Lawn Tennis Court

2 Nos.

5

Cemented Basketball Court

2 Nos.

6

Swimming Pool

1 Nos.

7

Cricket Ground

2 Nos.

8

Lawn Tennis Practice Wall

1 Nos.

9

Football Ground (11a side)

2 Nos.

10

Football Ground (6 aside)

2 Nos.

11

Volleyball Ground

3 Nos.

12

Badminton Hall

1 Nos.

13

Badminton Ground (Outdoor)

7 Nos

14

Handball Ground

1 Nos.

15

Hockey Ground

1 Nos.

16

Cricket Net practice Pitch

1 Nos.

17

Table Tennis Hall

1 Nos.

18

Yoga Room

1 Nos.

19

Chess Room

1 Nos.

20

Gym Hall in all Hostels

-

File Description	Documents
Upload relevant supporting document	View File

4.1.3 - Availability of general campus facilities and overall ambience

The campus is equipped with all general amenities including Health Center, Post Office, Banks, Gyms, Library, Career Services, Yoga center, WiFi, Parks, Reading Rooms, Swimming Pool, Cricket Ground, Basketball field, Athletic Track, Meditation Center, Canteens, Cafes, Juice stalls, Shopping Center, Open air Theatre, Indoor Auditoriums, etc.

University spends a considerable amount of money to keep the campus green and clean. The Horticulture department and Central Maintenance Section makes sure that the campus is green and clean. Hostels, academic departments, faculty and staff residences have dedicated green areas. Many plantation and other drives are carried out to make everyone on campus aware and participate.

File Description	Documents
Upload relevant supporting document	View File

4.1.4 - Total expenditure excluding salary for infrastructure augmentation during the year (INR in Lakhs)

17730

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

4.2 - Library as a Learning Resource

4.2.1 - Library is automated using Integrated Library Management System (ILMS) and has digitisation facility

Library functions and services are fully automated with Integrated Library Management System (ILMS) Koha, an advanced browser-based open-source Integrated Library System, since 2016. Before that, Library automation was done through SOUL.

Name of the present ILMS software: Koha

Nature of automation (fully or partially): Fully Automated

Current installed Version: 20.11.06.000

Year of automation: 2016 (Koha) and from 2000 to 2016 SOUL Software was being

used.

URL: <http://library.thapar.edu>

Apart from the ILMS, the Central Library has digitized its resources and provided a digitized facility such as using Dspace for archiving and dissemination of the thesis since 2006, question papers, standards, old question papers, newspaper clips, etc., are available in digital format, etc. All the e-resources are provided remotely through Shibboleth technology under INDIAN Access Management Federation (INFED). The library has its own NPTEL Local chapter. State-of-the-art systems such as LED and Projector-equipped Group Discussion Rooms, Audio-Visual Seminar Room, Digital Signage on each floor, RFID complaint system integrated with Koha such as 'Self-Issue Kiosk' and 'Book Drop', etc. Users can get books issued through the Self-Issue Kiosk and can return at book drop. OPAC terminals are installed for user convenience. All the library services are listed on the library portal. The library has dedicated computers for the library users, digital scanners, printers, photocopiers, and surveillance systems for security, etc. CCTV cameras are also installed at various places in the Central Library for round the clock safety and security..

File Description	Documents
Upload relevant supporting document	View File

4.2.2 - Institution has subscription for e-Library resources Library has regular subscription for the following: e – journals e-books e-ShodhSindhu Shodhganga Databases

A. Any 4 or all of the above

File Description	Documents
Upload relevant supporting document	View File

4.2.3 - Annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the year (INR in Lakhs)

281.93

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

4.2.4 - Number of usage of library by teachers and students per day (foot falls and login data for online access)

782

File Description	Documents
Upload relevant supporting document	View File

4.3 - IT Infrastructure

4.3.1 - Number of classrooms and seminar halls with ICT - enabled facilities such as LCD, smart board, Wi-Fi/LAN, audio video recording facilities during the year

127

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

4.3.2 - Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility

Thapar Institute of Engineering and Technology (TIET) provides IT resources to support the educational, instructional, research, and administrative activities of the Institute and enhance the employees' efficiency and productivity. These resources are meant to access and process information related to their work areas. These resources help them to remain well informed and carry out their functions efficiently and effectively. Centre of Information and Technology Management (CITM) of Thapar institute is cater the needs of users involving implementation, maintenance and support activities related to LAN/WLAN, software and hardware; procurement, support and maintenance of various equipment's of users. CITM of Thapar institute offers Internet access and network services to Thapar Institute.

CITM of Thapar institute also provides repair and maintenance of Electronic Instruments/Equipment and PCs and peripherals used in various Laboratories. CITM contributes to implementing LMS and ERP software that includes financial management, inventory management, human resource management, purchase management, academic activities modules, and its related support to the users of Thapar Institute. The main objective of Centre is to provide better support and services to the users for their individual and collective growth.

File Description	Documents
Upload relevant supporting document	View File

4.3.3 - Student - Computer ratio during the year

Number of students	Number of Computers available to students for academic purposes
10019	2562

4.3.4 - Available bandwidth of internet connection in the Institution (Leased line) • ?1 GBPS

File Description	Documents
Upload relevant supporting document	View File

4.3.5 - Institution has the following Facilities for e-content development Media centre Audio visual centre Lecture Capturing System(LCS) Mixing equipment's and softwares for editing A. All of the above

File Description	Documents
Upload relevant supporting document	View File
Upload the data template	View File

4.4 - Maintenance of Campus Infrastructure

4.4.1 - Total expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the year

7578.48

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

The Institute has a designated officer, General Manager Estate, and has appointed sufficient support staff for overseeing the maintenance of buildings, classrooms, and laboratories. The maintenance departments maintain the physical infrastructure on the campus which includes both breakdown and preventive maintenance of facilities. All maintenance activities are tracked by a ticketing method by which the users can raise a request and is attended to as soon as possible and in most cases within 24 hours. Each department/school has its own staff that includes mechanics and technicians to maintain the lab equipment under the guidance of Lab Incharge who is a faculty in the program. Additionally, many departments have Annual Maintenance Contracts with suppliers and companies for the repair and maintenance of key equipment. Centre for Information Technology and Management (CITM) is responsible for the upkeep and maintenance of all IT-related and electronic equipment including computers. CITM has on its role many system analysts, technicians, and instructors who are responsible for repair and maintenance of equipment and computers including network related issues. There is a dedicated staff to maintain the AV systems in classrooms and labs whose services can be requisitioned upon request. These staff report to the Administrative Officer who ensures that classrooms, laboratories, and other academic areas are functional and well maintained. The Sports Section has full-time Groundsmen who maintain and clean the sports facilities and grounds. Dedicated Coaches are available for all major games who also look after the upkeep of equipment. To improve the physical ambiance of the campus, several initiatives are taken from time to time. Some of these are: Periodic painting and whitewashing of building and labs Ground-men for maintaining grounds, lawns, and upkeep of plants Tree plantation drive every semester A meditation park with a walkway in the woods Adequate Housekeeping staff for general cleaning Restrooms Dustbins at every 100 meters The infrastructure facilities, services and equipment are maintained periodically. There is a periodic maintenance plan for each activity such as painting, whitewashing Dedicated staff including masons, plumbers, carpenters, electricians for maintenance of infrastructure. Workshop technicians for welding, furniture repairs in summer AMC's for critical equipment and networking Lab equipment is maintained by the dedicated technicians in the labs on a periodic basis during summer / winter vacations.

This procedure has been established to ensure that all the equipment and facilities in the departments/schools are kept in

working order and is implemented by the respective laboratory incharges for each laboratory. The lab support staff ensures that the equipment is kept in working order for day-to-day use and also maintains a record of day-to-day repair work. In case of breakdown of the equipment, the Lab Superintendent or the designated staff and send it for necessary repairs. Preventive maintenance of equipment/facilities which includes cleaning, greasing, oiling, servicing is also carried out as per laid plan for key equipment.

The procedure manual of the library is attached.

File Description	Documents
Upload relevant supporting document	View File

STUDENT SUPPORT AND PROGRESSION

5.1 - Student Support

5.1.1 - Total number of students benefited by scholarships and free ships provided by the institution, Government and non-government agencies (NGOs) during the year (other than the students receiving scholarships under the government schemes for reserved categories)

1853

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.1.2 - Total number of students benefited by career counselling and guidance for competitive examinations offered by the Institution during the year

4909

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.1.3 - Following Capacity development and skills enhancement initiatives are taken by the institution Soft skills Language and communication skills Life skills (Yoga, physical fitness, health and hygiene) **A. All of the above**

Awareness of trends in technology

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.1.4 - The Institution adopts the following for redressal of student grievances including sexual harassment and ragging cases
Implementation of guidelines of statutory/regulatory bodies
Organisation wide awareness and undertakings on policies with zero tolerance
Mechanisms for submission of online/offline students' grievances
Timely redressal of the grievances through appropriate committees

- All of the above

File Description	Documents
Upload relevant supporting document	View File

5.2 - Student Progression

5.2.1 - Number of students qualifying in state/ national/ international level examinations during the year (eg:NET/SLET/GATE/GMAT/CAT/ GRE/TOEFL/Civil Services/State government examinations)

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

90

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.2.2 - Total number of placement of outgoing students during the year

1303

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.2.3 - Number of recently graduated students who have progressed to higher education (previous graduating batch) during the year

90

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.3 - Student Participation and Activities

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

3

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.3.2 - Presence of Student Council and its activities for institutional development and student welfare

TIET has a Student Consultative Committee (SCC) which is an equivalent of the student council with representation across streams, year of study and programs. All students including undergraduate, post-graduate and Ph. D have representation on the committee. Every year a fresh SCC is framed with nominations received from various departments/schools. SCC meets at least twice a semester. The respective heads of departments/schools nominate students for SCC from each discipline on the basis of following formula: • One student up to a class of 40 students • Two students up to a class of 80 students • Three students up to a class of 120 students and so on. Furthermore at least one girl student has to be nominated from each discipline, if possible. No student can become SCC member for more than two terms; this applies to the

students of BE (3rd & final year) and MCA (Final year). All the heads of the departments, schools, centers and other facilities are de-facto members of this committee. The SCC meets three to four times every year and addresses all kinds of student issues ranging from academics to hostels, health issues to security concerns, library functioning to mess food etc. The students also have representation on the Institute Quality Assurance Cell (IQAC).

File Description	Documents
Upload relevant supporting document	View File

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

43

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.4 - Alumni Engagement

5.4.1 - The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services during the year

The greatest asset any Institution can have is its Alumni. Alumni are the brand ambassador of an Institute and responsible for creating positive vibrations in society. Reputation and standing of an Institute is created by the significant contributions made and heights attained by its Alumni in different sectors of society like Public and Private Sector Organizations, Industry, high end administrative and professional jobs in Public and Private sectors and in many other areas of significance in society at National and International levels. TIET Alumni are spread all over the globe. The Institute and its current students can drive large advantages by being well networked with the Alumni. TIET keeps its Alumni in high esteem and shall always look forward for their close association with their Alma Mater.

The University strives to engage its alumni in meaningful ways with eye toward increasing their level of philanthropic, advocacy, and support. TIET graduates are leaders and contributors to the vitality of their local communities, businesses, and culture

across the globe.

There are currently slightly more than 25000 TIET University degree holders. As a result of student enrolment growth, this represents an alumni population increase of 33 percent since 2000. During that time, two campuses have more than doubled the size of their alumni base. This means that the average age of alumni is younger than ever - a trend that will continue. Likewise during this period, as the University has enrolled higher percentages of first-generation students, TIET's alumni population has become increasingly diverse. Based on undergraduate student projections for the foreseeable future, these developments are expected to continue. Such trends provide TIET campuses ample opportunities and a few challenges in the years ahead.

The University relies heavily on alumni as campus volunteers, Alumni Leaders, community advocates, and supportive Partners, for all its engagement efforts. Alumni populations and engagement vary by campus. Each campus funds and operates its alumni database management, print and digital communications, reunions, events, career networking, mentorship and other engagement activities. TIET office of the Director supports these efforts with benchmarking policies, topical system wide events, common messaging, and directed funding.

The mission of TIET Alumni Relations is "to enrich the lives of alumni and engage them as volunteers, advocates, and contributors who strengthen the University." To this end, each campus runs and manages communications, events, and programs to maximize alumni involvement, develop volunteer opportunities, and stimulate philanthropic and advocacy support.

The Alumni Relations team's primary objective has continued to be outreach through regional, affinity, reunion and student programs to connect and engage alumni in the life of the university and students. Homecoming has been a major focus over the last few months in collaborating with campus partners to provide alumni many reasons to come back and reconnect with their alma mater during this reunion weekend. The team has continued to work on the reporting capabilities of The Almaconnect, the division's new constituent database, to guide programming and communication decisions and to create invitation lists for all-inclusive and segmented communication pieces. The team continues to move forward with the division's strategic plan and implementing tactics that will improve the alumni engagement percentage.

More Information can be found in the following links.

1. Alumni Meets
2. Angel Alumnus
3. Alumni in Focus
4. Distinguished Alumni Awardees
5. AlmaConnect
6. Mentorship Program
7. Apprenticeship Program
8. Our Alumni Network

File Description	Documents
Upload relevant supporting document	View File

5.4.2 - Alumni contribution during the year A. ? 5Lakhs (INR in Lakhs)

File Description	Documents
Upload relevant supporting document	View File

GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 - Institutional Vision and Leadership

6.1.1 - The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance

VISION

Our vision is to build a sustainable society through education, which is centered around extensive learning, research, and development. We wish to be recognized as a leader committed to excellence in higher education and to give our students the power to innovate and discover countless possibilities through academic learning and exposure.

MISSION

Thapar Institute of Engineering and Technology, which comprises of inter-disciplinary exploration and invention, has contributed to the many technological advancements and scientific breakthroughs within India and beyond. The teaching pedagogy employed for the engineering programmes offered at Thapar Institute of Engineering and Technology reflects the long held ethos, which advocate that engineering education should be broad-based and should enable students to develop their professional careers, while finding solutions for the unseen challenges that lie ahead.

Our sole mission is to provide a scholarly and professional environment that enables our faculty, students and staff to make lasting contributions to the advancement of learning. We aim to be dynamic, innovative and flexible in devising academic programmes, structures and mechanisms. We believe in carrying out cutting-edge research and development for the benefit of society.

CORE VALUES

- **Excellence:**Commitment to best practices in teaching and learning, scholarship, student engagement, cultural enrichment and campus environment.
- **Integrity:**Follow the highest standards of professional behavior and ethics to be transparent, honest and ethical in all our interactions with all stakeholders.
- **Accountability:**Act with integrity and professionalism and uphold highest ethical standards.
- **Transparency:**Promote transparency in all its activities by providing a culture of active involvement of all in decision making.
- **Diversity:**Committed to creating an environment that is vibrant and inclusive in which ideas flourish and everyone is empowered.

File Description	Documents
Upload relevant supporting document	View File

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

The University practices and promotes the culture of participative Management at all its activities like Administration, Admission,

Student activities, Curriculum Development, Research, Sports etc. The University has given equal representation in various committees at all levels from Professors, Associate Professor and Assistant Professors from various Schools. The leadership at the University is provided by the Director who has always been a person of excellence and eminence with proven track record and has a history of leading by example. The Director is assisted by Deputy Director and Deans for various key activities, Heads of Departments/ Schools and Centres besides the Registrar and Chief Human Resource Officer who looks after the administrative activities of the University. The structure is similar to what is followed at some of the best institutions in the country and abroad. TIET has created a governance plan that embodies the institute's values of transparency, accountability and efficiency. By introducing decentralization and participative management, TIET is committed to improving the procedures and functioning of the institute as well. Transparency TIET, through its Governing Bodies will make sure that there is a centralized, coordinated system will enable the institute to be transparent in all its actions. Being transparent enables TIET to help the faculty, staff, students and society understand the reasons behind its actions. Accountability It is important for TIET's Governing Bodies to be accountable to one another in order to make sure that the institute is running smoothly and to prevent any wrongdoings. Efficiency TIET acknowledges the importance of being efficient in its use of resources and its functioning. The Governing Bodies take steps throughout to make sure that the institute is being as efficient and effective as possible in its day-to-day functioning.

File Description	Documents
Upload relevant supporting document	View File

6.2 - Strategy Development and Deployment

6.2.1 - The institutional Strategic plan is effectively deployed

The present age Universities are becoming wise to various strategies and striving to deliver top quality education globally. TIET has proven its mettle in the past and is at the forefront of embracing change and delivering quality education to students from across the country. TIET brings to the world 65+ years of sparkling excellence. Its portals are a testimony to the making of professionals whose brilliance have shaped new ideas. Recognized amongst the leading privately managed engineering institutions of the country and the best of its kind in the north-western region

of India. TIET is ranked 29th amongst top engineering institutes and universities in NIRF Ranking in 2020. It is amongst the Top 3 Private Engineering colleges in the same list. TIET is determined to move up the ranking ladder by excelling in all spheres of teaching, research and placements. TIET has grown impressively in both size and activities during the last six decades of its existence. At present TIET is amongst the top few Indian private universities who are recognised among the academic world and global rankings. TIET has already embarked upon a transformation journey with multiple initiatives to fill the identified gaps, build upon its strengths and beat its competition.

This latest version of the strategic plan is in operation for the period 2021 to 2025 and cover the following aspects of its growth journey:

Institutional Goals

The goals identified are pillars of the plan. These goals allow TIET to break down the long-term vision into four key objectives (attainable steps) which can be further quantified and monitored with the help of milestones across the 5-year time period. They are designed to be high-level in nature and are built on the assumption that all departments will base their planning efforts on these overarching objectives. The institution's success on the identified goals will depend on the initiatives undertaken by the institution and the contribution and engagement of all concerned stakeholders, both internal and external.

Goal 1: Excellence in teaching and education delivery

We will achieve this through:

- Curriculum that is internationally attuned and of interest to high quality students
- Delivery of core competencies and the development of attributes that ensure students can address complex challenges of the global world

5 years

Number of students

15000+

Faculty student ratio

1:15

Training and certification of faculty

100%

Goal 2: Provide solutions to global challenges through delivery of world class research

We will achieve this through:

- Creation of a dynamic research environment and suitable capabilities
- Enhancing research capacity through partnerships and creation of research centres in core competency areas
- Investing in infrastructure that promotes a thriving research and economic development enterprise

5 years

Publications per faculty

3

Citations per article

15

Patents

100

Research Income

10 Crores

Goal 3: Engage in external collaborations that extend and deepen institution impact

We will achieve this through:

- Increasing international engagements and learn from leaders of top institutions

- Developing linkages for faculty and student and generate mutually beneficial sustainable outcomes

5 years

International and national collaborations

40

Consultancy revenue

10 Crores

Goal 4: Enrich student experience and foster a positive learning and working ecosystem

We will achieve this through:

- Creating a congenial work environment
- Providing an unmatched teaching and learning experience for all students
- Instilling a comprehensive view of equity, inclusion and diversity on campus

5 years Number of students receiving scholarships 3000+ Actively engaged alumni 60%

File Description	Documents
Upload relevant supporting document	View File

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

Board of Governors

The Board of Governors is the principal executive body of the University, and is responsible for direction and control of the affairs of the University. It exercises the powers of the University not otherwise provided in the Memorandum of Association and Rules & Regulations. It creates, keeps in abeyance or

abolishes any post or cadres; lays down the qualifications, experience and emoluments; defines duties and conditions of service of staff; appoints academic, administrative and technical staff; regulates and enforces discipline amongst employees; adopts the Annual Report and Annual Accounts; approves the Budget Estimate and Development Plans; manages & regulates the finances, accounts, investments, property and all other administrative affairs; fixes admission fee, scholarships, prizes, emoluments etc; and oversees all other matters related to the University.

Planning & Monitoring Board

The Planning & Monitoring Board has been constituted for preparing development plans of the University, monitoring the implementation of approved plans of the University and schemes sanctioned by U.G.C. and other agencies, and for considering all those matters which have been referred to it by the Board of Governors.

Senate

The Senate is the principal academic body of the University and exercises general supervision over the academic work, promotes research activities, maintains proper standards of examination, frames and revises curricula and syllabi of courses, makes proposals for institution of research, specialized studies, libraries, laboratories etc. and all other academic matters related to the University. The details about the members of the Senate are provided in Annexure - I(c)

Finance Committee

The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University. The Finance Committee has fixed the limits of total recurring and non-recurring expenditures based on the income and resources of the University. The details about the members of the Finance Committee are provided in Annexure - I(d)

Staff Affairs Committee

The Staff Affairs Committee has been constituted to review the staff structure, suggestions regarding revision of cadre, creation

of new posts, minimum qualification and experience of staff including promotion cases, recruitment policies, procedure for recruitment and all other matters related to the staff of the University.

Building & Works Committee

This committee looks after all major construction works under the direction of the Board, and minor works within the grant placed at the disposal of the University. It is responsible for the enlistment of suitable contractors and acceptance of tenders and preparation of estimates of cost of buildings and other works i.e. capital, minor repair or maintenance.

Senate Research Committee

The committee formulates the Institutional policies related to research and sponsored projects at the University.

File Description	Documents
Upload relevant supporting document	View File

6.2.3 - Institution Implements e-governance in its areas of operations

6.2.3.1 - e-governance is implemented covering following areas of operation **A. All of the above**

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

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.3 - Faculty Empowerment Strategies

6.3.1 - The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff

For Thapar Institute of Engineering & Technology University, the processes used to evaluate and provide feedback about the performance of the faculty working with us is extremely important. If these evaluation processes are properly designed, these can help the University thrive by providing appropriate rewards and encouragement for good performers, and guidance about how to improve their performance to others. The existing evaluation processes for faculty did not appropriately make the distinction based on performance and may result in lower morale, engagement and productivity. The University recognizes the importance of a faculty performance evaluation process that is fair and that provides productive and appropriate incentives to faculty. As a result, a new performance incentive scheme was designed to reward performers and encourage all others to improve their performance. No faculty performance review process can be free of issues or problems. Bearing this in mind, a committee was constituted to review the existing performance review system and recommend changes and policies to improve the process. The committee formulated a new Scheme for awards for excellence that is more transparent and better understood, more equitable, and provide more useful feedback to faculty members. The implementation of this new scheme since last 5 years has enhanced morale, rewarded good performers, motivated and reinforced productive activity of faculty at Thapar Institute of Engineering & Technology University. The aim of the new evaluation process is to appropriately quantify the academic and research performance of all faculty members at Thapar Institute of Engineering & Technology University through a self appraisal system wherein marks are awarded for pre-defined activities of a faculty during an academic year (July 1 to June 30 next year). The marks are awarded for all activities of faculty which directly contribute to attaining the documented quality policy and objectives of the University. The method is devised in a way so as to eliminate/reduce subjectivity of measuring performance of a faculty. The goal is create a measure by which faculty can self assess its performance. The good performers are rewarded with incentive for that year.

The faculty is requested to fill up an online form wherein he reports his academic (teaching) and research performance besides other services or co-curricular activities he/she had undertaken during the previous year. The teaching performance is judged on the basis of results of a Student Response Survey (SRS) form for each faculty and each subject. The students are required to fill up this form online. The results of the survey are used as a

measure of teaching potential and quality of a faculty. The scores are compiled using a customized software. Based on the SRS score obtained (given by students) a teaching score for all the subjects taught by the faculty during the two semesters is generated. The research scores are awarded by considering publications, research projects, and student guidance during the year. For all other activities undertaken by the faculty during the year, perception score is given by the reporting officers. The criteria of selection of faculty for various awards

Promotion Policy

The Institute believes in providing opportunities to high performers by enriching and enlarging their jobs thereby fostering the advancement of its employees and enhancing the upward mobility of its employees. This policy is based on the recognition that in the course of meeting the Institute's objectives, the duties and functions of an employee may change in complexity and responsibility during their career progression. Promotions therefore, are based on status changes that involve increasing responsibility levels. The added benefits of promotion serve as an incentive for better work performance, enhance morale and create a sense of individual achievement and recognition. Recruitment and Promotion Norms - Teaching Staff (Engineering & Sciences). The purpose of this policy is to provide a sound framework for the recruitment, selection and promotion of faculty based upon the principles outlined below, which also meet the requirements of relevant employment legislation. The Institute will seek to recruit the best candidate for the job based on merit. The recruitment, selection and promotion process should ensure the identification of the person best suited to the job and the Institute. The Institute treats all candidates fairly, equitably and efficiently, with respect and courtesy, aimed to ensure that the candidates' experience is positive, irrespective of the outcome.

Promotion Policy - For more details please refer to service regulations (Page 35 to 62) https://www.thapar.edu/upload/files/TIETService%20Regulations.pdf?_ga=2.228893855.280628159.1646652234-279137760.1644217981

Thapar Institute has various welfare schemes for the teaching and non-teaching staffing place. Some of them are as follows:

1. Medical Allowance

2. Child Educational Allowance

3. Professional Development Allowance

4. Maternity benefits as per government norms

5. Leave Travel Allowance

6. Free on-campus medical facilities and insurance for other medical requirements.

7. EPF for employees

8. Medical leave

9. Sports facilities

10. Wifi facility

11. Computing facility (every faculty member is provided with a laptop at the time of joining)

12. Round-the-clock security for the campus residents.

File Description	Documents
Upload relevant supporting document	View File

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

47

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.3.3 - Number of professional development / administrative training Programmes organized by the institution for teaching and non-teaching staff during the year

38

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.3.4 - Total number of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the year(Professional Development Programmes, Orientation / Induction Programmes Refresher Course, Short Term Course)

504

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.4 - Financial Management and Resource Mobilization

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

TIET has been relying primarily on fee revenue, which makes it reliant on teaching orientation. In order to enhance the institution's capacity to compete globally, nationally, and locally, it is imperative that we also attract funding from alternative sources to improve our facilities and support innovative projects in order to attract the best and most diverse range of students, as well as to hire the quantity and quality of international faculty required. TIET has already taken up initiatives focused on raising revenue streams from student fees, sponsored research funding, alumni endowments, etc. The institute will receive revenue from varied sources such as student fees and hostel living fees. We will also attempt to raise resources from online programs, and research and consulting projects. TIET will also like to grow its executive education programs. The institute, through its initiatives, to raise funds in order to invest in research, infrastructure and development will aim to raise appropriate funding to realize its growth plans.

The university has a Budgetary control system to monitor the effective and efficient use of financial resources. The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University. The Finance Committee has fixed the limits of total recurring and non-recurring expenditures based on the income and resources of the University.

File Description	Documents
Upload relevant supporting document	View File

6.4.2 - Funds / Grants received from government bodies during the year for development and maintenance of infrastructure (not covered under Criteria III and V) (INR in Lakhs)

0

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.4.3 - Funds / Grants received from non-government bodies, individuals, philanthropists during the year for development and maintenance of infrastructure (not covered under Criteria III and V)(INR in Lakhs)

0

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.4.4 - Institution conducts internal and external financial audits regularly

The university has the Budgetary control system to monitor the effective and efficient use of financial resources. The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University. The Finance Committee has fixed the limits of total recurring and nonrecurring expenditures based on the income and resources of the University. The Institute have both internal and external Audit system. All voucher are internally audited before it is produced to Statutory Auditor. In addition, the university also has pre-audit system in which all comparative statements for an indent, purchase orders before release and all payment exceeding a certain amount are audited by the internal audit section. The internal audit section directly reports to the Director and is manned to two Senior Accounts Staff independent of the Institute Finance and Purchase/Commercial Section. All the comparative statements, purchase orders stamped as pre-audited after the audit is completed without which no commercial transactions can progress. The accounts of the

university are audited by an independent Chartered Accountant Firm at the end of each year and is approved and authorized by the board of governors. The Chairman of the Board approves the audit statement before these are adopted. The Annual Balance sheets are uploaded on the Institute website as part of the mandatory compliance. The audited income and expenditure statement of academic and administrative activities of the last five years is available on the TIET website. Through the Internal Audit System, a Budgetary control system and periodic comparison with actual and find the variances and control accordingly is undertaken. This includes preparing periodic cash flow analysis and comparing pay-back period with actual in case of capital expenditure.

File Description	Documents
Upload relevant supporting document	View File

6.5 - Internal Quality Assurance System

6.5.1 - Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals

The University has established, documented and implemented a Quality Management System. Continuous improvement in the implementation and effectiveness of the quality management system is ensured through continuous reviews and internal audits. The University has identified the processes needed for the quality management system and their application throughout the organization process are being carried out in the University. Documented procedures have been developed for the management activities, provision of resources, instructional design, delivery and control and measurement.

The University continuity improves the effectiveness of the quality management system through the use of quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review. At the time of every management of review, through the measure of each objective and its comparison with earlier level of that objective, the trends are ascertained. Action points are then listed to continually improve the system. The status is reviewed in the subsequent management review meetings. The University conducts internal audits every six months to verify whether quality managements system conform to the quality plan and to determine that it is effectively implemented and maintained. The review of the quality

system is carried out once every six months to ensure continuing suitability, adequacy, and effectiveness in satisfying the requirements of the standard and the quality policy of the University. The review includes assessing opportunities for improvement and the need for change to the quality management system.

An internal audit of each department is scheduled during each semester in which faculty members from outside that department review the performance of the department during the last semester. The course files of all courses are scrutinized to verify all activities related to teaching-learning and evaluation processes have been completed as per norms of the University. Discrepancies, if any, are reported in the form of a nonconformance report for which the department must submit a corrective action.

File Description	Documents
Upload relevant supporting document	View File

6.5.2 - Institution has adopted the following for Quality assurance Academic Administrative Audit (AAA) and follow up action taken Conferences, Seminars, Workshops on quality conducted Collaborative quality initiatives with other institution(s) Orientation programme on quality issues for teachers and students Participation in NIRF Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA)

A. Any 5 or all of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.5.3 - Incremental improvements made for the preceding during the year with regard to quality (in case of first cycle) Post accreditation quality initiatives(second and subsequent cycles)

Post Accreditation Initiatives 2020-2021

The present age Universities are becoming wise to various strategies and striving to deliver top quality education globally.

Thapar Institute of Engineering & Technology, Patiala (TIET) has proven its mettle in the past and is at the forefront of embracing change and delivering quality education to students from across the country. TIET brings to the world 65+ years of sparkling excellence. Its portals are a testimony to the making of professionals whose brilliance have shaped new ideas. Recognized amongst the leading privately managed engineering institutions of the country and the best of its kind in the north-western region of India. TIET is ranked 23rd amongst top engineering institutes and universities in NIRF Ranking in 2021. TIET is determined to move up the ranking ladder by excelling in all spheres of teaching, research and placements. At present TIET is amongst the top few Indian private universities who are recognised among the academic world and global rankings. TIET has already embarked upon a transformation journey with the completion of the first phase of its ambitious contemporization program. It has taken multiple initiatives to fill the identified gaps, build upon its strengths and better its peers.

Initiative 1

TIET has developed a Strategic Plan which includes an academic plan to transform from a traditional engineering education to a multi-disciplinary centre of excellence in higher education. The academic plan showing the courses proposed and a research plan focusing on current thrust / niche area(s) of expertise and proposed plan in pursuit of excellence in those areas is as under:

TIET Growth Plans and Proposed Courses

The students at TIET are unique individuals with different interests and aspirations. The diverse programs and activities aimed at developing quality of mind, ethical standard, social awareness and global perspectives allows the students shape their own TIET experience and grow. At present - TIET has 7 departments and 5 schools in Engineering and Science. It has an off campus center LMTSOM which offers courses in Management. Going forward, TIET plans to establish new departments in Law, Pharmacy and Architecture. Apart from that, they plan to offer various interdisciplinary courses in Management, Liberal Arts, Law, Science and Engineering.

Engineering and Science

The Engineering programs offered can usually be bifurcated into three main categories namely Biotechnology, Core Technology and

Information Technology. Undergraduate engineering students are taught a series of courses in basic sciences to develop understanding of scientific principles and methods, analytical ability and rigour. These courses are followed by courses in engineering sciences to provide a smooth transition from basic sciences to professional engineering courses.

The undergraduate curriculum consists of two main components i.e. core courses and professional courses. The core courses lay emphasis on concepts and principles. It involves teaching of subjects in Basic Sciences, Humanities and Social Sciences and Engineering Science. Attention is also paid to develop communication skills in English language - the medium of instructions.

The Professional courses lay emphasis on system analysis, design, manufacturing and professional practice. There is an in-built flexibility to encourage students to specialize in streams of their choice through a system of professional and free electives. The Institute strives to foster among its students a strong desire and capacity for continuous learning as well as self-appraisal to develop sterling human & professional qualities and a strong sense of service to society through designed, curricular, co-curricular activities and congenial campus environment.

But in the recent times, the boundaries between various departments has blurred. In the light of this, TIET will focus on evolving multidisciplinary courses where the curriculum will be flexible and students will be offered to pick courses from different basket of courses and students can opt for studying a mix of multiple baskets and in-turn can earn a multidisciplinary degree.

At present - TIET has 7 departments in Engineering in Computer Science, Mechanical, Electronics, Electrical, Biotechnology, Chemical and Civil disciplines. Various interdisciplinary programs are offered in Mechatronics Engineering, Electronics & Computers, Instrumentation & Control, Software Engineering & Management, Metallurgical and Materials Engineering.

TIET has introduced Bachelor of Engineering courses in Biomedical Engineering in 2019-2020.

TIET is offering various M.E./M.Tech. Programs where it has uniformly maintained the basic structure and philosophy of the post-graduate education in engineering in the country. All these

programs, regular or part-time, have their course work classified into two major categories: Core Courses and Elective Courses. To be eligible for a degree, a student must complete requisite number of core and elective courses. However, to bring in flexibility a wide choice of electives is offered to the students in order to make their training broad based. Presentation of a Seminar and a project in addition to the course work and further carrying out a thesis/dissertation are necessary components of post-graduate degree.

TIET also offers M.Sc. programs aims to impart application oriented education in the respective area with an integrated approach so as to turn out professionals who will have easy absorbability in industry as well as self-employment skills. The course curriculum has been structured to impart education in the areas desired by the industry as well as local needs.

The Science programs are offered in Biochemistry, Biotechnology, Chemistry, Mathematics & Computing and Physics. To meet the changing industry demands, TIET plans to introduce integrated courses and new master courses in specialized areas in Physics and Biochemistry.

Management

At present, LM Thapar School of Management (LMTSOM) offers a 2 Year MBA program. The goal of the program is to develop globally sensitive scholarly practitioners with social entrepreneurial mind set. It aims to groom a generation of thinkers, practitioners and leaders who are adept at solving both local and global problems with utmost global sensitivity. The program strives to achieve that all graduates have a strong entrepreneurial orientation with an emphasis on doing social good. Irrespective of what kind of enterprises they create or work for, a strong orientation toward societal good must be the starting point of any decision they make.

Both business schools and businesses have a very important role in dreaming and architecting a new world order and we must make a determined beginning here in India. TIET wants to develop LMTSOM as a centre of advanced learning which is uniquely positioned to bringing students, teachers, scholars, entrepreneurs, business leaders, community leaders, and social activists together to create the new India of our dreams.

Liberal Arts and Sciences

TIET has started a new program in liberal arts and sciences. Liberal arts is more and more recognized as the most useful foundation training for managers and business leaders. In addition to specialization courses, students will be well trained in the following subjects with the possibility of specialization: Biology, Computer Science, Ecology, Economics, Evolutionary & Cognitive Psychology, English Writing, Fine Arts & Design, History, Mathematics, Philosophy, Physical Sciences, Sociology, Sustainable Development

Law

The legal sector in India has been enthusiastically growing ever since 1991 when India opened its economic doors to the world. India attracted lot of inbound investment. Recent years have seen a growth in outbound investments as well. Lot of cross border transactions are taking place today and lawyers are often needed to advice on various transactions. This created an opportunity for many to establish law firms to provide various specialized legal services to companies that are seeking professionally managed legal services.

TIET plans to set up Law Department that will offer 5 Year Integrated program in Business Studies and Law (BBA-LLB) soon. Law is a fundamental part of business and business has always been intertwined with the law and legal regulations, but these are becoming more complex. Business students who study the interaction of law and business can anticipate the legal needs of their companies and comprehend how laws and regulations can impact businesses in both positive and negative ways.

TIET will also offer a Master Program in Law, which will produce post graduates specializing in several areas like Corporate and Financial Law and Policy, International Trade and Investment Law, Intellectual Property Rights and Technology Law etc.

Initiative 2

Expansion of Choice Based Credit System

CBCS has been implemented and expanded across all programs with new offerings added from the School of Liberal Arts and Sciences. A basket of Generic Electives, excluding the course 'Innovation and Entrepreneurship (UTA012)' are offered in 7thSemester.

The Basket of Generic Electives, other than UTA012, to be offered

is as under:

S.No

Course No.

Course Name

1

UHU007

Employability development Skills

2

UHU006

Introductory Course in French

3

UHU009

Introduction to Cognitive Science

4

UHU008

Introduction to Corporate Finance

5

UCS001

Introduction to Cyber Security

6

UPH063

Nanoscience and Nanomaterials

7

UEN004

Technologies for Sustainable Development

8

UMA066

Graph Theory and Applications

9

UMA061

Advanced Numerical Methods

10

UBTxxx

Biology for Engineers

Initiative 3

Research at TIET is at the apex of the institute's long-term strategic plan, which is to be a leading research focused and teaching intensive institute in India. Research is a central theme of the institution's mission. Research and innovation will facilitate academic collaborations, industrial interactions and knowledge transfer; and provide support to academics on research funding streams, preparing bid proposals and negotiating research contracts. The institution spends a substantial amount on its budget on research activities. This creates numerous opportunities for graduate and undergraduate students and provides faculty an enriching environment. In the future, the institution foresees significant growth in research activities across disciplines for interdisciplinary and multidisciplinary research. Individual academicians at the institution have developed their own plans indicating the potential areas of research, infrastructure requirement and possibilities of collaboration with leading academics at global/national universities/organizations and industry. In addition to the department specific research TIET has also identified key cross cutting research themes for setting up multiple Centres of Excellence (COEs).

TIET earmarks a significant amount from its budget for acquiring research equipment. Every year the institution asks departments to present their capital equipment requirements and sanctions funds for acquisition of research and teaching equipment. All the engineering and science departments have established advanced research facilities.

Going forward the institution aims to make targeted investments to develop new interdisciplinary and inter-institutional collaborations to establish six centres of excellence (COE) across identified research themes. TIET is also undertaking multiple other initiatives to build research excellence focused at solving real world problems and providing students with experiential learning for better application and analytical skills. TIET has already established three chairs to lead the Food Security, Emerging Materials and Advanced Manufacturing Centres. The food security chair is led by Prof Yosi Shacham from Tel Aviv University and the Emerging Materials Chair is led by Prof Roop Mahajan from Virginia Tech. The third chair was established recently with appointment of Prof Noam Eliaz from Tel Aviv University to lead the Advanced Manufacturing Centre. All the three Chairs are eminent professors with wide research experience in their fields. Two of these centres are already operational at Patiala and both Chair Professors have followed similar strategies in running their respective centres. The Advanced Materials Centre will become operation in 2022-2023. As the 6 CoEs get established, it is expected that close to 200 academic members of TIET staff, 100 Postdoc or PhD students would be working in these centres during the next five years.

1.aTIET-VT Centre of Excellence - Emerging Material

Context

Intense research in recent years has culminated in rapid progress in science and technology that affects every sphere of human life. Development of multifunctional materials and miniaturization of devices have been the keys to this remarkable stride. While our understanding of the fundamentals of materials continue to improve, the techniques and instruments to study and design them become more complex and challenging. It is only through the sophisticated instrumentation we know of materials what we know now. It is important that the multifunctional materials be conditioned to possess diverse properties; the analysis, characterization and to establish operational mechanisms and

reliability of the systems are equally critical and thus, role of the analytical instruments becomes even more inevitable. To achieve these goals, TIET has established a "Centre of Excellence in Materials Research" at TIET, Patiala. This Centre is in line with the long term goals of the institution to improve the quality of research at TIET and bring it to level which is acclaimed internationally.

CEEMS' Thrust Area and their leadership teams:

Thrust Area 1. Title: Coal-derived graphene-x (graphene oxide, reduced graphene oxide, graphene quantum dots and other derivatives). Thrust Area 2. Title: 2. Graphene-x-polymer nanocomposites, with a focus on environmentally friendly applications. Thrust Area 3.

Title: Bio-x (molecular and cellular biology, and biotechnology) to develop environment-friendly alternatives to fossil fuels and plastics, diagnostic and drug delivery and treatment tools, and higher yielding and nutrient rich crop-plants.

Thrust Area 4. Title: Exploratory research to capture high-risk, high-reward basic and applied research crosscutting the first three thrust areas.

Thrust Area 5.

Title: Computational and Simulation (a core capability in recognition of the important role played by scientific computation as the third leg of learning and research).

TIET-TAU Centre of Excellence - Food Security

Context

With over 7 billion mouths to feed globally, ensuring a secure supply of food is a burgeoning and critical challenge for scientists and policymakers alike. Over 1 billion people are currently suffering from malnutrition, while another 2 billion either undernourished or actually suffering from an excess of caloric intake due to a short supply of healthy food. The demand for energy is rising at the same time, thus increasing pressure on agriculture to grow biofuel as well as food. In India, the combination of growing population, urbanization, and rising of living standard results in an increasing demand for food while at

the very same time arable land and resources available to agricultural use are both declining. Providing long-term solutions for these critical issues requires not only advances in the biological and chemical sciences, but also a re-evaluation of strategic business issues, as it relates to food policy.

It is in this context that TIET in association with Tel-Aviv University (TAU), has setup a new interdisciplinary centre. This centre has brought together researchers from diverse academic disciplines to promote innovative research, to forge ties with professionals and academics around the world, and to prepare the next generation of scientists and policymakers to guide global food security issues in the years to come. This Centre is co-located on the Patiala campus at TIET and in TAU and has a major partnership from Punjab Agriculture University. This unique centre is already bringing together leading Indian and Israeli scientists and policy experts to further the important field of Food Security.

Objectives

The Centre provides innovative solutions for the critical issue of food security and agricultural development of India and the world at large. The overarching mission of the centre is to link the three collaborating institutions, to foster closer ties at the national level between Israel and India, and to provide a viable interface between industry and academia. The strength of the centre meshes the established Israeli expertise in innovative agriculture and business practices with the growing expertise and abilities of India. These together with the global agriculture industry leadership of the TIET will equip a new generation of specialists, both future academics and industry leaders, with the knowledge to develop and implement a range of innovative solutions for ensuring a sustainable and nutritious supply of food, while preserving the environment, and ensure the development of TIET as a national leader in Food Security Studies. The centre will set its sights on becoming a recognized hub for agricultural research, training and education

The center works closely with the farmers and villagers. Under this university has established Digital Villages, they develop and provide digital solutions to the farmers. The center also works in the area of enhanced treatment of wastewater without energy investment and biofuel production. Another major area of work under this center is development of biosensor platforms and development of affordable processing technologies for mitigation

of post-harvest losses. The following projects are undergoing at the center: Digital Villages: A Data-Driven Approach to Precision Agriculture in Small Farms, Post harvesting - Biosensor Platforms and Development of affordable Processing Technologies for mitigation of Post-Harvest losses in tropical fruits (GUAVA), Enhanced treatment of wastewater using a synergy of microalgae and microorganisms - without energy investment and biofuel production, and Developing delivery system of CAS9/gRNA to a tissue culture of wheat and barley for genome editing of agronomic traits.

Centre of Excellence - Advanced Manufacturing

TIET has agreed to fund a Chair Professor position in Advanced Manufacturing. The Chair is intended to contribute to the development of a research culture at TIET and support the establishment of a Centre of Excellence in TIET. TIET has formally offered the Chair to Prof Noam Eliaz who is an internationally recognized scholar, with an excellent record of collaboration with industry, raising research funding, mentoring of academic staff and post-doctoral researchers, and supervision of research students. The whole emphasis is proposed to be on applied research working with industry, research laboratories, hospitals, Space Applications

- Biomedical Applications - Implants, hospitals
- Automotive Applications
- Jewellery
- Space Programs and Defence Labs
- Department of Heavy Industries

Initiative 4

Augmentation of IT facilities for teaching and research

Centre of Information and Technology Management (CITM) has been established in the University after integrating three units, namely, Computer Centre, Centre for Information Super-Highway and University Science Instrumentation Centre. This centre has been established to cater the needs of users involving implementation, maintenance and support activities related to LAN/WLAN, software and hardware; procurement, support and maintenance of various

equipment of users.

CITM offers Internet access and network services to Thapar University. CITM has two static leased line connections: 1085 Mbps leased line from Reliance and 1000 Mbps from National Knowledge Network (NKN). The Campus-wide Local Area Network (LAN), which currently has 7400 live nodes (wired and wireless), is backboneed by Optical Fiber connected with layer-3 and layer-2 switches, structured with CAT6 cabling.

The CITM has state-of-the-art computational labs and one DATA CENTRE. The computational facility in the Centre includes 14 Dell Power Edge servers and 97 nodes and other peripherals. CITM is a member of MATHWORKS Campus Agreement and Microsoft Campus Agreement. CITM organizes online courses under Quality Enhancement in Engineering Education an initiative by MHRD. Thapar University has been consistently highly ranked by QEEE organizer IIT Madras.

CITM also provides repair and maintenance of Electronic Instruments/Equipment and, PCs and peripherals used in various Laboratories. This centre is contributing in the implementation of ERP software that includes modules financial management, inventory management, human resource management, purchase management, academic activities etc. and its related support to the users of Thapar University. CITM is also responsible for maintenance and administration of Thapar University Website. The main objective of centre is to provide better support and services to the users for their individual as well as collective growth.

Initiative 5

Establishment of Experiential Learning Centre

The current paradigm of teaching and learning can best be described as 'sage on the stage' mode of teaching. The teacher thinks, 'he is the repository of all the knowledge in the world' and imparts a whole lot of theoretical knowledge to the students. The students often wonder, 'where is engineering in all this'. Especially when the opportunity arises to apply this knowledge, they found themselves ill-equipped.

This age old paradigm of teaching was developed when teachers often used to be practitioners in the field. They with their vast experience and real life examples often made classes very interesting. Later, professional teachers with strong theoretical

concepts and knowledge replaced practitioners in the classroom. This, in my opinion, has led to the current situation where students often graduate with little applied knowledge.

Further, we are now dealing with a very different set of students with technology in their hands in the form of smart devices. Technology enables them to learn any concept without the need to search for books or visit libraries. Teachers who use bookish concepts or follow a prescribed textbook do not excite students anymore. Theoretical concepts, which are available with a click of a button on their laptops, no more attracts them to the class. Rote teaching and learning methods of yesteryears thus will never be able to stimulate today's students. They will only look forward to a formal class if it gives something more than what is available with the technology. Today's teacher must be willing to become a 'guide on the side' rather than a 'sage on the stage'.

Employers want 'role ready' engineers. Many employers come to campuses with the specific job roles for the students, and more often than not are disappointed with the industry readiness of the students. This can again be attributed to the rote learning methods educational institutes use. Having dealt with several employers during the past few years, we know that many industries are keen to play some role in the teaching and learning process to impart application oriented skills to the students. As industries vary, so do their requirements. It is the need of the hour for engineering institutes to produce graduates who can quickly adapt to these requirements. They must have the necessary skill sets to meet the problems posed to them. Thus, today's graduates should be skilled in self-learning, problem-solving and an ability to apply theoretical concepts to industrial problems.

There is, thus, a need to modify how engineering education is being imparted today. The ability of students to solve complex engineering problems can be improved by some fundamental methodical changes in knowledge dissemination. The large emphasis on outcome based, project led education across the globe is a step in the right direction. Hands-on experience is key to the project led education and is finding its way into engineering curricula across most engineering institutions. Experiential education is one such very effective way to equip students with such skill sets. In India, these ideas are still at infancy; but we all must move forward - beyond the customary lip service - in this direction to build a future ready nation.

We at Thapar institute have developed a sustainable model to

implement these changes with the establishment of an experiential learning center. The faculty and students work together on real world problems with undergraduate students from different engineering disciplines. Such projects are interwoven with regular engineering courses. These courses impart theoretical concepts that are applied in developing solutions for complex engineering problems. This combination of students and faculty working together is very effective in teaching problem-solving techniques. The problem-solving instills an ability to define need established realistic assumptions and constraints, build design, analyze and select designs, validate and optimize.

Example of experiential education initiatives

The freshman students often talk about lack of engineering in the first year courses. While they plan to do big things at the onset of undergraduate program, what they end up doing is more physics, more maths and more chemistry. While these are foundation courses and teach basics, which are very important for the students, a complete lack of any direct application makes them very much resented. Some students thus lose interest, and then focus on graduating with least effort. Further in the upper years they do more interesting courses with some sprinkling of labs in between. But there remains an unfulfilled desire to apply, build and design a reasonably medium to large sized engineering product or service. Although most engineering institutes do offer a culminating capstone project; however lack of facilities, improper training and under equipped infrastructure for creating an engineered product results in tickling the box kind of exercise.

The experiential learning center at Thapar Institute addresses above issues for each stream of engineering. For example, in the first year all mechanical engineering students get to dissect a Honda engine. While they may have practically no previous knowledge of the parts and components, the focus is on building a design vocabulary for the students. They for the first time start to use some set of professional tools and are exposed to engineering terms never used before. They are then asked to rebuild or reassemble the engine, and the ability to use standard tools excites them immensely. The students, then in groups of four, select a sub assembly of the engine. They are encouraged to create their part drawings and exposed to specifications and tolerances. In the later years, they complete a design analysis of the subassembly and manufacture some of the parts. During the final year, students are provided with all the parts, some

manufactured by them, and are asked to produce their own engine. This way, one product moves through multiple courses and students get to apply theoretical knowledge to an application.

A number of such open ended projects are offered across various engineering streams at Thapar. These open ended projects give students an opportunity to make decisions and live by their choices. It impacts soft skills such as working in teams, exhibiting leadership qualities, and verbal and written communication skills. We have been working at this center for almost 2 years now and one can feel the buzz on the campus. Happy and excited faces of students, when they participate and accomplish the task, have been a great motivator. We firmly believe that this is the way forward for engineering education in India.

File Description	Documents
Upload relevant supporting document	View File

INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

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

Following measures have been initiated by the institutions for the promotion of gender equity during the year

Annual gender sensitization action plan(s) Specific facilities provided for women in terms of: a. Safety and security b. Counseling c. Common rooms d. Daycare Centre e. Any other relevant information TIET have taken special initiatives for gender sensitization. It has the Gender Champions Club which looks after issues pertaining to gender equality in particular. Faculty of this club helps provide overall guidance to the gender champions on aspects of activity implementation, collecting quarterly reports, assess them and send it to the head of the institution. The club also conducts training programmes to motivate, influence and communicate with different stakeholders. The campus is very secure due to its well-maintained security system. Separate hostels for girls and boys with good security measures. Management is very concerned about health and security. A fully functional health Centre with a full time doctor along with nursing

assistants is in place to offer medical care for minor issues and first aid. Sick room for girl students with required facilities is available in each of the hostels. There is a full time residential doctor on campus to cater to the medical emergency needs of the students. Separate common rooms for both boys and girls are existing on campus. Thapar Institute Counseling Cell (TICC) helps students to cope through difficult times of adjustment and readjustment to the university/college life. TICC has the following Key Responsibility Areas (KRAs): 1. To provide assistance of the highest quality to ensure students' progress towards completion of their education and accomplishment of their personal development. 2. To support aim of professional counseling to empower diverse individuals, families, and groups to accomplish mental health, wellness, education, and career goals, while advancing the TIETvision of excellence in learning and assisting students to become self-aware and socially responsible leaders with a global perspective of tomorrow. 3. To be a resource for students who seek help in dealing with personal issues ranging from adjustment problems to major crisis. Key Services: Counseling Services All degree-seeking students currently enrolled at the TIET are eligible for counseling services. Consultation Services Any faculty, staff, student who is concerned about a TIET student in crisis may call to discuss how you may refer the student to seek services at theTICC. Outreach Services TICC can collaborate with TIET faculty, staff, and student groups on programs and events open to the student community. Crisis Services: Offers a variety of crisis services: • Walk-in Crisis Services • After-Hours Crisis • Sexual Assault • Suicide Prevention Students: Let's Talk, Individual Counseling, Group Counseling, Crises Services and Psychometric Tests Program for Staff: Student Mentorship Initiative Departmental Initiatives: Outreach Services with Departments and Schools were able to facilitate the conversations about howstudents feel about their current state and problems. Parental Counseling: In many cases where it was seen that parental support was needed, they are called for counseling sessions and discussions are done so as facilitate them better with their child's mental health and wellbeing. TICC offers a strong support network which included DOSA, DOAA, Faculty, Wardens of hostels where they all work as team to help students and their parents to understand their children's welfare. http://www.thapar.edu/student_s/pages/thapar-university-counseling-cell

<http://www.thapar.edu/students/pages/committee-on-gender-sensitization>

"Feminism isn't about making women strong. Women are already

strong. It's about changing the way the world perceives that strength." -G.D. Anderson

With International Women's Day being celebrated all across the globe, a splendid fiesta was conducted in Thapar University to celebrate womanhood, honor women, and salute their courage. Consequently, we bring to you the Women's Week Edition which will provide an insight into these engaging events.

<https://online.fliphtml5.com/yyjoi/mtjl/>

File Description	Documents
Upload relevant supporting document	View File
Annual gender sensitization action plan(s)	10
Specific facilities provided for women in terms of: a. Safety and security b. Counseling c. Common rooms d. Daycare Centre e. Any other relevant information	Safety and Security, Counselling, Consultation, Common Rooms, Staff club, Outreach Services and Parental Counselling.

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

A. Any 4 or All of the above

File Description	Documents
Upload relevant supporting document	View File

7.1.3 - Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 200 words) Solid waste management Liquid waste management Biomedical waste management E-waste management Waste recycling system Hazardous chemicals and radioactive waste management

Solid Waste Management Strategies An initiative by Thapar Institute of Engineering & Technology was taken to manage solid waste in a de-centralized manner through semi-automatic hybrid rapid composting system. Several non-government and private organizations have come forward to partner, contribute and start mitigating this issue at local level as well. TIET in association

with RoundGlass Foundation recently launched a solid waste management unit inside the Thapar campus. The capacity of the unit is 7 tons/day. Currently, the Institute is processing around 2 tons/per day wet waste from all hostels/canteens and households. The end-product i.e compost is being utilized for the gardening and horticulture purpose within the campus. The unique machines for last mile segregation, crushing, de-watering mixing and mulching were bought from Green Bandhu Environment Solutions and Services. Before starting this initiative, TIET was dumping almost 5-6 tons of mixed waste into the dumpsite outside the city every day. The campus with 15 resident hostels, is now managing its entire waste inside the campus itself. 1 skilled helper and 3 non-skilled helpers are employed who will be managing the entire process full time.

E-waste Management Strategies As per guidelines from Punjab Pollution Control Board (PPCB), the e-waste management unit is collecting and managing e-waste according to e-waste management rules 2016 in a very judicious manner at Thapar Campus. The outdated e-waste is being regularly collected from source point and send to e-waste storage room (size: 20ft x 10 ft) after every 3 months. After every 6 months, the collected and stored e-waste is being sold to government authorized recycling companies. The yearly e-waste generation at Thapar campus is around 2 tons per year. We are sending following e-waste items to authorized recyclers: Laptops, printers & cartridges, television sets, refrigerators, washing machines, air conditioners, fluorescent and mercury lamps. The authorized companies who presently collect e-waste from Thapar campus are: M/s Gurbax Singh & sons Patiala and DM recyclers, Meerut.

Wastewater Management Strategies A Sewage Treatment Plant (STP) is operating at the TIET premises on the north-west corner for treating the campus sewage collected and conveyed to the site. Treated effluent from the STP is conveyed under gravity and held in a Duck/fish Pond. Water from here is pumped and used for irrigating the lawns, hedges and plantations within the TTC. Excess of the treated effluent that could not be reused in irrigation is disposed after necessary treatment through an injecting well into underground water at the duck/fish pond site. Sewage treatment in the proposed STP is ensuring meeting the PPCB (Punjab Pollution Control Board) prescribed effluent standards and satisfying the WHO (World Health Organization) water quality criteria for irrigational use. Treated effluent from the STP

complies with the quality parameter values. The STP is designed for the sewage flow rate of 1000 cu.m/day and the sewage loading rate of 62.5 m³ /hour.

File Description	Documents
Upload relevant supporting document	View File

7.1.4 - Water conservation facilities available in the Institution: Rain water harvesting Bore well /Open well recharge Construction of tanks and bunds Waste water recycling Maintenance of water bodies and distribution system in the campus **A. Any 4 or all of the above**

File Description	Documents
Upload relevant supporting document	View File

7.1.5 - Green campus initiatives include

7.1.5.1 - The institutional initiatives for greening the campus are as follows: **A. Any 4 or All of the above**

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

File Description	Documents
Upload relevant supporting document	View File

7.1.6 - Quality audits on environment and energy are regularly undertaken by the institution

7.1.6.1 - The institution's initiatives to preserve and improve the environment and harness energy are confirmed through the following: **A. Any 4 or all of the above**

1. Green audit
2. Energy audit
3. Environment audit
4. Clean and green campus

recognitions/awards

5. Beyond the campus environmental promotional activities

File Description	Documents
Upload relevant supporting document	View File

7.1.7 - The Institution has a disabled-friendly and barrier-free environment Ramps/lifts for easy access to classrooms and centres.

Disabled-friendly washrooms Signage including tactile path lights, display boards and signposts Assistive technology and facilities for persons with disabilities: accessible website, screen-reading software, mechanized equipment, etc.

Provision for enquiry and information:

Human assistance, reader, scribe, soft copies of reading materials, screen reading, etc.

A. Any 4 or all of the above

File Description	Documents
Upload relevant supporting document	View File

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

Students at Thapar Institute come from different regions, cultural and socio economic backgrounds. At Thapar Institute, we strongly value and respect each student's individual identity and facilitate an inclusive environment, wherein students from diverse backgrounds get together, organize and participate in different festivals and events according to different cultural and religious beliefs. We, at Thapar Institute, appreciate diversity, equanimity and equality amongst students and faculty. Amongst the many festivities and events that symbolize integrity of the Indian social fabric at Thapar Institute, the ones that stand out include Diwali, Ganesh Puja, Christmas, New Year, Holi, Lohri celebrations. In addition, the institute organizes special events on Republic and Independence Day, spreading the message of harmony and tolerance. Through its student societies, the institute also organizes a number of events showcasing the cultural and linguistic diversity and how all these converge, giving a true national colour. A number of events are organized to showcase

socioeconomic issues with the intent of providing solutions to the society. The Ek Bharat Shreshtha Bharat program is an initiative of AICTE to promote cultural exchange amongst technical institutions from different parts of India. The partner institution for TIET, Patiala is Gandhi Institute of Technology and Management, Vishakhapatnam. Due to the ongoing pandemic situation, this program was planned as a series of online sessions starting on 20th June'2020, two sessions have already been conducted.

File Description	Documents
Upload relevant supporting document	View File

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

The institute organizes a number of events through student societies, chapters and clubs that promote harmony and the spirit of brotherhood amongst all the students in particular and public in general. A number of events, drives along with skits and plays are organized to bring awareness amongst students and staff about the importance of improving the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creature. The Institute also organizes a number of events to highlight the importance of the rich culture and heritage of India that students have inherited. Celebrating Independence Day and Republic Day and to organize skits and plays with themes based on the two auspicious days not only highlight cherishing and following the noble ideals which inspired our national struggle for freedom but also value all those martyrs whose unconditional commitment to the nation that liberated us. Students are always encouraged to strive for excellence not only in academics but also other areas, thereby contributing to nation building. At Thapar Institute, a number of student societies and clubs actively engage in activities to address issues such as keeping the environment clean, conserving electricity, water, and natural resources, or protecting public property. The institute also contributes to the society through the commitment of 15 NSS units. The institute organizes various activities like Blood donation camps, Tree plantation drives in and around the campus, Swachh Bharat campaigns and activities, medical checkup camps, pollution checkup camps of vehicles, expert lectures and debates of the renowned activist for the massive awareness, social cause awareness through Nukad natak and Short plays, solid waste management, awareness about the road safety and disaster management. All these events,

not only link the student community with the societal needs but also inculcate a feeling of owing this responsibility of the society. Uniteup, a Youth United initiative was a week long online event conducted from 13th July to 20 July, 2020 where social experencies from social workers from social workers were featured not only from students of thapar Institute but various NGO"s and Thapar Institute Alumni

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

File Description	Documents
Upload relevant supporting document	View File

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

TIET organizes all national festivals and birth/death anniversaries of great Indian personalities on the campus. Where all the faculty, staff, students and alumni are invited to attend these celebrations.

Together with Independence and Republic day (detailed report follows), Gandhi Jayanti is also celebrated at the campus so as the martyrdom of freedom fighters such as Bhagat Singh with society events, skits and performances by students as part of society activities.

The institute also celebrates important national/international days

1.Engineers' day,

2. Teachers' day,
3. Vishvakarma day,
4. Ramanujan day,
5. Women's day,
6. Yoga day,
7. World book day,
8. Ambedkar jayanti,

Other than above mentioned days the Institute also celebrates following major Indian festivals

1. Diwali,
2. Dusshera,
3. Holi,
4. Gurpurab,
5. Saraswati puja,
6. Ganesh puja,
7. Eid,
8. Christmas

besides other festivals. These festivals give a chance for faculty from different schools & departments and students to interact for other than academic discussions. Faculty and staff members with their families are invited for these celebrations.

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, PATIALA.

No. TIETAdmn/Independence/

Dated : August 10, 2020

74th Independence Day of India - 15 August 2020 Celebrations

The 74th Independence Day function will be celebrated by Thapar Institute of Engg. & Technology, Patiala on August 15, 2020 at Main Lawn (in front of Lilly Pool) as per schedule given hereunder :

Keeping in view of prevailing guidelines and Social distancing norms, a limited gathering consisting of Deputy Director, Deans and Heads of Departments/Schools/Centres/Sections are requested to attend in person.

The remaining faculty & staff with their families and students are advised to attend the celebrations live on the following Zoom link:

<https://tiet.zoom.us/j/98957984884?pwd=NVNDDdVhXc0JyWjhIY1VHcUlnZ1l0UT09> Passcode: *****

All are requested to be seated by 7:50 AM.

Sd/-

REGISTRAR

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, PATIALA

(Declared as Deemed-to-be University u/s 3 of the UGC Act, 1956)

No. TI/Admn./ Dated : January 22, 2020.

C I R C U L A R

REPUBLIC DAY CELEBRATION

The 71st Republic Day function will be celebrated by Thapar Technology Campus, Patiala on January 26, 2020 at 9:00 AM at Main Lawn (in front of Lilly Pool) as detailed below :

PROGRAMME

Assembly : 8: 55 AM

Unfurling of Flag & National Anthem : 9 : 00 AM

Patriotic Songs : 9 : 15 AM

Director's Address : 9 : 45 AM

Distribution of Sweets : 10 : 00 AM

Retreat Ceremony : 6:00 P.M.

All the faculty, staff, students and alumni are cordially invited to attend the celebrations.

All are requested to be seated by 8:45 AM positively.

REGISTRAR

Part B

CURRICULAR ASPECTS

1.1 - Curriculum Design and Development

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

The curricula at Thapar Institute of Engineering & Technology follow the national guidelines in helping the growth of the country. All the POs, PSOs, and COs are developed to match the local, national, regional, and global developmental needs. The outcomes are designed and the development procedure involves people from different strata, like students, faculty, employers, alumni, etc. The involvement of people from various strata helps to make sure that outcomes are relevant to the needs of all-around development. All the departments follow a set procedure to develop and circulate the outcomes.

Relevant supporting documents are attached.

File Description	Documents
Upload relevant supporting document	View File

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

24

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.1.3 - Total number of courses having focus on employability/ entrepreneurship/ skill development offered by the University during the year

1.1.3.1 - Number of courses having focus on employability/ entrepreneurship/ skill development during the year

609

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.2 - Academic Flexibility

1.2.1 - Number of new courses introduced of the total number of courses across all programs offered during the year

105

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.2.2 - Number of Programmes in which Choice Based Credit System (CBCS)/elective course system has been implemented during the year

42

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.3 - Curriculum Enrichment

1.3.1 - Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

The curriculum of various departments and schools makes sure that students are aware and practice Professional Ethics, Gender, Human Values, Environment and Sustainability. To ensure it following courses are offered during the degree program: Energy and Environment, Humanities for Engineers, Innovation and Entrepreneurship, Capstone Projects, Project Semester, Start-up Semester, Generic Elective courses. The institute makes sure that the list consisting of these important issues is modified whenever required. The institute also organizes various extra curricular activities such as seminars, Nukkad natak etc through university societies.

File Description	Documents
Upload relevant supporting document	View File

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

481

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.3.3 - Total number of students enrolled in the courses under 1.3.2 above

1.3.3.1 - Number of students enrolled in value-added courses imparting transferable and life skills offered during the year

90449

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.3.4 - Number of students undertaking field projects / research projects / internships during the year

1715

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

1.4 - Feedback System

1.4.1 - Structured feedback for design and review of syllabus – semester wise / is received from Students Teachers Employers Alumni

- All 4 of the above

File Description	Documents
Upload relevant supporting document	View File

1.4.2 - Feedback processes of the institution may be classified as follows

- Feedback collected, analysed and action taken and feedback available on website

File Description	Documents
Upload relevant supporting document	View File

TEACHING-LEARNING AND EVALUATION

2.1 - Student Enrollment and Profile

2.1.1 - Demand Ratio

2.1.1.1 - Number of seats available during the year

3393

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.1.2 - Total number of seats filled against reserved categories (SC, ST, OBC, Divyangjan, etc.) as per applicable reservation policy during the year (Excluding Supernumerary Seats)

2.1.2.1 - Number of actual students admitted from the reserved categories during the year

220

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.2 - Catering to Student Diversity

2.2.1 - The institution assesses the learning levels of the students and organises special Programmes for advanced learners and slow learners

Every program assesses the learning levels of each student

through direct and indirect approaches. The institution has a Mentoring Program in place to ensure that the students receive academic, emotional, professional, and personal support from the time they join the Institute. This is being facilitated through the teachers, Centre for Training and Development, Psychological Counselling Cell, in addition to appointing senior students for emotional and academic consultation. The Mentoring Program is for all the students of the institute, including advanced and slow learners. As a part of the Mentorship programme, the students, in groups of 25 or less, are assigned to faculty members. Preferably, the students of a particular department are assigned to the faculty members of that department. With effect from July 2016, these students are under continuous tutelage of the faculty mentor for all years of their study. Faculty mentors guide students and help them to adjust to the university life. The aim of the programme is to provide TIET students with a supportive environment that will motivate and assist them to develop to their maximum personal and academic potential. Mentoring has been found to increase students' academic success, social skills, self-efficacy, and the ability to refine their professional dispositions. Trained mentors, such as professionals in the Centre for Training and Development as well as the Professional Psychological Counselling cell, along with teachers assigned, provide leadership and support to students during mentoring sessions. These sessions are designed to help connect learners, provide them with information on campus resources, give them a sense of belonging and open possibilities of connectedness to community within the campus as well as outside in the world. These mentors identify the slow and advanced learners.

Slow Learners: Every semester, academically weak students are identified and information is shared with the Student Counsellor. Such students are encouraged to seek guidance on academic issues on a fixed date and time (changes possible on request of the student). Such meetings are arranged at least twice in a semester. The students are advised to improve performance and are given suggestions or options for clearing their backlog courses. The advising process is designed to ensure that each student selects a set of courses during each semester that meets minimum grade requirements, and results in the student making efficient and orderly progress in meeting the academic requirements as listed in the course scheme. Also, the institute offers remedial classes for the courses generally considered tough by the students, and such classes are organised by best teachers. This helps such students to learn

in a smaller group with focused monitoring.

Advanced Learners: Advanced learners are encouraged to pick up projects with a faculty mentor. Students are allowed to use the labs and workshops beyond office hours to carry out their project work. University also provides financial aid for fabricating these types of projects and participating in national and international events. Many advanced learners are also encouraged to choose summer programs at International Universities which are partially funded by the Institute.

File Description	Documents
Upload relevant supporting document	View File
Link For Additional Information	https://www.thapar.edu/academics/centerspages/activity-tracker8

2.2.2 - Student - Full time teacher ratio during the year

Number of Students	Number of Teachers
10019	476

File Description	Documents
Upload relevant supporting document	View File

2.3 - Teaching- Learning Process

2.3.1 - Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

The institute promotes student centric methods of learning. These are executed through experiential learning, capstone projects, project semester. To define experiential learning (ELC), faculty members from all departments have been engaged to identify key skills that TIET will like to impart to our graduates in every engineering branch. Projects are being built around such skills and after pilot projects, tested on smaller groups of students during the semester or as internships during vacations. The scaled up projects will be rolled out as co-curricular projects or as projects interwoven in the curriculum. The guiding philosophy for ELC is to introduce the undergraduate students to real life engineering problems in

every semester of their graduation. These projects will have an increasing focus on open ended problems requiring self-explored, innovative, engineered solutions by a teams of students, similar to real engineering job challenges. The motive is to move from prescriptive lab based experiments and model/simulation based projects to real life engineering problems to be solved using research based, student centric, and outcome based approaches to generate real solutions which are more tuned to industry requirements and emulate the practice based education adopted by the top academic institutions of the world. These projects also mesh well the teaching learning processes being imparted to faculty members under the CAPSL new directions program being run at TIET. They also serve as cornerstone projects for undergraduate students, preparing them for the Capstone Projects of the final year, and better meeting the expected outcomes.

These activities help students to develop problem solving methodologies and learn outside the curriculum.

File Description	Documents
Upload relevant supporting document	View File

2.3.2 - Teachers use ICT enabled tools including online resources for effective teaching and learning processes during the year

Yes, all the teachers used ICT enabled tools for teaching and learning processes. The university was well equipped and faculty memebtrs were using ICT enabled tools for many years, but during the COVID outbreak university added many more resources to the existing facilities. This includes,

1. Development and implementation of Moodle based LMS system,
2. Adobe captivate
3. Coursera full access to faculty members and students,
4. eDX access to faculty and students,
5. Interactive lecture delivery hardware: ipads, writing tablets, etc
6. Online Examination tools and solutions
7. Video recording facilty in few lecture halls,
8. Zoom licenses,
9. Google meet,
10. Development of course websites.

These ICT enabled tools and professionally developed online resources helped the students and faculty to remain upto date. It also helped us to keep the teaching-learning process intact during the year. All the recorded lectures were made available by the faculty through course websites or LMS to the students.

File Description	Documents
Upload relevant supporting document	View File

2.3.3 - Ratio of students to mentor for academic and other related issues during the year

2.3.3.1 - Number of mentors

476

File Description	Documents
Upload relevant supporting document	View File

2.4 - Teacher Profile and Quality

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

476

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.4.2 - Total Number of full time teachers with Ph.D./D.M/M.Ch./D.N.B Superspeciality/D.Sc./D’Lit. during the year

373

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.4.3 - Total teaching experience of full time teachers in the same institution during the year

2.4.3.1 - Total experience of full-time teachers

4154

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.4.4 - Total number of full time teachers who received awards, recognition, fellowships at State, National, International level from Government/Govt. recognised bodies during the year

32

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.5 - Evaluation Process and Reforms

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

Nil

2.5.1.1 - Number of days from the date of last semester-end/ year- end examination till the declaration of results year wise during the year

26

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.5.2 - Total number of student complaints/grievances about evaluation against total number appeared in the examinations during the year

0

File Description	Documents
Upload relevant supporting document	View File

2.5.3 - IT integration and reforms in the examination procedures and processes (continuous

internal assessment and end-semester assessment) have brought in considerable improvement in examination management system of the institution

To hold examinations and continuous assessment, the institute gives a number of options to the faculty and students. The institute has developed its own Learning Management System, uses enterprise Google based online assessment tools, Proctored examination through Licensed Zoom account, ERP access through VPN for Faculty and students, Access of Labs Servers to the students and faculty through VPN, Thapar-LMS Mobile App and Google App for Android/iOS and PC App for Windows/Mac to access online course. These tools have helped the institute to keep a track of the continuous performance of the students. During the pandemic, these tools helped the students to not lose any interest in learning, and faculty to keep a track of the performance of the students. In addition to these tools, the institute used VBox and Mettle platforms for conducting proctored examinations. The webkiosk, a Student Management System, helps the university to manage exam and course allocation activities.

The above mentioned tools have helped institute to improve the overall management of the examination and results timely result declaration.

File Description	Documents
Upload relevant supporting document	View File

2.5.4 - Status of automation of Examination division along with approved Examination Manual

A. 100% automation of entire division & implementation of Examination Management System (EMS)

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.6 - Student Performance and Learning Outcomes

2.6.1 - The institution has stated learning outcomes (generic and programme specific)/graduate attributes which are integrated into the assessment process and widely publicized through the

website and other documents

The Program Educational Objectives (PEO), Program outcomes (PO), and Course Learning Outcomes (CLO) has been established through a consultative process involving all the stakeholders of the department, the future scope of each program, and the societal requirements. The PEOs, POs and CLOs of each program are published on the home page of the department/school. The PEOs, POs and CLOs has been displayed at all prominent places in the Institute for exposure to one and all. All the employees of the university have been explained the meaning of and commitment to these. It has been ensured that all employees have clearly understood the policy with regard to its meaning, relevance and commitment to it. The outcomes and objectives are reviewed during review meetings for its continuing suitability. For example, The PEOs, POs, and CLOs were finalized in the year 2018. During the initial phase, the inputs were sought from industry, faculty, alumni and students. Industry representatives provided a direct voice of the employers and a first draft was prepared. Each department followed it up with a formation of a subcommittee to develop program objectives and PEOs. The committee finalized the second and the third draft of the PEOs, POs and CLOs and later in 2019 the faculty of the department approved these. During the development of PEOs, POs and CLOs all the stakeholders of the department were considered and their direct or indirect feedback was solicited. The stakeholders of each department include: 1. Students registered in the program 2. Program faculty 3. Program alumni 4. Industry and organizations who hire our students

The PEOs are established on the basis of feedback taken from various sources including the stakeholders of the program. On the basis of feedback from various sources, the PEOs are reviewed at least once every accreditation cycle to ensure continuing suitability, adequacy and effectiveness in satisfying the requirements and the mission and quality policy of the university. The review includes assessing opportunities for improvement and the need for change. In addition to feedback from faculty, alumni, students, participating organizations in campus placement and other concerned sources, serious consideration is also given to action taken on the previous reviews and accreditation reports (NBA/AICTE). Each program is designed in such a way that the program educational objectives are met at the completion of the program. The students during the final year are generally hired by reputed

organizations as graduate engineers. As they start to work, the professional traits (other than technical knowledge) imparted to the students to make them grow in the organization. The technical knowledge coupled with these soft skills help the student grow up the ladder in the organization as he/she gains work experience and blossom into a final professionally groomed manpower in about 5 years. The planned outcomes are fulfilled as the student gains experience and is then valued at his place of work.

File Description	Documents
Upload relevant supporting document	View File

2.6.2 - Attainment of Programme outcomes, Programme specific outcomes and course outcomes are evaluated by the institution during the year

Step-by-step process for assessing Outcomes

Step 1. The program coordinator analyses each student outcome by breaking down each outcome into several Performance Criteria (PC), assigns weightage, well-designed surveys have been used to assess each outcome.

Step 2. For each outcome, define performance indicators (Assessment criteria) and their targets.

Step 3. Identify/select courses that address the outcome (each course contributes to at least one of the outcomes). Hence, each outcome is assessed in several courses to ensure that students acquire an appropriate level in terms of knowledge/skills of an outcome.

Step 4. The course coordinators collect the qualitative and quantitative data and is used for

outcome assessment in a continual process.

Step 5. If the assessed data meets the targeted performance value as specified in step 2, then the outcome is attained.

Step 6. The Department Academic Affairs Committee (DAAC)/DPPC recommends content delivery methods/course outcomes/ curriculum improvements as needed. In case the targeted performance for some outcome is not met, a corrective action plan is put in

place which serves as a feedback to the process for continuous improvement.

File Description	Documents
Upload relevant supporting document	View File

2.6.3 - Number of students passed during the year

2.6.3.1 - Total number of final year students who passed the university examination during the year

2312

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

2.7 - Student Satisfaction Survey

2.7.1 - Student Satisfaction Survey (SSS) on overall institutional performance (Institution may design its own questionnaire) (results and details need to be provided as a web link)

<https://www.thapar.edu/upload/files/Student%20Satisfaction%20Survey.pdf>

RESEARCH, INNOVATIONS AND EXTENSION

3.1 - Promotion of Research and Facilities

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

The institute has allocated a separate fund for the frequent update and development of research facilities. The fund not only helps various departments and schools to extend their research facilities through procurement of new equipment but also disburses merit based seed grants to the faculty members. Research scholars, students and faculty members can order books required to carry on their research. The library also subscribes to a large number of online journals for research. The detailed research policy of the institute is available on the website for general information. The office of Dean of Research and Sponsored Projects carries out the implementation of the research policy.

File Description	Documents
Upload relevant supporting document	View File
3.1.2 - The institution provides seed money to its teachers for research (amount INR in Lakhs)	
274.32	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.1.3 - Number of teachers receiving national/ international fellowship/financial support by various agencies for advanced studies/ research during the year	
76	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.1.4 - Number of JRFs, SRFs, Post-Doctoral Fellows, Research Associates and other research fellows enrolled in the institution during the year	
277	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.1.5 - Institution has the following facilities to support research Central Instrumentation Centre Animal House/Green House Museum Media laboratory/Studios Business Lab Research/Statistical Databases Moot court Theatre Art Gallery	A. Any 4 or more of the above

File Description	Documents
Upload relevant supporting document	View File

3.1.6 - Number of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other recognitions by national and international agencies during the year

7

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.2 - Resource Mobilization for Research

3.2.1 - Extramural funding for Research (Grants sponsored by the non-government sources such as industry, corporate houses, international bodies for research projects) endowments, Chairs in the University during the year (INR in Lakhs)

209.99

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.2.2 - Grants for research projects sponsored by the government agencies during the year (INR in Lakhs)

539.03

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.2.3 - Number of research projects per teacher funded by government and non-government agencies during the year

1

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.3 - Innovation Ecosystem

3.3.1 - Institution has created an eco-system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge

The innovation and entrepreneurship is one the core values of education inculcated in the students. The students are exposed to the world of innovation and entrepreneurship through various modes, including a compulsory course on 'Innovation and Entrepreneurship' and regular series of programs and seminars. Various programs are organized by the Entrepreneurship Development Cell (EDC) society. The course 'Innovation and Entrepreneurship' introduces the academic aspects of the innovation and helps students to understand the development of Business Models Canvas and business plan.

The venture lab facilitates and catalyzes innovation, entrepreneurial development, and business success that foster sustainable economic growth of the area in which it is located. It is also in various ways nurturing innovation through a collaborative community of entrepreneurs which is one of the national priority area and one of the core mandates of TIET .

Activities of Venture Lab-Thapar:

- Accelerating the growth of the student startups coming through ED Cell, TIET.
- Helping to expand the professional network of entrepreneurs.
- Making entrepreneurs more technologically focused.
- Helping startups to be market-ready and find new clients
- Eliminating isolation and increasing entrepreneurs' self-confidence
- Providing cost efficient alternatives for budding entrepreneurs

- Taking care of Entrepreneurs' utility bills through shared infrastructure
- Providing a professional work environment to startups
- Organizing event for evangelizing & capacity building of startups and providing them with networking opportunities in association with ED Cell.

Venture Lab - Thapar is a viable platform for the budding entrepreneurs in getting their respective project to be done in a professional setting.

Venture Lab's Principles:

Thapar Venture Lab - Thapar is established on the following principles:

1. Flexibility: It is provided in three different areas:

- A. Flexible Plan Options: There are typically no year-long lease requirements. Hot seat, private desk, and private office memberships are offered on a month-to-month basis.
- B. Flexible Cost Options: With no upfront fees, no deposits, and a variety of option plans, Venture Lab provides entrepreneurs with a valuable opportunity for keeping costs down.
- C. Flexible Space Options: Start-up can increase team count by overnight subject to availability.

2. Community: Building a start-up can get kind of lonely sometimes. No matter the phase of growth, there are always new things to learn, do, and evaluate. Surrounding with other entrepreneurs can help an entrepreneur to take the edge off when things get rough.

3. Greater Access to Key Players: Venture Lab focuses on the enhanced access to key players who can help Start-up business to grow. It has a strong contact to angel investors and Venture Capitalists looking for new opportunities. It will more likely to hit up networking events with government concerned,

corporate/PSUs, academia, field experts/consultants, innovators, research organizations and angel investors.

4. Amenities + Services: When a start-ups lease a private space, they don't always have the luxury of just showing up and getting to work. In most cases, furniture needs to be bought, the internet and phone connections need to be secured, help for secretarial work and parking needs to be arranged for employees. Venture Lab with huge campus with all facilities like well furnished office space, internet, refreshment/canteen, play ground, car parking space to address the challenges of amenities and services.

Effective Outcomes:

- Networking opportunities with start-up entrepreneurs, investors, mentors etc.
- Community Engagement
- Building core competency & service framework of start ups
- Incubate & commercialize new technologies/business areas within the startup company
- Provides facilities and services (eg. business planning and legal, accounting and marketing support)

File Description	Documents
Upload relevant supporting document	View File

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

Nil

3.3.2.1 - Total number of workshops/seminars conducted on Research methodology, Intellectual Property Rights (IPR), entrepreneurship, skill development year wise during the year

37

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.3.3 - Number of awards / recognitions received for research/innovations by the institution/teachers/research scholars/students during the year

3.3.3.1 - Total number of awards / recognitions received for research/innovations won by institution/teachers/research scholars/students year wise during the year

57

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4 - Research Publications and Awards

3.4.1 - The institution ensures implementation of its stated Code of Ethics for research

3.4.1.1 - The institution has a stated Code of Ethics for research and the implementation of which is ensured through the following

1. Inclusion of research ethics in the research methodology course work
2. Presence of institutional Ethics committees (Animal, chemical, bio-ethics etc)
3. Plagiarism check
4. Research Advisory Committee

A. All of the above

File Description	Documents
Upload relevant supporting document	View File

3.4.2 - The institution provides incentives to teachers who receive state, national and international recognitions/awards Commendation and monetary incentive at a University function Commendation and medal at a University function Certificate of honor Announcement in the Newsletter /

A. All of the above

website	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.4.3 - Number of Patents published/awarded during the year	
3.4.3.1 - Total number of Patents published/awarded year wise during the year	
60	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.4.4 - Number of Ph.D's awarded per teacher during the year	
3.4.4.1 - How many Ph.D's are awarded during the year	
118	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.4.5 - Number of research papers per teacher in the Journals notified on UGC website during the year	
2.5	
File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File
3.4.6 - Number of books and chapters in edited volumes published per teacher during the year	
3.4.6.1 - Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings during the year	

237

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.7 - E-content is developed by teachers For e-PG-Pathshala For CEC (Under Graduate) For SWAYAM For other MOOCs platform For NPTEL/NMEICT/any other Government Initiatives For Institutional LMS

C. Any 3 of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.4.8 - Bibliometrics of the publications during the year based on average Citation Index in Scopus/ Web of Science/PubMed

Scopus	Web of Science
Nil	Nil

File Description	Documents
Any additional information	No File Uploaded
Bibliometrics of the publications during the year	No File Uploaded

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

Scopus	Web of Science
Nil	Nil

File Description	Documents
Bibliometrics of publications based on Scopus/ Web of Science - h-index of the Institution	No File Uploaded
Any additional information	No File Uploaded

3.5 - Consultancy

3.5.1 - Institution has a policy on consultancy including revenue sharing between the institution and the individual and encourages its faculty to undertake consultancy

RULES FOR INDUSTRIAL CONSULTANCY

1. PURPOSE

The University considers Consultancy projects as an important means for extending benefit of scientific research of the University to various sections of the industry and governance, thus broadening the experience base of the University community and as a tool for contributing to the country's industrial and economic growth. Consultation services are encouraged in specialized areas where the University has exclusive competency, and not in the areas of routine work. Appropriate consultancy projects, in addition to providing much needed service to the industry, also benefits the concerned faculty members and the University in several ways. They enrich the professional experience and knowledge of faculty members and thus make them better educators. Consultancy projects provide first-hand knowledge of the current problems of industry which is very helpful in tuning the curriculum to the present needs. While the University encourages the faculty members to undertake Consultancy projects, it is expected that the time spent by a faculty member on Consultancy projects will not exceed one day per working week. The faculty members, while undertaking such projects, are expected to uphold the reputation and prestige of the university at all times.

2. DEFINITIONS

- TU means Thapar University, Patiala
- Department means all the academic departments, schools, centres, centres of excellence and academic service centres at the University.

- Director means Director, Thapar University, Patiala.
- Dean of Research and Sponsored Projects (DORSP) means Dean of Research & Sponsored Projects (DORSP), Thapar University, Patiala.
- Type-I Consultancy Project means a Consultancy Project without the use of laboratory facilities.
- Type-II Testing Project means a project involving use of laboratory facilities of the University or repetitive jobs needing marginal intellectual input. Such projects will cover testing of material/ equipment in laboratory, wherein only the testing results are to be communicated.
- Principal Investigator (PI) means a member of the faculty/scientist of TU with necessary expertise and competence to conduct a consultancy work. Normally, the faculty who submits the project proposal and negotiates with the client sponsor and is instrumental in getting the project is the PI. PI is responsible for the deliverables to the client. PI shall decided involvement of other investigators and distribution of consultation fees.
- Co-Investigator (CI) means a person from amongst the faculty/scientist (including Emeritus) co-opted by the Principal Investigator to work jointly with him/her on the project.

3. ASSIGNMENT OF CONSULTATION

Depending upon the receipt of the project, the projects can be categorized into three:

1. Individual: In this case the project is received in the name of an individual or individuals. DORSP will approve one person as PI. The PI shall have overall responsibility of the project.
2. Department: In this case the project comes to the Department. The Head of the respective Department shall assign a PI for the project in consultation with DORSP.
3. University: In this case the project comes to the University and DORSP shall assign PI for the project.

4. CONSULTATION TIME

1. While the University encourages the faculty members to

undertake Consultancy projects, it is expected that the time spent by a faculty member on Consultancy projects will not exceed one day in a working week and shall also not disturb the normal teaching or other duties of the university. In case of traveling for consultation purpose Academic Leave rules will be applicable. No extra Academic Leave is admissible for consultation.

2. The consultancy work shall be considered to be over and above all other duties assigned.

5. GENERAL

1. Individuals or Departments may take up Consultancy work only after taking approval of the DORSP through the Head of the concerned Department. The report of Consultancy Projects will be signed by the Head of the Department and respective Investigator(s).
2. Consultation projects may be accepted only with prior approval of the DORSP.
3. All payments in connection with Consultancy Projects shall be received in the name of the Registrar, Thapar University, Patiala.
4. Each Consultancy project will be classified either as Type-I or Type-II. In case of multi- disciplinary/ inter-departmental projects, a single project can be divided into sub-projects on mutually agreed terms, by the consenting departments/laboratories.
5. Any travel outside the University for consultancy work shall be treated on academic leave.
6. Report(s) and data collected/ originated out of consultancy project are the joint Intellectual Property of the University and the investigators. If the client needs a different agreement, such agreement shall be entered into with the prior approval of the DORSP.
7. The responsibility of the successful completion of the project, maintenance of Standard Operating Procedures (SOP) and ethical standards lies with the PI.

6. EXPENDITURE NORMS

1. Student Assistants: The Investigator(s) may engage TU Students (who may or may not be getting fellowship) as Student Assistants with the approval of DORSP for

consultancy and testing work on payment of Rs.100/- per hour subject to a maximum of 50 hours per month. The expenditure on this account can be booked under manpower charges/ contingency.

2. Hospitality: Expenses incurred on reasonable hospitality not exceeding Rs.400/- per head per meal and Rs.150/- per head for snacks etc. in connection with the consultation work can be charged as expenses.
3. Travel: The most expeditious and convenient mode of travel should be used to minimize period of absence from TU. There will be no restriction placed by the TU on the mode of travel. Actual boarding & lodging expenses will be paid on production of receipt. Expenses on local travel by taxi will be reimbursed against cash receipt as per actuals. All these expenses will be met out of the consultancy project funds.

Approval for travel under Industrial Consultancy Projects may be accorded as per table given below:

Person Undertaking the Travel

Approving Authority for Travel

1. In all cases the leave is to be approved by the competent authority as per TU norms. It will be the duty of the traveling person to get the leave approved from the competent authority and also ensure that teaching hours are not disturbed.
2. Advances for travel will be

approved by the DORSP.

Investigator(s)

Head of the Department

If Investigator is Head of the

Department

Director

Other TU staff

Head of the Department on the recommendation of the

Investigator(s).

Payment of charges to travel agents for Air Ticket purchase assistance, Visa assistance, Insurance may be paid as per TU rules from project funds.

7.DISTRIBUTION OF CONSULTANCY FUNDS

1. Individual Consultancy Projects or Type - I Projects: For Consultancy work without use of Laboratory facilities, the norms for calculation of various percentages for distribution of the total money received from client (excluding service tax in every case) will be as follows:

Consultancy work without use of laboratory facilities (Type-I)

- Total money received from client = G Service Tax = L
- Total contracted amount $T = G - L$ Amount of TU overhead $F = 0.30 T$ Total expenditure on the project = E Remaining Amount $S = T - F - E$
- Amount S shall be distributed to Investigators, technical and other staff on the recommendation of the PI. Any laboratory equipment or service used in the consultation work shall be treated as expenditure E and the rates of all such items will be decided and published as a list. If any item is not included in the list DORSP shall decide the charges for that item.

Testing projects involving use of laboratory facilities (Type-II)

- For Consultancy work involving use of Laboratory facilities, the norms for calculation of various percentages for distribution will be as follows:
- Total money received from client = G Service Tax = L
- Total contracted amount $T = G - L$ Amount of TU overhead $F = 0.50 T$ Total expenditure on the project = E Remaining Amount $S = T - F - E$
- Amount S to be distributed to Investigators, technical and other staff on the recommendation of the Investigator(s)/Head of the Department.
- Distribution of remuneration shall normally take place at the completion of the project. However, for large projects interim disbursements shall be allowed on recommendation of PI and approval of DORSP. Distribution

of remuneration among the partners of a project shall be the prerogative of the PI. If any consultation amount remains unclaimed after the employee ceases to work at the University the entire amount shall be treated as University overhead.

Distribution of the University Overhead (F)

- The University overhead shall be utilized in fostering and nurturing excellence in research. The overhead amount received from projects will be kept in two funds, one for the entire University and the other for the concerned Department. The main purpose of the fund will be to renew and modernize the laboratory facilities. The equipment used frequently for testing purposes will be maintained from this fund. In addition, the fund shall be available to faculty members/Departments/Schools of the University for attending conferences, scientific meetings, national and international visits, shortfall funding for equipment etc. as per priority at the discretion of the University. The Departmental fund shall be utilized as per the discretion of the Department. The distribution shall be:

Type of Fund

Percentage

University Development Fund

80%

Department Development

Fund

20%

8. TOTAL REMUNERATION FROM CONSULTANCY/ TESTING WORKS

The total annual gross remuneration to be received from consultancy projects including departmental consultancy and testing during a financial year by an individual will be limited to the gross salary (basic+gp+da) drawn by the concerned person.

9. BUDGETARY NORMS FOR CONSULTANCY PROJECTS

Total Charges: The total agreed charges of a Consultancy project will consist of the actual expenses, TU share, and the remuneration to be distributed to the faculty and staff. The actual expenses should cover the following costs related to the project:

- Permanent equipment to be procured / fabrication of equipment or models.
- Consumable materials.
- Travel expenses in connection with the project work.
- Computational or other charges the Investigator(s) may have to pay to TU or any other outside agency in the course of the execution of the work.
- Charges to be paid for the use of specific equipment in the departments or central facilities.
- Contingency expenses to cover cost of supplies, preparation of report, typing, word processing, drawing, drafting, stationery, reproduction, literature (books, journals, membership fee for professional societies), postage, courier, FAX and telephone (including rental and STD/ ISD call bills of telephone at residence or mobile phones), cost of insurance of personnel/ equipment being used for the project and medical reimbursement on duty (excluding major ailments) for staff etc.
- Expenses for work to be carried out on payment basis, remuneration to student assistants.
- Any other costs considered appropriate.

While preparing proposal, provision of Service Tax, as applicable, shall be made over and above the total contracted amount.

- The service tax will be applicable as per government rules.
- The allocations made to the different heads of the approved project budget should be carefully kept in view by the Investigator(s).
- The Investigator(s) while seeking approval of expenditure from Project funds should specifically mention the project budget head to which that expenditure will be debited.
- The approval of the DORSP to make any expenditure from

the project funds assumes that funds are available in the project for the purpose. It shall be the responsibility of the Investigator(s) to ensure that the expenditure being made is within the approved limits and availability of funds in the project.

Consultancy Fee

There are no rigid norms for calculating the Consultation fee. This depends upon several factors such as the time spent, the importance of the advice and the experience of the faculty, etc. While estimating the Consultancy fee chargeable to the client, the Investigator(s)/Head of the Department should keep in mind that only part of the total fee is available for distribution among the faculty, staff, and students. The remuneration will be paid to the faculty / staff as per norms and on the recommendation of the Investigator/Head of the Department. Saving from the Consultancy charges will be divided between the TU and the faculty/ staff after taking into consideration all expenses as per norms for the purpose.

10.BUDGETARY NORMS FOR TESTING JOBS

TU may undertake testing at a standard fee where stipulated; otherwise the charges may be estimated by the faculty member/Head of the Department who will supervise the testing work. The testing report will be countersigned by the Head of the Department, if required by the client.

File Description	Documents
Upload relevant supporting document	View File

3.5.2 - Revenue generated from consultancy and corporate training during the year (INR in Lakhs)

3.5.2.1 - Total amount generated from consultancy and corporate training during the year (INR in lakhs)

252.25

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.6 - Extension Activities

3.6.1 - Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the year

TIET has more than 100 active student/faculty societies that work for societal causes and sensitizes students to social issues and holistic development during the year. Some of the noted achievements by these societies are highlighted in the attached document.

In the ongoing era, our fragile earth needs acute attention for its prevalence. Paryavaran Welfare Society, TIET, endures maintaining biodiversity and conserving energy resources. Continuous depletion and decline in water level are posing threat to living creatures. The reducing area under vegetation cover is responsible for various environmental hazards like global warming, floods, soil erosion, etc. Energy resources available are very limited, encouraging demand for their very rational use in a very efficient manner to get maximum output. Poverty devoid the medical aid, for the sake of mankind we make efforts to furnish it, being secular. Paryavaran welfare society emphasizes all the major issues concerned with environmental and social degradation.

PRATIGYA, is a society that works consistently for social welfare. This society develops teams of student volunteers from the undergraduate, post-graduate, and Management programs, who teach the underprivileged kids from classes I to XII. These kids include children of class four employees of Thapar Institute as well as kids residing outside Thapar.

The National Service Scheme (NSS) at TIET is a part of the nationwide mission of providing service in the social sphere. The society of Thapar Institute organizes activities for the welfare of society and celebrates the days of national importance. Major activities include the organization of Blood donation camps, health check-up camps, cleanliness drives, etc. It is also a part of the nationwide 'Swachh Bharat' mission of the GOI.

Youth United Patiala Chapter is maintained by the students of Thapar Institute of Engineering and Technology, Patiala. YOUTH UNITED utilizes the power of unity in bringing various individuals for various public welfare projects and events. The objective of Youth United is to encourage the development of society through its activities like publishing periodicals on social issues, organizing community service events & visits. Youth United organizes painting competitions among small children, visits institutions like Pingalwara, Old age homes, School for Deaf and Dumb, etc. It also organizes 'The joy of giving week' as a part of its initiative to inculcate cultural and social values amongst the residents of the Thapar Technology campus.

With International Women's Day being celebrated all across the globe, a splendid fiesta was conducted in Thapar University to celebrate womanhood, honor women, and salute their courage. Consequently, we bring to you the Women's Week Edition which will provide an insight into these engaging events.

<https://online.fliphtml5.com/yyjoi/mtjl/>

File Description	Documents
Upload relevant supporting document	View File

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

3.6.2.1 - Total number of awards and recognition received for extension activities from Government / Government recognised bodies during the year

8

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

16

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.6.4 - Total number of students participating in extension activities listed at 3.6.3 above during the year

2427

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

3.7 - Collaboration

3.7.1 - Number of collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students during the year

3.7.1.1 - Total number of Collaborative activities with other institutions/ research establishment/industry for research and academic development of faculty and students during the year

275

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

43

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

INFRASTRUCTURE AND LEARNING RESOURCES

4.1 - Physical Facilities

4.1.1 - The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc.

The institute has a sufficient number of classrooms, laboratories, computing and other facilities. With increase in demand, the institute consistently adds to the already existing facilities. These equipment are added to from the support received from the government agencies and Institute's own funds. A large amount of funds are dedicated to the development and maintenance of the academic requirements. In addition to centrally available facilities, each department/school has their own computing and other facilities to meet the lab requirements.

File Description	Documents
Upload relevant supporting document	View File

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

The institute has a number of facilities for the students and staff for cultural activities and sports. Various student bodies frequently hold cultural and sports functions. Physical recreation through games and sports has been an important part of the Institute since its inception. TIET's sports section organizes the tournaments in all games like Cricket, Football, Basketball, Volleyball, Badminton, Tennis, Table Tennis, Chess, Handball, Swimming, and Athletics for boys and girls throughout the year. Tournaments are URJA (A National level tournament in which IIT's, NIT's and other Technology Institutes are participated) , Inter Technology University competition , Thaparlympics (a Inter department sports competition) , SPADES (an Inter year sports competition), IGNITE (an Inter hostel sports competition), Annual Athletic Meet (an inter Department Athletics competition) besides this competitions TIET's students also participate in All India inter university tournaments as well in invitational tournaments organized by the different AIU and IITS. And also has been showing tremendous performance in these tournaments. Today, the Institute has well equipped and best sports facilities in a number of games and sports like International standard synthetic Athletic track, synthetic Tennis courts, synthetic

Basketball court, Swimming pool etc. The tradition continues, as students of the institute keep making use of the marvellous sports facilities to excel in sports and games. In order to motivate the students and to get them interested in sports, a wonderful tradition being followed in the Institute that all newly admitted students at Thapar Institute are provided with a track suit and a T-shirt bearing the Institute logo. To organize and coordinate the sports activities TIET has full-fledged sports section as it has one Director Sports and full time coaches in different games to coach the students.

Sports facilities at TIET :-

Sr. No.

Name of the Facility

No. of Facility

1

Synthetic Track 400m

1 Nos.

2

Synthetic Basketball Court

1 Nos.

3

Synthetic Tennis Court

4 nos.

4

Cemented Lawn Tennis Court

2 Nos.

5

Cemented Basketball Court

2 Nos.

6

Swimming Pool

1 Nos.

7

Cricket Ground

2 Nos.

8

Lawn Tennis Practice Wall

1 Nos.

9

Football Ground (11a side)

2 Nos.

10

Football Ground (6 aside)

2 Nos.

11

Volleyball Ground

3 Nos.

12

Badminton Hall

1 Nos.

13

Badminton Ground (Outdoor)

7 Nos

14

Handball Ground

1 Nos.

15

Hockey Ground

1 Nos.

16

Cricket Net practice Pitch

1 Nos.

17

Table Tennis Hall

1 Nos.

18

Yoga Room

1 Nos.

19

Chess Room

1 Nos.

20

Gym Hall in all Hostels

-

File Description	Documents
Upload relevant supporting document	View File

4.1.3 - Availability of general campus facilities and overall ambience

The campus is equipped with all general amenities including Health Center, Post Office, Banks, Gyms, Library, Career Services, Yoga center, WiFi, Parks, Reading Rooms, Swimming Pool, Cricket Ground, Basketball field, Athletic Track, Meditation Center, Canteens, Cafes, Juice stalls, Shopping Center, Open air Theatre, Indoor Auditoriums, etc.

University spends a considerable amount of money to keep the campus green and clean. The Horticulture department and Central Maintenance Section makes sure that the campus is green and clean. Hostels, academic departments, faculty and staff residences have dedicated green areas. Many plantation and other drives are carried out to make everyone on campus aware and participate.

File Description	Documents
Upload relevant supporting document	View File

4.1.4 - Total expenditure excluding salary for infrastructure augmentation during the year (INR in Lakhs)

17730

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

4.2 - Library as a Learning Resource

4.2.1 - Library is automated using Integrated Library Management System (ILMS) and has digitisation facility

Library functions and services are fully automated with Integrated Library Management System (ILMS) Koha, an advanced browser-based open-source Integrated Library System, since 2016. Before that, Library automation was done through SOUL.

Name of the present ILMS software: Koha

Nature of automation (fully or partially): Fully Automated

Current installed Version: 20.11.06.000

Year of automation: 2016 (Koha) and from 2000 to 2016 SOUL Software was being used.

URL: <http://library.thapar.edu>

Apart from the ILMS, the Central Library has digitized its resources and provided a digitized facility such as using Dspace for archiving and dissemination of the thesis since 2006, question papers, standards, old question papers, newspaper clips, etc., are available in digital format, etc. All the e-resources are provided remotely through Shibboleth technology under INDIAN Access Management Federation (INFED). The library has its own NPTEL Local chapter. State-of-the-art systems such as LED and Projector-equipped Group Discussion Rooms, Audio-Visual Seminar Room, Digital Signage on each floor, RFID complaint system integrated with Koha such as 'Self-Issue Kiosk' and 'Book Drop', etc. Users can get books issued through the Self-Issue Kiosk and can return at book drop. OPAC terminals are installed for user convenience. All the library services are listed on the library portal. The library has dedicated computers for the library users, digital scanners, printers, photocopiers, and surveillance systems for security, etc. CCTV cameras are also installed at various places in the Central Library for round the clock safety and security..

File Description	Documents
Upload relevant supporting document	View File

<p>4.2.2 - Institution has subscription for e-Library resources Library has regular subscription for the following: e – journals e-books e-ShodhSindhu Shodhganga Databases</p>	<p>A. Any 4 or all of the above</p>
--	--

File Description	Documents
Upload relevant supporting document	View File

4.2.3 - Annual expenditure for purchase of books/ e-books and subscription to journals/e-journals during the year (INR in Lakhs)

281.93

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

4.2.4 - Number of usage of library by teachers and students per day (foot falls and login data for online access)

782

File Description	Documents
Upload relevant supporting document	View File

4.3 - IT Infrastructure

4.3.1 - Number of classrooms and seminar halls with ICT - enabled facilities such as LCD, smart board, Wi-Fi/LAN, audio video recording facilities during the year

127

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

4.3.2 - Institution has an IT policy, makes appropriate budgetary provision and updates its IT facilities including Wi-Fi facility

Thapar Institute of Engineering and Technology (TIET) provides IT resources to support the educational, instructional, research, and administrative activities of the Institute and enhance the employees' efficiency and productivity. These resources are meant to access and process information related to their work areas. These resources help them to remain well informed and carry out their functions efficiently and

effectively. Centre of Information and Technology Management (CITM) of Thapar institute is cater the needs of users involving implementation, maintenance and support activities related to LAN/WLAN, software and hardware; procurement, support and maintenance of various equipment's of users. CITM of Thapar institute offers Internet access and network services to Thapar Institute.

CITM of Thapar institute also provides repair and maintenance of Electronic Instruments/Equipment and PCs and peripherals used in various Laboratories. CITM contributes to implementing LMS and ERP software that includes financial management, inventory management, human resource management, purchase management, academic activities modules, and its related support to the users of Thapar Institute. The main objective of Centre is to provide better support and services to the users for their individual and collective growth.

File Description	Documents
Upload relevant supporting document	View File

4.3.3 - Student - Computer ratio during the year

Number of students	Number of Computers available to students for academic purposes
10019	2562

4.3.4 - Available bandwidth of internet connection in the Institution (Leased line)

- ?1 GBPS

File Description	Documents
Upload relevant supporting document	View File

4.3.5 - Institution has the following Facilities for e-content development Media centre Audio visual centre Lecture Capturing System(LCS) Mixing equipment's and softwares for editing

- A. All of the above

File Description	Documents
Upload relevant supporting document	View File
Upload the data template	View File

4.4 - Maintenance of Campus Infrastructure

4.4.1 - Total expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component during the year

7578.48

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

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

The Institute has a designated officer, General Manager Estate, and has appointed sufficient support staff for overseeing the maintenance of buildings, classrooms, and laboratories. The maintenance departments maintain the physical infrastructure on the campus which includes both breakdown and preventive maintenance of facilities. All maintenance activities are tracked by a ticketing method by which the users can raise a request and is attended to as soon as possible and in most cases within 24 hours. Each department/school has its own staff that includes mechanics and technicians to maintain the lab equipment under the guidance of Lab Incharge who is a faculty in the program. Additionally, many departments have Annual Maintenance Contracts with suppliers and companies for the repair and maintenance of key equipment. Centre for Information Technology and Management (CITM) is responsible for the upkeep and maintenance of all IT-related and electronic equipment including computers. CITM has on its role many system analysts, technicians, and instructors who are responsible for repair and maintenance of equipment and computers including network related issues. There is a dedicated staff to maintain the AV systems in classrooms and labs whose services can be requisitioned upon request. These staff report to the Administrative Officer who ensures that classrooms, laboratories, and other academic areas are functional and well

maintained. The Sports Section has full-time Groundsmen who maintain and clean the sports facilities and grounds. Dedicated Coaches are available for all major games who also look after the upkeep of equipment. To improve the physical ambiance of the campus, several initiatives are taken from time to time. Some of these are: Periodic painting and whitewashing of building and labs Ground-men for maintaining grounds, lawns, and upkeep of plants Tree plantation drive every semester A meditation park with a walkway in the woods Adequate Housekeeping staff for general cleaning Restrooms Dustbins at every 100 meters The infrastructure facilities, services and equipment are maintained periodically. There is a periodic maintenance plan for each activity such as painting, whitewashing Dedicated staff including masons, plumbers, carpenters, electricians for maintenance of infrastructure. Workshop technicians for welding, furniture repairs in summer AMC's for critical equipment and networking Lab equipment is maintained by the dedicated technicians in the labs on a periodic basis during summer / winter vacations.

This procedure has been established to ensure that all the equipment and facilities in the departments/schools are kept in working order and is implemented by the respective laboratory incharges for each laboratory. The lab support staff ensures that the equipment is kept in working order for day-to-day use and also maintains a record of day-to-day repair work. In case of breakdown of the equipment, the Lab Superintendent or the designated staff send it for necessary repairs. Preventive maintenance of equipment/facilities which includes cleaning, greasing, oiling, servicing is also carried out as per laid plan for key equipment.

The procedure manual of the library is attached.

File Description	Documents
Upload relevant supporting document	View File

STUDENT SUPPORT AND PROGRESSION

5.1 - Student Support

5.1.1 - Total number of students benefited by scholarships and free ships provided by the institution, Government and non-government agencies (NGOs) during the year (other than the students receiving scholarships under the government schemes for reserved

categories)

1853

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.1.2 - Total number of students benefited by career counselling and guidance for competitive examinations offered by the Institution during the year

4909

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.1.3 - Following Capacity development and skills enhancement initiatives are taken by the institution Soft skills Language and communication skills Life skills (Yoga, physical fitness, health and hygiene) Awareness of trends in technology

A. All of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.1.4 - The Institution adopts the following for redressal of student grievances including sexual harassment and ragging cases Implementation of guidelines of statutory/regulatory bodies Organisation wide awareness and undertakings on policies with zero tolerance Mechanisms for submission of online/offline students' grievances Timely redressal of the grievances through appropriate committees

• All of the above

File Description	Documents
Upload relevant supporting document	View File

5.2 - Student Progression

5.2.1 - Number of students qualifying in state/ national/ international level examinations during the year (eg:NET/SLET/GATE/GMAT/CAT/ GRE/TOEFL/Civil Services/State government examinations)

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

90

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.2.2 - Total number of placement of outgoing students during the year

1303

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.2.3 - Number of recently graduated students who have progressed to higher education (previous graduating batch) during the year

90

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.3 - Student Participation and Activities

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

3

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.3.2 - Presence of Student Council and its activities for institutional development and student welfare

TIET has a Student Consultative Committee (SCC) which is an equivalent of the student council with representation across streams, year of study and programs. All students including under-graduate, post-graduate and Ph. D have representation on the committee. Every year a fresh SCC is framed with nominations received from various departments/schools. SCC meets atleast twice a semester. The respective heads of departments/schools nominate students for SCC from each discipline on the basis of following formula: • One student up to a class of 40 students • Two students up to a class of 80 students • Three students up to a class of 120 students and so on. Furthermore at least one girl student has to be nominated from each discipline, if possible. No student can become SCC member for more than two terms; this applies to the students of BE (3rd & final year) and MCA (Final year). All the heads of the departments, schools, centers and other facilities are de-facto members of this committee. The SCC meets three to four times every year and addresses all kinds of student issues ranging from academics to hostels, health issues to security concerns, library functioning to mess food etc. The students also have representation on the Institute Quality Assurance Cell (IQAC).

File Description	Documents
Upload relevant supporting document	View File

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

43

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

5.4 - Alumni Engagement

5.4.1 - The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and other support services during the year

The greatest asset any Institution can have is its Alumni. Alumni are the brand ambassador of an Institute and responsible for creating positive vibrations in society. Reputation and standing of an Institute is created by the significant contributions made and heights attained by its Alumni in different sectors of society like Public and Private Sector Organizations, Industry, high end administrative and professional jobs in Public and Private sectors and in many other areas of significance in society at National and International levels. TIET Alumni are spread all over the globe. The Institute and its current students can drive large advantages by being well networked with the Alumni. TIET keeps its Alumni in high esteem and shall always look forward for their close association with their Alma Mater.

The University strives to engage its alumni in meaningful ways with eye toward increasing their level of philanthropic, advocacy, and support. TIET graduates are leaders and contributors to the vitality of their local communities, businesses, and culture across the globe.

There are currently slightly more than 25000 TIET University degree holders. As a result of student enrolment growth, this represents an alumni population increase of 33 percent since 2000. During that time, two campuses have more than doubled the size of their alumni base. This means that the average age of alumni is younger than ever - a trend that will continue. Likewise during this period, as the University has enrolled higher percentages of first-generation students, TIET's alumni population has become increasingly diverse. Based on undergraduate student projections for the foreseeable future, these developments are expected to continue. Such trends provide TIET campuses ample opportunities and a few challenges in the years ahead.

The University relies heavily on alumni as campus volunteers, Alumni Leaders, community advocates, and supportive Partners, for all its engagement efforts. Alumni populations and engagement vary by campus. Each campus funds and operates its alumni database management, print and digital communications, reunions, events, career networking, mentorship and other engagement activities. TIET office of the Director supports these efforts with benchmarking policies, topical system wide events, common messaging, and directed funding.

The mission of TIET Alumni Relations is "to enrich the lives of alumni and engage them as volunteers, advocates, and contributors who strengthen the University." To this end, each campus runs and manages communications, events, and programs to maximize alumni involvement, develop volunteer opportunities, and stimulate philanthropic and advocacy support.

The Alumni Relations team's primary objective has continued to be outreach through regional, affinity, reunion and student programs to connect and engage alumni in the life of the university and students. Homecoming has been a major focus over the last few months in collaborating with campus partners to provide alumni many reasons to come back and reconnect with their alma mater during this reunion weekend. The team has continued to work on the reporting capabilities of The Almaconnect, the division's new constituent database, to guide programming and communication decisions and to create invitation lists for all-inclusive and segmented communication pieces. The team continues to move forward with the division's strategic plan and implementing tactics that will improve the alumni engagement percentage.

More Information can be found in the following links.

1. Alumni Meets
2. Angel Alumnus
3. Alumni in Focus
4. Distinguished Alumni Awardees
5. AlmaConnect
6. Mentorship Program

7. Apprenticeship Program**8. Our Alumni Network**

File Description	Documents
Upload relevant supporting document	View File

5.4.2 - Alumni contribution during the year (INR in Lakhs) **A. ₹ 5Lakhs**

File Description	Documents
Upload relevant supporting document	View File

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

6.1.1 - The institution has a clearly stated vision and mission which are reflected in its academic and administrative governance

VISION

Our vision is to build a sustainable society through education, which is centered around extensive learning, research, and development. We wish to be recognized as a leader committed to excellence in higher education and to give our students the power to innovate and discover countless possibilities through academic learning and exposure.

MISSION

Thapar Institute of Engineering and Technology, which comprises of inter-disciplinary exploration and invention, has contributed to the many technological advancements and scientific breakthroughs within India and beyond. The teaching pedagogy employed for the engineering programmes offered at Thapar Institute of Engineering and Technology reflects the long held ethos, which advocate that engineering education should be broad-based and should enable students to develop their professional careers, while finding solutions for the unseen challenges that lie ahead.

Our sole mission is to provide a scholarly and professional environment that enables our faculty, students and staff to make lasting contributions to the advancement of learning. We aim to be dynamic, innovative and flexible in devising academic programmes, structures and mechanisms. We believe in carrying out cutting-edge research and development for the benefit of society.

CORE VALUES

- **Excellence:**Commitment to best practices in teaching and learning, scholarship, student engagement, cultural enrichment and campus environment.
- **Integrity:**Follow the highest standards of professional behavior and ethics to be transparent, honest and ethical in all our interactions with all stakeholders.
- **Accountability:**Act with integrity and professionalism and uphold highest ethical standards.
- **Transparency:**Promote transparency in all its activities by providing a culture of active involvement of all in decision making.
- **Diversity:**Committed to creating an environment that is vibrant and inclusive in which ideas flourish and everyone is empowered.

File Description	Documents
Upload relevant supporting document	View File

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

The University practices and promotes the culture of participative Management at all its activities like Administration, Admission, Student activities, Curriculum Development, Research, Sports etc. The University has given equal representation in various committees at all levels from Professors, Associate Professor and Assistant Professors from various Schools. The leadership at the University is provided by the Director who has always been a person of excellence and eminence with proven track record and has a history of leading by example. The Director is assisted by Deputy Director and Deans for various key activities, Heads of Departments/ Schools and Centres besides the Registrar and Chief Human Resource Officer who looks after the administrative activities of the

University. The structure is similar to what is followed at some of the best institutions in the country and abroad. TIET has created a governance plan that embodies the institute's values of transparency, accountability and efficiency. By introducing decentralization and participative management, TIET is committed to improving the procedures and functioning of the institute as well. Transparency TIET, through its Governing Bodies will make sure that there is a centralized, coordinated system will enable the institute to be transparent in all its actions. Being transparent enables TIET to help the faculty, staff, students and society understand the reasons behind its actions. Accountability It is important for TIET's Governing Bodies to be accountable to one another in order to make sure that the institute is running smoothly and to prevent any wrongdoings. Efficiency TIET acknowledges the importance of being efficient in its use of resources and its functioning. The Governing Bodies take steps throughout to make sure that the institute is being as efficient and effective as possible in its day-to-day functioning.

File Description	Documents
Upload relevant supporting document	View File

6.2 - Strategy Development and Deployment

6.2.1 - The institutional Strategic plan is effectively deployed

The present age Universities are becoming wise to various strategies and striving to deliver top quality education globally. TIET has proven its mettle in the past and is at the forefront of embracing change and delivering quality education to students from across the country. TIET brings to the world 65+ years of sparkling excellence. Its portals are a testimony to the making of professionals whose brilliance have shaped new ideas. Recognized amongst the leading privately managed engineering institutions of the country and the best of its kind in the north-western region of India. TIET is ranked 29th amongst top engineering institutes and universities in NIRF Ranking in 2020. It is amongst the Top 3 Private Engineering colleges in the same list. TIET is determined to move up the ranking ladder by excelling in all spheres of teaching, research and placements. TIET has grown impressively in both size and activities during the last six decades of its existence. At present TIET is amongst the top few Indian private universities who are recognised among the academic

world and global rankings. TIET has already embarked upon a transformation journey with multiple initiatives to fill the identified gaps, build upon its strengths and beat its competition.

This latest version of the strategic plan is in operation for the period 2021 to 2025 and cover the following aspects of its growth journey:

Institutional Goals

The goals identified are pillars of the plan. These goals allow TIET to break down the long-term vision into four key objectives (attainable steps) which can be further quantified and monitored with the help of milestones across the 5-year time period. They are designed to be high-level in nature and are built on the assumption that all departments will base their planning efforts on these overarching objectives. The institution's success on the identified goals will depend on the initiatives undertaken by the institution and the contribution and engagement of all concerned stakeholders, both internal and external.

Goal 1: Excellence in teaching and education delivery

We will achieve this through:

- Curriculum that is internationally attuned and of interest to high quality students
- Delivery of core competencies and the development of attributes that ensure students can address complex challenges of the global world

5 years

Number of students

15000+

Faculty student ratio

1:15

Training and certification of faculty

100%

Goal 2: Provide solutions to global challenges through delivery of world class research

We will achieve this through:

- Creation of a dynamic research environment and suitable capabilities
- Enhancing research capacity through partnerships and creation of research centres in core competency areas
- Investing in infrastructure that promotes a thriving research and economic development enterprise

5 years

Publications per faculty

3

Citations per article

15

Patents

100

Research Income

10 Crores

Goal 3: Engage in external collaborations that extend and deepen institution impact

We will achieve this through:

- Increasing international engagements and learn from leaders of top institutions
- Developing linkages for faculty and student and generate mutually beneficial sustainable outcomes

5 years

International and national collaborations

40

Consultancy revenue

10 Crores

Goal 4: Enrich student experience and foster a positive learning and working ecosystem

We will achieve this through:

- Creating a congenial work environment
- Providing an unmatched teaching and learning experience for all students
- Instilling a comprehensive view of equity, inclusion and diversity on campus

5 years Number of students receiving scholarships 3000+
Actively engaged alumni 60%

File Description	Documents
Upload relevant supporting document	View File

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

Board of Governors

The Board of Governors is the principal executive body of the University, and is responsible for direction and control of the affairs of the University. It exercises the powers of the University not otherwise provided in the Memorandum of Association and Rules & Regulations. It creates, keeps in abeyance or abolishes any post or cadres; lays down the qualifications, experience and emoluments; defines duties and conditions of service of staff; appoints academic, administrative and technical staff; regulates and enforces discipline amongst employees; adopts the Annual Report and Annual Accounts; approves the Budget Estimate and Development

Plans; manages & regulates the finances, accounts, investments, property and all other administrative affairs; fixes admission fee, scholarships, prizes, emoluments etc; and oversees all other matters related to the University.

Planning & Monitoring Board

The Planning & Monitoring Board has been constituted for preparing development plans of the University, monitoring the implementation of approved plans of the University and schemes sanctioned by U.G.C. and other agencies, and for considering all those matters which have been referred to it by the Board of Governors.

Senate

The Senate is the principal academic body of the University and exercises general supervision over the academic work, promotes research activities, maintains proper standards of examination, frames and revises curricula and syllabi of courses, makes proposals for institution of research, specialized studies, libraries, laboratories etc. and all other academic matters related to the University. The details about the members of the Senate are provided in Annexure - I(c)

Finance Committee

The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University. The Finance Committee has fixed the limits of total recurring and non-recurring expenditures based on the income and resources of the University. The details about the members of the Finance Committee are provided in Annexure - I(d)

Staff Affairs Committee

The Staff Affairs Committee has been constituted to review the staff structure, suggestions regarding revision of cadre, creation of new posts, minimum qualification and experience of staff including promotion cases, recruitment policies, procedure for recruitment and all other matters related to the staff of the University.

Building & Works Committee

This committee looks after all major construction works under the direction of the Board, and minor works within the grant placed at the disposal of the University. It is responsible for the enlistment of suitable contractors and acceptance of tenders and preparation of estimates of cost of buildings and other works i.e. capital, minor repair or maintenance.

Senate Research Committee

The committee formulates the Institutional policies related to research and sponsored projects at the University.

File Description	Documents
Upload relevant supporting document	View File

6.2.3 - Institution Implements e-governance in its areas of operations**6.2.3.1 - e-governance is implemented covering following areas of operation**

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

A. All of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.3 - Faculty Empowerment Strategies

6.3.1 - The institution has a performance appraisal system, promotional avenues and effective welfare measures for teaching and non-teaching staff

For Thapar Institute of Engineering & Technology University, the processes used to evaluate and provide feedback about the performance of the faculty working with us is extremely important. If these evaluation processes are properly designed, these can help the University thrive by providing appropriate rewards and encouragement for good performers, and guidance

about how to improve their performance to others. The existing evaluation processes for faculty did not appropriately make the distinction based on performance and may result in lower morale, engagement and productivity. The University recognizes the importance of a faculty performance evaluation process that is fair and that provides productive and appropriate incentives to faculty. As a result, a new performance incentive scheme was designed to reward performers and encourage all others to improve their performance. No faculty performance review process can be free of issues or problems. Bearing this in mind, a committee was constituted to review the existing performance review system and recommend changes and policies to improve the process. The committee formulated a new Scheme for awards for excellence that is more transparent and better understood, more equitable, and provide more useful feedback to faculty members. The implementation of this new scheme since last 5 years has enhanced morale, rewarded good performers, motivated and reinforced productive activity of faculty at Thapar Institute of Engineering & Technology University. The aim of the new evaluation process is to appropriately quantify the academic and research performance of all faculty members at Thapar Institute of Engineering & Technology University through a self appraisal system wherein marks are awarded for pre-defined activities of a faculty during an academic year (July 1 to June 30 next year). The marks are awarded for all activities of faculty which directly contribute to attaining the documented quality policy and objectives of the University. The method is devised in a way so as to eliminate/reduce subjectivity of measuring performance of a faculty. The goal is create a measure by which faculty can self assess its performance. The good performers are rewarded with incentive for that year.

The faculty is requested to fill up an online form wherein he reports his academic (teaching) and research performance besides other services or co-curricular activities he/she had undertaken during the previous year. The teaching performance is judged on the basis of results of a Student Response Survey (SRS) form for each faculty and each subject. The students are required to fill up this form online. The results of the survey are used as a measure of teaching potential and quality of a faculty. The scores are compiled using a customized software. Based on the SRS score obtained (given by students) a teaching score for all the subjects taught by the faculty during the two semesters is generated. The research scores are awarded by considering publications, research projects, and student

guidance during the year. For all other activities undertaken by the faculty during the year, perception score is given by the reporting officers. The criteria of selection of faculty for various awards

Promotion Policy

The Institute believes in providing opportunities to high performers by enriching and enlarging their jobs thereby fostering the advancement of its employees and enhancing the upward mobility of its employees. This policy is based on the recognition that in the course of meeting the Institute's objectives, the duties and functions of an employee may change in complexity and responsibility during their career progression. Promotions therefore, are based on status changes that involve increasing responsibility levels. The added benefits of promotion serve as an incentive for better work performance, enhance morale and create a sense of individual achievement and recognition. Recruitment and Promotion Norms - Teaching Staff (Engineering & Sciences). The purpose of this policy is to provide a sound framework for the recruitment, selection and promotion of faculty based upon the principles outlined below, which also meet the requirements of relevant employment legislation. The Institute will seek to recruit the best candidate for the job based on merit. The recruitment, selection and promotion process should ensure the identification of the person best suited to the job and the Institute. The Institute treats all candidates fairly, equitably and efficiently, with respect and courtesy, aimed to ensure that the candidates' experience is positive, irrespective of the outcome.

Promotion Policy - For more details please refer to service regulations (Page 35 to 62) https://www.thapar.edu/upload/files/TIETService%20Regulations.pdf?_ga=2.228893855.280628159.1646652234-279137760.1644217981

Thapar Institute has various welfare schemes for the teaching and non-teaching staffing place. Some of them are as follows:

1. Medical Allowance
2. Child Educational Allowance
3. Professional Development Allowance

4. Maternity benefits as per government norms

5. Leave Travel Allowance

6. Free on-campus medical facilities and insurance for other medical requirements.

7. EPF for employees

8. Medical leave

9. Sports facilities

10. Wifi facility

11. Computing facility (every faculty member is provided with a laptop at the time of joining)

12. Round-the-clock security for the campus residents.

File Description	Documents
Upload relevant supporting document	View File

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

47

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.3.3 - Number of professional development / administrative training Programmes organized by the institution for teaching and non-teaching staff during the year

38

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.3.4 - Total number of teachers undergoing online/ face-to-face Faculty Development Programmes (FDP)during the year(Professional Development Programmes, Orientation / Induction Programmes Refresher Course, Short Term Course)

504

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.4 - Financial Management and Resource Mobilization

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

TIET has been relying primarily on fee revenue, which makes it reliant on teaching orientation. In order to enhance the institution's capacity to compete globally, nationally, and locally, it is imperative that we also attract funding from alternative sources to improve our facilities and support innovative projects in order to attract the best and most diverse range of students, as well as to hire the quantity and quality of international faculty required. TIET has already taken up initiatives focused on raising revenue streams from student fees, sponsored research funding, alumni endowments, etc. The institute will receive revenue from varied sources such as student fees and hostel living fees. We will also attempt to raise resources from online programs, and research and consulting projects. TIET will also like to grow its executive education programs. The institute, through its initiatives, to raise funds in order to invest in research, infrastructure and development will aim to raise appropriate funding to realize its growth plans.

The university has a Budgetary control system to monitor the effective and efficient use of financial resources. The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University. The Finance Committee has fixed the limits of total recurring and non-recurring expenditures based on the income and resources of the University.

File Description	Documents
Upload relevant supporting document	View File

6.4.2 - Funds / Grants received from government bodies during the year for development and maintenance of infrastructure (not covered under Criteria III and V) (INR in Lakhs)

0

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.4.3 - Funds / Grants received from non-government bodies, individuals, philanthropists during the year for development and maintenance of infrastructure (not covered under Criteria III and V)(INR in Lakhs)

0

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.4.4 - Institution conducts internal and external financial audits regularly

The university has the Budgetary control system to monitor the effective and efficient use of financial resources. The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University. The Finance Committee has fixed the limits of total recurring and nonrecurring expenditures based on the income and resources of the University. The Institute have both internal and external Audit system. All voucher are internally audited before it is produced to Statutory Auditor. In addition, the university also has pre-audit system in which all comparative statements for an indent, purchase orders before release and all payment exceeding a certain amount are audited by the internal audit section. The internal audit section directly reports to the Director and is manned to two Senior Accounts Staff independent of the Institute Finance and Purchase/Commercial Section. All the comparative statements, purchase orders stamped as pre-audited after the audit is completed without which no commercial transactions can progress. The accounts of the university are audited by an independent Chartered Accountant Firm at the end of each year and is approved and authorized by the board of governors. The Chairman of the Board approves the audit statement before these are adopted. The Annual Balance

sheets are uploaded on the Institute website as part of the mandatory compliance. The audited income and expenditure statement of academic and administrative activities of the last five years is available on the TIET website. Through the Internal Audit System, a Budgetary control system and periodic comparison with actual and find the variances and control accordingly is undertaken. This includes preparing periodic cash flow analysis and comparing pay-back period with actual in case of capital expenditure.

File Description	Documents
Upload relevant supporting document	View File

6.5 - Internal Quality Assurance System

6.5.1 - Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes by constantly reviewing the teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals

The University has established, documented and implemented a Quality Management System. Continuous improvement in the implementation and effectiveness of the quality management system is ensured through continuous reviews and internal audits. The University has identified the processes needed for the quality management system and their application throughout the organization process are being carried out in the University. Documented procedures have been developed for the management activities, provision of resources, instructional design, delivery and control and measurement.

The University continuity improves the effectiveness of the quality management system through the use of quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review. At the time of every management of review, through the measure of each objective and its comparison with earlier level of that objective, the trends are ascertained. Action points are then listed to continually improve the system. The status is reviewed in the subsequent management review meetings. The University conducts internal audits every six months to verify whether quality managements system conform to the quality plan and to determine that it is effectively implemented and maintained. The review of the quality system is carried out once every six months to ensure continuing suitability,

adequacy, and effectiveness in satisfying the requirements of the standard and the quality policy of the University. The review includes assessing opportunities for improvement and the need for change to the quality management system.

An internal audit of each department is scheduled during each semester in which faculty members from outside that department review the performance of the department during the last semester. The course files of all courses are scrutinized to verify all activities related to teaching-learning and evaluation processes have been completed as per norms of the University. Discrepancies, if any, are reported in the form of a nonconformance report for which the department must submit a corrective action.

File Description	Documents
Upload relevant supporting document	View File

6.5.2 - Institution has adopted the following for Quality assurance Academic Administrative Audit (AAA) and follow up action taken Confernces, Seminars, Workshops on quality conducted Collaborative quality initiatives with other institution(s) Orientation programme on quality issues for teachers and studens Participation in NIRF Any other quality audit recognized by state, national or international agencies (ISO Certification, NBA)

A. Any 5 or all of the above

File Description	Documents
Upload the data template	View File
Upload relevant supporting document	View File

6.5.3 - Incremental improvements made for the preceding during the year with regard to quality (in case of first cycle) Post accreditation quality initiatives(second and subsequent cycles)

Post Accreditation Initiatives 2020-2021

The present age Universities are becoming wise to various strategies and striving to deliver top quality education globally. Thapar Institute of Engineering & Technology, Patiala

(TIET) has proven its mettle in the past and is at the forefront of embracing change and delivering quality education to students from across the country. TIET brings to the world 65+ years of sparkling excellence. Its portals are a testimony to the making of professionals whose brilliance have shaped new ideas. Recognized amongst the leading privately managed engineering institutions of the country and the best of its kind in the north-western region of India. TIET is ranked 23rd amongst top engineering institutes and universities in NIRF Ranking in 2021. TIET is determined to move up the ranking ladder by excelling in all spheres of teaching, research and placements. At present TIET is amongst the top few Indian private universities who are recognised among the academic world and global rankings. TIET has already embarked upon a transformation journey with the completion of the first phase of its ambitious contemporization program. It has taken multiple initiatives to fill the identified gaps, build upon its strengths and better its peers.

Initiative 1

TIET has developed a Strategic Plan which includes an academic plan to transform from a traditional engineering education to a multi-disciplinary centre of excellence in higher education. The academic plan showing the courses proposed and a research plan focusing on current thrust / niche area(s) of expertise and proposed plan in pursuit of excellence in those areas is as under:

TIET Growth Plans and Proposed Courses

The students at TIET are unique individuals with different interests and aspirations. The diverse programs and activities aimed at developing quality of mind, ethical standard, social awareness and global perspectives allows the students shape their own TIET experience and grow. At present - TIET has 7 departments and 5 schools in Engineering and Science. It has an off campus center LMTSOM which offers courses in Management. Going forward, TIET plans to establish new departments in Law, Pharmacy and Architecture. Apart from that, they plan to offer various interdisciplinary courses in Management, Liberal Arts, Law, Science and Engineering.

Engineering and Science

The Engineering programs offered can usually be bifurcated into

three main categories namely Biotechnology, Core Technology and Information Technology. Undergraduate engineering students are taught a series of courses in basic sciences to develop understanding of scientific principles and methods, analytical ability and rigour. These courses are followed by courses in engineering sciences to provide a smooth transition from basic sciences to professional engineering courses.

The undergraduate curriculum consists of two main components i.e. core courses and professional courses. The core courses lay emphasis on concepts and principles. It involves teaching of subjects in Basic Sciences, Humanities and Social Sciences and Engineering Science. Attention is also paid to develop communication skills in English language - the medium of instructions.

The Professional courses lay emphasis on system analysis, design, manufacturing and professional practice. There is an in-built flexibility to encourage students to specialize in streams of their choice through a system of professional and free electives. The Institute strives to foster among its students a strong desire and capacity for continuous learning as well as self-appraisal to develop sterling human & professional qualities and a strong sense of service to society through designed, curricular, co-curricular activities and congenial campus environment.

But in the recent times, the boundaries between various departments has blurred. In the light of this, TIET will focus on evolving multidisciplinary courses where the curriculum will be flexible and students will be offered to pick courses from different basket of courses and students can opt for studying a mix of multiple baskets and in-turn can earn a multidisciplinary degree.

At present - TIET has 7 departments in Engineering in Computer Science, Mechanical, Electronics, Electrical, Biotechnology, Chemical and Civil disciplines. Various interdisciplinary programs are offered in Mechatronics Engineering, Electronics & Computers, Instrumentation & Control, Software Engineering & Management, Metallurgical and Materials Engineering.

TIET has introduced Bachelor of Engineering courses in Biomedical Engineering in 2019-2020.

TIET is offering various M.E./M.Tech. Programs where it has

uniformly maintained the basic structure and philosophy of the post-graduate education in engineering in the country. All these programs, regular or part-time, have their course work classified into two major categories: Core Courses and Elective Courses. To be eligible for a degree, a student must complete requisite number of core and elective courses. However, to bring in flexibility a wide choice of electives is offered to the students in order to make their training broad based. Presentation of a Seminar and a project in addition to the course work and further carrying out a thesis/dissertation are necessary components of post-graduate degree.

TIET also offers M.Sc. programs aims to impart application oriented education in the respective area with an integrated approach so as to turn out professionals who will have easy absorbability in industry as well as self-employment skills. The course curriculum has been structured to impart education in the areas desired by the industry as well as local needs.

The Science programs are offered in Biochemistry, Biotechnology, Chemistry, Mathematics & Computing and Physics. To meet the changing industry demands, TIET plans to introduce integrated courses and new master courses in specialized areas in Physics and Biochemistry.

Management

At present, LM Thapar School of Management (LMTSOM) offers a 2 Year MBA program. The goal of the program is to develop globally sensitive scholarly practitioners with social entrepreneurial mind set. It aims to groom a generation of thinkers, practitioners and leaders who are adept at solving both local and global problems with utmost global sensitivity. The program strives to achieve that all graduates have a strong entrepreneurial orientation with an emphasis on doing social good. Irrespective of what kind of enterprises they create or work for, a strong orientation toward societal good must be the starting point of any decision they make.

Both business schools and businesses have a very important role in dreaming and architecting a new world order and we must make a determined beginning here in India. TIET wants to develop LMTSOM as a centre of advanced learning which is uniquely positioned to bringing students, teachers, scholars, entrepreneurs, business leaders, community leaders, and social activists together to create the new India of our dreams.

Liberal Arts and Sciences

TIET has started a new program in liberal arts and sciences. Liberal arts is more and more recognized as the most useful foundation training for managers and business leaders. In addition to specialization courses, students will be well trained in the following subjects with the possibility of specialization: Biology, Computer Science, Ecology, Economics, Evolutionary & Cognitive Psychology, English Writing, Fine Arts & Design, History, Mathematics, Philosophy, Physical Sciences, Sociology, Sustainable Development

Law

The legal sector in India has been enthusiastically growing ever since 1991 when India opened its economic doors to the world. India attracted lot of inbound investment. Recent years have seen a growth in outbound investments as well. Lot of cross border transactions are taking place today and lawyers are often needed to advice on various transactions. This created an opportunity for many to establish law firms to provide various specialized legal services to companies that are seeking professionally managed legal services.

TIET plans to set up Law Department that will offer 5 Year Integrated program in Business Studies and Law (BBA-LLB) soon. Law is a fundamental part of business and business has always been intertwined with the law and legal regulations, but these are becoming more complex. Business students who study the interaction of law and business can anticipate the legal needs of their companies and comprehend how laws and regulations can impact businesses in both positive and negative ways.

TIET will also offer a Master Program in Law, which will produce post graduates specializing in several areas like Corporate and Financial Law and Policy, International Trade and Investment Law, Intellectual Property Rights and Technology Law etc.

Initiative 2

Expansion of Choice Based Credit System

CBCS has been implemented and expanded across all programs with new offerings added from the School of Liberal Arts and Sciences. A basket of Generic Electives, excluding the course

'Innovation and Entrepreneurship (UTA012)' are offered in 7thSemester.

The Basket of Generic Electives, other than UTA012, to be offered is as under:

S.No

Course No.

Course Name

1

UHU007

Employability development Skills

2

UHU006

Introductory Course in French

3

UHU009

Introduction to Cognitive Science

4

UHU008

Introduction to Corporate Finance

5

UCS001

Introduction to Cyber Security

6

UPH063

Nanoscience and Nanomaterials

7

UEN004

Technologies for Sustainable Development

8

UMA066

Graph Theory and Applications

9

UMA061

Advanced Numerical Methods

10

UBTxxx

Biology for Engineers

Initiative 3

Research at TIET is at the apex of the institute's long-term strategic plan, which is to be a leading research focused and teaching intensive institute in India. Research is a central theme of the institution's mission. Research and innovation will facilitate academic collaborations, industrial interactions and knowledge transfer; and provide support to academics on research funding streams, preparing bid proposals and negotiating research contracts. The institution spends a substantial amount on its budget on research activities. This creates numerous opportunities for graduate and undergraduate students and provides faculty an enriching environment. In the future, the institution foresees significant growth in research activities across disciplines for interdisciplinary and multidisciplinary research. Individual academicians at the institution have developed their own plans indicating the potential areas of research, infrastructure requirement and possibilities of collaboration with leading academics at

global/national universities/organizations and industry. In addition to the department specific research TIET has also identified key cross cutting research themes for setting up multiple Centres of Excellence (COEs).

TIET earmarks a significant amount from its budget for acquiring research equipment. Every year the institution asks departments to present their capital equipment requirements and sanctions funds for acquisition of research and teaching equipment. All the engineering and science departments have established advanced research facilities.

Going forward the institution aims to make targeted investments to develop new interdisciplinary and inter-institutional collaborations to establish six centres of excellence (COE) across identified research themes. TIET is also undertaking multiple other initiatives to build research excellence focused at solving real world problems and providing students with experiential learning for better application and analytical skills. TIET has already established three chairs to lead the Food Security, Emerging Materials and Advanced Manufacturing Centres. The food security chair is led by Prof Yosi Shacham from Tel Aviv University and the Emerging Materials Chair is led by Prof Roop Mahajan from Virginia Tech. The third chair was established recently with appointment of Prof Noam Eliaz from Tel Aviv University to lead the Advanced Manufacturing Centre. All the three Chairs are eminent professors with wide research experience in their fields. Two of these centres are already operational at Patiala and both Chair Professors have followed similar strategies in running their respective centres. The Advanced Materials Centre will become operation in 2022-2023. As the 6 CoEs get established, it is expected that close to 200 academic members of TIET staff, 100 Postdoc or PhD students would be working in these centres during the next five years.

1.aTIET-VT Centre of Excellence - Emerging Material

Context

Intense research in recent years has culminated in rapid progress in science and technology that affects every sphere of human life. Development of multifunctional materials and miniaturization of devices have been the keys to this remarkable stride. While our understanding of the fundamentals

of materials continue to improve, the techniques and instruments to study and design them become more complex and challenging. It is only through the sophisticated instrumentation we know of materials what we know now. It is important that the multifunctional materials be conditioned to possess diverse properties; the analysis, characterization and to establish operational mechanisms and reliability of the systems are equally critical and thus, role of the analytical instruments becomes even more inevitable. To achieve these goals, TIET has established a "Centre of Excellence in Materials Research" at TIET, Patiala. This Centre is in line with the long term goals of the institution to improve the quality of research at TIET and bring it to level which is acclaimed internationally.

CEEMS' Thrust Area and their leadership teams:

Thrust Area 1. Title: Coal-derived graphene-x (graphene oxide, reduced graphene oxide, graphene quantum dots and other derivatives). Thrust Area 2. Title: 2. Graphene-x-polymer nanocomposites, with a focus on environmentally friendly applications. Thrust Area 3.

Title: Bio-x (molecular and cellular biology, and biotechnology) to develop environment-friendly alternatives to fossil fuels and plastics, diagnostic and drug delivery and treatment tools, and higher yielding and nutrient rich crop-plants.

Thrust Area 4. Title: Exploratory research to capture high-risk, high-reward basic and applied research crosscutting the first three thrust areas.

Thrust Area 5.

Title: Computational and Simulation (a core capability in recognition of the important role played by scientific computation as the third leg of learning and research).

TIET-TAU Centre of Excellence - Food Security

Context

With over 7 billion mouths to feed globally, ensuring a secure supply of food is a burgeoning and critical challenge for

scientists and policymakers alike. Over 1 billion people are currently suffering from malnutrition, while another 2 billion either undernourished or actually suffering from an excess of caloric intake due to a short supply of healthy food. The demand for energy is rising at the same time, thus increasing pressure on agriculture to grow biofuel as well as food. In India, the combination of growing population, urbanization, and rising of living standard results in an increasing demand for food while at the very same time arable land and resources available to agricultural use are both declining. Providing long-term solutions for these critical issues requires not only advances in the biological and chemical sciences, but also a re-evaluation of strategic business issues, as it relates to food policy.

It is in this context that TIET in association with Tel-Aviv University (TAU), has setup a new interdisciplinary centre. This centre has brought together researchers from diverse academic disciplines to promote innovative research, to forge ties with professionals and academics around the world, and to prepare the next generation of scientists and policymakers to guide global food security issues in the years to come. This Centre is co-located on the Patiala campus at TIET and in TAU and has a major partnership from Punjab Agriculture University. This unique centre is already bringing together leading Indian and Israeli scientists and policy experts to further the important field of Food Security.

Objectives

The Centre provides innovative solutions for the critical issue of food security and agricultural development of India and the world at large. The overarching mission of the centre is to link the three collaborating institutions, to foster closer ties at the national level between Israel and India, and to provide a viable interface between industry and academia. The strength of the centre meshes the established Israeli expertise in innovative agriculture and business practices with the growing expertise and abilities of India. These together with the global agriculture industry leadership of the TIET will equip a new generation of specialists, both future academics and industry leaders, with the knowledge to develop and implement a range of innovative solutions for ensuring a sustainable and nutritious supply of food, while preserving the environment, and ensure the development of TIET as a national leader in Food Security Studies. The centre will set its sights

on becoming a recognized hub for agricultural research, training and education

The center works closely with the farmers and villagers. Under this university has established Digital Villages, they develop and provide digital solutions to the farmers. The center also works in the area of enhanced treatment of wastewater without energy investment and biofuel production. Another major area of work under this center is development of biosensor platforms and development of affordable processing technologies for mitigation of post-harvest losses. The following projects are undergoing at the center: Digital Villages: A Data-Driven Approach to Precision Agriculture in Small Farms, Post harvesting - Biosensor Platforms and Development of affordable Processing Technologies for mitigation of Post-Harvest losses in tropical fruits (GUAVA), Enhanced treatment of wastewater using a synergy of microalgae and microorganisms - without energy investment and biofuel production, and Developing delivery system of CAS9/gRNA to a tissue culture of wheat and barley for genome editing of agronomic traits.

Centre of Excellence - Advanced Manufacturing

TIET has agreed to fund a Chair Professor position in Advanced Manufacturing. The Chair is intended to contribute to the development of a research culture at TIET and support the establishment of a Centre of Excellence in TIET. TIET has formally offered the Chair to Prof Noam Eliaz who is an internationally recognized scholar, with an excellent record of collaboration with industry, raising research funding, mentoring of academic staff and post-doctoral researchers, and supervision of research students. The whole emphasis is proposed to be on applied research working with industry, research laboratories, hospitals, Space Applications

- Biomedical Applications - Implants, hospitals
- Automotive Applications
- Jewellery
- Space Programs and Defence Labs
- Department of Heavy Industries

Initiative 4

Augmentation of IT facilities for teaching and research

Centre of Information and Technology Management (CITM) has been established in the University after integrating three units, namely, Computer Centre, Centre for Information Super-Highway and University Science Instrumentation Centre. This centre has been established to cater the needs of users involving implementation, maintenance and support activities related to LAN/WLAN, software and hardware; procurement, support and maintenance of various equipment of users.

CITM offers Internet access and network services to Thapar University. CITM has two static leased line connections: 1085 Mbps leased line from Reliance and 1000 Mbps from National Knowledge Network (NKN). The Campus-wide Local Area Network (LAN), which currently has 7400 live nodes (wired and wireless), is backboneed by Optical Fiber connected with layer-3 and layer-2 switches, structured with CAT6 cabling.

The CITM has state-of-the-art computational labs and one DATA CENTRE. The computational facility in the Centre includes 14 Dell Power Edge servers and 97 nodes and other peripherals. CITM is a member of MATHWORKS Campus Agreement and Microsoft Campus Agreement. CITM organizes online courses under Quality Enhancement in Engineering Education an initiative by MHRD. Thapar University has been consistently highly ranked by QEEE organizer IIT Madras.

CITM also provides repair and maintenance of Electronic Instruments/Equipment and, PCs and peripherals used in various Laboratories. This centre is contributing in the implementation of ERP software that includes modules financial management, inventory management, human resource management, purchase management, academic activities etc. and its related support to the users of Thapar University. CITM is also responsible for maintenance and administration of Thapar University Website. The main objective of centre is to provide better support and services to the users for their individual as well as collective growth.

Initiative 5

Establishment of Experiential Learning Centre

The current paradigm of teaching and learning can best be described as 'sage on the stage' mode of teaching. The teacher thinks, 'he is the repository of all the knowledge in the world' and imparts a whole lot of theoretical knowledge to the students. The students often wonder, 'where is engineering in all this'. Especially when the opportunity arises to apply this knowledge, they found themselves ill-equipped.

This age old paradigm of teaching was developed when teachers often used to be practitioners in the field. They with their vast experience and real life examples often made classes very interesting. Later, professional teachers with strong theoretical concepts and knowledge replaced practitioners in the classroom. This, in my opinion, has led to the current situation where students often graduate with little applied knowledge.

Further, we are now dealing with a very different set of students with technology in their hands in the form of smart devices. Technology enables them to learn any concept without the need to search for books or visit libraries. Teachers who use bookish concepts or follow a prescribed textbook do not excite students anymore. Theoretical concepts, which are available with a click of a button on their laptops, no more attracts them to the class. Rote teaching and learning methods of yesteryears thus will never be able to stimulate today's students. They will only look forward to a formal class if it gives something more than what is available with the technology. Today's teacher must be willing to become a 'guide on the side' rather than a 'sage on the stage'.

Employers want 'role ready' engineers. Many employers come to campuses with the specific job roles for the students, and more often than not are disappointed with the industry readiness of the students. This can again be attributed to the rote learning methods educational institutes use. Having dealt with several employers during the past few years, we know that many industries are keen to play some role in the teaching and learning process to impart application oriented skills to the students. As industries vary, so do their requirements. It is the need of the hour for engineering institutes to produce graduates who can quickly adapt to these requirements. They must have the necessary skill sets to meet the problems posed to them. Thus, today's graduates should be skilled in self-learning, problem-solving and an ability to apply theoretical concepts to industrial problems.

There is, thus, a need to modify how engineering education is being imparted today. The ability of students to solve complex engineering problems can be improved by some fundamental methodical changes in knowledge dissemination. The large emphasis on outcome based, project led education across the globe is a step in the right direction. Hands-on experience is key to the project led education and is finding its way into engineering curricula across most engineering institutions. Experiential education is one such very effective way to equip students with such skill sets. In India, these ideas are still at infancy; but we all must move forward - beyond the customary lip service - in this direction to build a future ready nation.

We at Thapar institute have developed a sustainable model to implement these changes with the establishment of an experiential learning center. The faculty and students work together on real world problems with undergraduate students from different engineering disciplines. Such projects are interwoven with regular engineering courses. These courses impart theoretical concepts that are applied in developing solutions for complex engineering problems. This combination of students and faculty working together is very effective in teaching problem-solving techniques. The problem-solving instills an ability to define need established realistic assumptions and constraints, build design, analyze and select designs, validate and optimize.

Example of experiential education initiatives

The freshman students often talk about lack of engineering in the first year courses. While they plan to do big things at the onset of undergraduate program, what they end up doing is more physics, more maths and more chemistry. While these are foundation courses and teach basics, which are very important for the students, a complete lack of any direct application makes them very much resented. Some students thus lose interest, and then focus on graduating with least effort. Further in the upper years they do more interesting courses with some sprinkling of labs in between. But there remains an unfulfilled desire to apply, build and design a reasonably medium to large sized engineering product or service. Although most engineering institutes do offer a culminating capstone project; however lack of facilities, improper training and under equipped infrastructure for creating an engineered product results in tickling the box kind of exercise.

The experiential learning center at Thapar Institute addresses above issues for each stream of engineering. For example, in the first year all mechanical engineering students get to dissect a Honda engine. While they may have practically no previous knowledge of the parts and components, the focus is on building a design vocabulary for the students. They for the first time start to use some set of professional tools and are exposed to engineering terms never used before. They are then asked to rebuild or reassemble the engine, and the ability to use standard tools excites them immensely. The students, then in groups of four, select a sub assembly of the engine. They are encouraged to create their part drawings and exposed to specifications and tolerances. In the later years, they complete a design analysis of the subassembly and manufacture some of the parts. During the final year, students are provided with all the parts, some manufactured by them, and are asked to produce their own engine. This way, one product moves through multiple courses and students get to apply theoretical knowledge to an application.

A number of such open ended projects are offered across various engineering streams at Thapar. These open ended projects give students an opportunity to make decisions and live by their choices. It impacts soft skills such as working in teams, exhibiting leadership qualities, and verbal and written communication skills. We have been working at this center for almost 2 years now and one can feel the buzz on the campus. Happy and excited faces of students, when they participate and accomplish the task, have been a great motivator. We firmly believe that this is the way forward for engineering education in India.

File Description	Documents
Upload relevant supporting document	View File

INSTITUTIONAL VALUES AND BEST PRACTICES

7.1 - Institutional Values and Social Responsibilities

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

Following measures have been initiated by the institutions for the promotion of gender equity during the year

Annual gender sensitization action plan(s) Specific facilities provided for women in terms of: a. Safety and security b. Counseling c. Common rooms d. Daycare Centre e. Any other relevant information TIET have taken special initiatives for gender sensitization. It has the Gender Champions Club which looks after issues pertaining to gender equality in particular. Faculty of this club helps provide overall guidance to the gender champions on aspects of activity implementation, collecting quarterly reports, assess them and send it to the head of the institution. The club also conducts training programmes to motivate, influence and communicate with different stakeholders. The campus is very secure due to its well-maintained security system. Separate hostels for girls and boys with good security measures. Management is very concerned about health and security. A fully functional health Centre with a full time doctor along with nursing assistants is in place to offer medical care for minor issues and first aid. Sick room for girl students with required facilities is available in each of the hostels. There is a full time residential doctor on campus to cater to the medical emergency needs of the students. Separate common rooms for both boys and girls are existing on campus. Thapar Institute Counseling Cell (TICC) helps students to cope through difficult times of adjustment and readjustment to the university/college life. TICC has the following Key Responsibility Areas (KRAs): 1. To provide assistance of the highest quality to ensure students' progress towards completion of their education and accomplishment of their personal development. 2. To support aim of professional counseling to empower diverse individuals, families, and groups to accomplish mental health, wellness, education, and career goals, while advancing the TIET vision of excellence in learning and assisting students to become self-aware and socially responsible leaders with a global perspective of tomorrow. 3. To be a resource for students who seek help in dealing with personal issues ranging from adjustment problems to major crisis. Key Services: Counseling Services All degree-seeking students currently enrolled at the TIET are eligible for counseling services. Consultation Services Any faculty, staff, student who is concerned about a TIET student in crisis may call to discuss how you may refer the student to seek services at the TICC. Outreach Services TICC can collaborate with TIET faculty, staff, and student groups on programs and events open to the student community. Crisis Services: Offers a variety of crisis services: • Walk-in Crisis Services • After-Hours Crisis • Sexual Assault • Suicide Prevention Students: Let's Talk, Individual Counseling, Group

Counseling, Crises Services and Psychometric Tests Program for Staff: Student Mentorship Initiative Departmental Initiatives: Outreach Services with Departments and Schools were able to facilitate the conversations about how students feel about their current state and problems. Parental Counseling: In many cases where it was seen that parental support was needed, they are called for counseling sessions and discussions are done so as to facilitate them better with their child's mental health and wellbeing. TICC offers a strong support network which included DOSA, DOAA, Faculty, Wardens of hostels where they all work as a team to help students and their parents to understand their children's welfare. <http://www.thapar.edu/students/pages/thapar-university-counseling-cell>

<http://www.thapar.edu/students/pages/committee-on-gender-sensitization>

"Feminism isn't about making women strong. Women are already strong. It's about changing the way the world perceives that strength." -G.D. Anderson

With International Women's Day being celebrated all across the globe, a splendid fiesta was conducted in Thapar University to celebrate womanhood, honor women, and salute their courage. Consequently, we bring to you the Women's Week Edition which will provide an insight into these engaging events.

<https://online.fliphtml5.com/yyjoi/mtjl/>

File Description	Documents
Upload relevant supporting document	View File
Annual gender sensitization action plan(s)	10
Specific facilities provided for women in terms of: a. Safety and security b. Counseling c. Common rooms d. Daycare Centre e. Any other relevant information	Safety and Security, Counselling, Consultation, Common Rooms, Staff club, Outreach Services and Parental Counselling.

7.1.2 - The Institution has facilities for alternate sources of energy and energy conservation Solar energy Biogas plant Wheeling to the Grid Sensor-based

A. Any 4 or All of the above

**energy conservation Use of LED bulbs/
power-efficient equipment**

File Description	Documents
Upload relevant supporting document	View File

7.1.3 - Describe the facilities in the Institution for the management of the following types of degradable and non-degradable waste (within 200 words) Solid waste management Liquid waste management Biomedical waste management E-waste management Waste recycling system Hazardous chemicals and radioactive waste management

Solid Waste Management Strategies An initiative by Thapar Institute of Engineering & Technology was taken to manage solid waste in a de-centralized manner through semi-automatic hybrid rapid composting system. Several non-government and private organizations have come forward to partner, contribute and start mitigating this issue at local level as well. TIET in association with RoundGlass Foundation recently launched a solid waste management unit inside the Thapar campus. The capacity of the unit is 7 tons/day. Currently, the Institute is processing around 2 tons/per day wet waste from all hostels/canteens and households. The end-product i.e compost is being utilized for the gardening and horticulture purpose within the campus. The unique machines for last mile segregation, crushing, de-watering mixing and mulching were bought from Green Bandhu Environment Solutions and Services. Before starting this initiative, TIET was dumping almost 5-6 tons of mixed waste into the dumpsite outside the city every day. The campus with 15 resident hostels, is now managing its entire waste inside the campus itself. 1 skilled helper and 3 non-skilled helpers are employed who will be managing the entire process full time.

E-waste Management Strategies As per guidelines from Punjab Pollution Control Board (PPCB), the e-waste management unit is collecting and managing e-waste according to e-waste management rules 2016 in a very judicious manner at Thapar Campus. The outdated e-waste is being regularly collected from source point and send to e-waste storage room (size: 20ft x 10 ft) after every 3 months. After every 6 months, the collected and stored e-waste is being sold to government authorized recycling companies. The yearly e-waste generation at Thapar campus is around 2 tons per year. We are sending following e-waste items to authorized recyclers: Laptops, printers & cartridges,

television sets, refrigerators, washing machines, air conditioners, fluorescent and mercury lamps. The authorized companies who presently collect e-waste from Thapar campus are: M/s Gurbax Singh & sons Patiala and DM recyclers, Meerut.

Wastewater Management Strategies A Sewage Treatment Plant (STP) is operating at the TIET premises on the north-west corner for treating the campus sewage collected and conveyed to the site. Treated effluent from the STP is conveyed under gravity and held in a Duck/fish Pond. Water from here is pumped and used for irrigating the lawns, hedges and plantations within the TTC. Excess of the treated effluent that could not be reused in irrigation is disposed after necessary treatment through an injecting well into underground water at the duck/fish pond site. Sewage treatment in the proposed STP is ensuring meeting the PPCB (Punjab Pollution Control Board) prescribed effluent standards and satisfying the WHO (World Health Organization) water quality criteria for irrigational use. Treated effluent from the STP complies with the quality parameter values. The STP is designed for the sewage flow rate of 1000 cu.m/day and the sewage loading rate of 62.5 m³ /hour.

File Description	Documents
Upload relevant supporting document	View File

7.1.4 - Water conservation facilities available in the Institution: Rain water harvesting Bore well /Open well recharge Construction of tanks and bunds Waste water recycling Maintenance of water bodies and distribution system in the campus	A. Any 4 or all of the above
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File Description	Documents
Upload relevant supporting document	View File

7.1.5 - Green campus initiatives include

7.1.5.1 - The institutional initiatives for greening the campus are as follows:	A. Any 4 or All of the above
<ol style="list-style-type: none"> 1. Restricted entry of automobiles 2. Use of bicycles/ Battery-powered 	

<p>vehicles</p> <p>3. Pedestrian-friendly pathways</p> <p>4. Ban on use of plastic</p> <p>5. Landscaping</p>	
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File Description	Documents
Upload relevant supporting document	View File

7.1.6 - Quality audits on environment and energy are regularly undertaken by the institution

<p>7.1.6.1 - The institution’s initiatives to preserve and improve the environment and harness energy are confirmed through the following:</p> <ol style="list-style-type: none"> 1. Green audit 2. Energy audit 3. Environment audit 4. Clean and green campus recognitions/awards 5. Beyond the campus environmental promotional activities 	<p>A. Any 4 or all of the above</p>
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File Description	Documents
Upload relevant supporting document	View File

<p>7.1.7 - The Institution has a disabled-friendly and barrier-free environment Ramps/lifts for easy access to classrooms and centres. Disabled-friendly washrooms Signage including tactile path lights, display boards and signposts Assistive technology and facilities for persons with disabilities: accessible website, screen-reading software, mechanized equipment, etc. Provision for enquiry and information: Human assistance, reader, scribe, soft copies of reading materials, screen reading, etc.</p>	<p>A. Any 4 or all of the above</p>
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File Description	Documents
Upload relevant supporting document	View File

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

Students at Thapar Institute come from different regions, cultural and socio economic backgrounds. At Thapar Institute, we strongly value and respect each student's individual identity and facilitate an inclusive environment, wherein students from diverse backgrounds get together, organize and participate in different festivals and events according to different cultural and religious beliefs. We, at Thapar Institute, appreciate diversity, equanimity and equality amongst students and faculty. Amongst the many festivities and events that symbolize integrity of the Indian social fabric at Thapar Institute, the ones that stand out include Diwali, Ganesh Puja, Christmas, New Year, Holi, Lohri celebrations. In addition, the institute organizes special events on Republic and Independence Day, spreading the message of harmony and tolerance. Through its student societies, the institute also organizes a number of events showcasing the cultural and linguistic diversity and how all these converge, giving a true national colour. A number of events are organized to showcase socioeconomic issues with the intent of providing solutions to the society. The Ek Bharat Shreshtha Bharat program is an initiative of AICTE to promote cultural exchange amongst technical institutions from different parts of India. The partner institution for TIET, Patiala is Gandhi Institute of Technology and Management, Vishakhapatnam. Due to the ongoing pandemic situation, this program was planned as a series of online sessions starting on 20th June'2020, two sessions have already been conducted.

File Description	Documents
Upload relevant supporting document	View File

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

The institute organizes a number of events through student societies, chapters and clubs that promote harmony and the spirit of brotherhood amongst all the students in particular

and public in general. A number of events, drives along with skits and plays are organized to bring awareness amongst students and staff about the importance of improving the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creature. The Institute also organizes a number of events to highlight the importance of the rich culture and heritage of India that students have inherited. Celebrating Independence Day and Republic Day and to organize skits and plays with themes based on the two auspicious days not only highlight cherishing and following the noble ideals which inspired our national struggle for freedom but also value all those martyrs whose unconditional commitment to the nation that liberated us. Students are always encouraged to strive for excellence not only in academics but also other areas, thereby contributing to nation building. At Thapar Institute, a number of student societies and clubs actively engage in activities to address issues such as keeping the environment clean, conserving electricity, water, and natural resources, or protecting public property. The institute also contributes to the society through the commitment of 15 NSS units. The institute organizes various activities like Blood donation camps, Tree plantation drives in and around the campus, Swachh Bharat campaigns and activities, medical checkup camps, pollution checkup camps of vehicles, expert lectures and debates of the renowned activist for the massive awareness, social cause awareness through Nukad natak and Short plays, solid waste management, awareness about the road safety and disaster management. All these events, not only link the student community with the societal needs but also inculcate a feeling of owing this responsibility of the society. Uniteup, a Youth United initiative was a week long online event conducted from 13th July to 20 July, 2020 where social experiences from social workers from social workers were featured not only from students of thapar Institute but various NGO"s and Thapar Institute Alumni

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

All of the above

awareness programmes on Code of Conduct are organized

File Description	Documents
Upload relevant supporting document	View File

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

TIET organizes all national festivals and birth/death anniversaries of great Indian personalities on the campus. Where all the faculty, staff, students and alumni are invited to attend these celebrations.

Together with Independence and Republic day (detailed report follows), Gandhi Jayanti is also celebrated at the campus so as the martyrdom of freedom fighters such as Bhagat Singh with society events, skits and performances by students as part of society activities.

The institute also celebrates important national/international days

1. Engineers' day,
2. Teachers' day,
3. Vishvakarma day,
4. Ramanujan day,
5. Women's day,
6. Yoga day,
7. World book day,
8. Ambedkar jayanti,

Other than above mentioned days the Institute also celebrates following major Indian festivals

1. Diwali,
2. Dusshera,
3. Holi,
4. Gurpurab,
5. Saraswati puja,
6. Ganesh puja,
7. Eid,
8. Christmas

besides other festivals. These festivals give a chance for faculty from different schools & departments and students to interact for other than academic discussions. Faculty and staff members with their families are invited for these celebrations.

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, PATIALA.

No. TIETAdmn/Independence/

Dated : August 10, 2020

74th Independence Day of India - 15 August 2020 Celebrations

The 74th Independence Day function will be celebrated by Thapar Institute of Engg. & Technology, Patiala on August 15, 2020 at Main Lawn (in front of Lilly Pool) as per schedule given hereunder :

Keeping in view of prevailing guidelines and Social distancing norms, a limited gathering consisting of Deputy Director, Deans and Heads of Departments/Schools/Centres/Sections are requested to attend in person.

The remaining faculty & staff with their families and students are advised to attend the celebrations live on the following Zoom link:

<https://tiet.zoom.us/j/98957984884?pwd=NVNDdVhXc0JyWjhIY1VHcUlnZ1l0UT09> Passcode: *****

All are requested to be seated by 7:50 AM.

sd/-

REGISTRAR

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY, PATIALA

(Declared as Deemed-to-be University u/s 3 of the UGC Act, 1956)

No. TI/Admn./ Dated : January 22, 2020.

C I R C U L A R

REPUBLIC DAY CELEBRATION

The 71st Republic Day function will be celebrated by Thapar Technology Campus, Patiala on January 26, 2020 at 9:00 AM at Main Lawn (in front of Lilly Pool) as detailed below :

PROGRAMME

Assembly : 8: 55 AM

Unfurling of Flag & National Anthem : 9 : 00 AM

Patriotic Songs : 9 : 15 AM

Director's Address : 9 : 45 AM

Distribution of Sweets : 10 : 00 AM

Retreat Ceremony : 6:00 P.M.

All the faculty, staff, students and alumni are cordially invited to attend the celebrations.

All are requested to be seated by 8:45 AM positively.

REGISTRAR

File Description	Documents
Upload relevant supporting document	View File

7.2 - Best Practices

7.2.1 - Describe one best practice successfully implemented by the Institution as per NAAC format provided in the Manual

Experiential Education at Thapar Institute of Engineering & Technology

Goal

Today's engineers must be versatile enough to deal with problems of industry. As industries vary so do their problems and requirements. Engineers of tomorrow must be able to meet all the requirements posed to them. It would be ideal if the graduates of today were skilled in self-learning, problem solving and have the ability to apply theoretical concepts to industrial applications.

Ability to self-learn, built around a strong basic engineering knowledge and founded on excellent soft skills such as teamwork, soft skills, and confidence, acquired via practice, are traits essential in the engineer of the tomorrow. Self-learning propels engineers to bigger and greater challenges

bigger than the ones taught or imagined in the classroom.

There exists a need to modify engineering education to train engineers to deal with complex problems; to take advantage of ready access to information and to capitalize on the special talents of our students.

The Context

The current paradigm for teaching and learning can best be described as "Sage of the Stage" method of teaching. The teacher stands in-front of the class and delivers a lecture. Years of this instill a lot of theoretical knowledge in our graduates. The students are expected to absorb the content and when an engineering opportunity comes (sometimes years later) are expected to be able to apply the concept. Most graduates do not know how to apply this learning in industry, however, many learn to apply the concepts but after months and sometimes after years of self-learning in industry.

This age old paradigm (sage of the stage) was developed at a time when engineering systems were simpler and the teachers were practitioners who had come to the University to teach the wisdom acquired over many years of practice. With time engineering systems have become complex and varied. No one engineer can be expected to know about the entire system. Also, professional teachers with strong basics but little practical experience have replaced practitioners in the classroom. This has brought us to the current state where students have book knowledge but lack practical skills.

On top of this, the students of today are different from those of yesteryears. Today's students were born with iPhones, laptops, microwaves, intelligent cars, Internet, Internet of things etc. For them access to information is far easier than ever before. Although our students have changed, the teaching and learning methods have not.

The Practice

Experiential Education is a vehicle that offers opportunities to incorporate many of the desired traits. Universities around the world have started to recognize the need for a change in engineering education. Hands-on experience; real-world problem solving; are finding their way into engineering curricula. Although no unique solution has been identified, the general

consensus is that the new paradigm must be rich on applying engineering in a real-world setting.

Such a lofty goal can scare even the brave at heart and must be introduced through consensus building and teamwork.

Experiential Learning Center

A sustainable model of implementation has been out in place. In an academic setting a sustainable model is one that comes from within and becomes engrained in the program. The experiential education center at TIET is one where the faculty are engaged to work on real-world problem using undergraduate students from a variety of programs. Furthermore, the center actively engages industry to bring their problems to the center for students to solve or to be involved in a problem being pursued by the center. Experiential education has been introduced only after gaining the confidence and faith of students and faculty. Faculty must see an opportunity in innovation and in trying new paths that take you directly to the destination. Students must believe that their professor can teach them problem-solving skills required in the real world.

As a beginning an effort was made to introduce experiential education to instil confidence in faculty. They must believe that walking this path will further their career and build unique skills in them to educate better engineers with skills required in the real world and in industry. Second, the method must instill confidence in students that experiential education will give them the problem-solving skills essential in industry. We started with a project to solve an ambitious, futuristic and well identified societal need. The need in itself, the futuristic element and in many cases the raw ambition has attracted some faculty and some students to devote their extra-curricular time to these projects. We needed some early wins. They were easy at the initial stage as the bar had not been set and any achievement is good. Success has attracted other students and other faculty. The goal is to continue building on the past projects.

This combination of students and faculty in a combined team can be very effective in teaching problem solving and building confidence. If this initiative is coupled with the education process its impact can be multiplied by many times. Bringing real-world problems into the classroom and allowing the

students to apply classroom learning on these problems with uncertainty, ambiguity and lack of data will accomplish this. The problem solving has instilled ability to define need, establish specifications, build designs, select designs, validate designs, optimize designs etc.

Evidence of Success

A multi-pronged approach has been used for implementing experiential education. Students in First year engineering have a desire to design and build like an engineer. However, in our programs we focus on just teaching them basics. It is no surprise that the students soon lose interest in becoming engineers and focus on graduating with the least amount of effort. This moves the students far away from innovation and entrepreneurship and puts them in the mode of ticking milestone boxes enroute to graduation. Students can be given a dose of engineering without compromising engineering basics.

As students move to upper years they learn more discipline specific knowledge. Most learning is lecture based with some sprinkling of labs. The experience leaves the students with a theoretical knowledge with little ability and confidence in applying the learning.

Student Run Research Projects

Students can be engaged in engineering solutions for real-world problems while learning and applying concepts from courses. The ability to deal with real-world ambiguity, influence from a variety of sources and decision making in face of uncertainty are real world skills essential in any engineer. With real world context learning is easier and authentic.

It is proposed to pursue engineering projects with clear needs and relevance to India. Sample of such projects are:

1. Water Purification
2. Autonomous people mover
3. Solar power

The projects will be designed, built and operated by student teams.

I am willing to help launch the center and can join TU for four months per year for the next six years. The time spent at TU can be changed as per mutual convenience. Clearly, the Experiential Education Center will require funds to launch and sustain. An expense of Rupees 5 crores over five years is anticipated.

The quality and content of the Capstone Project can be improved, by introducing decision-making and project work in earlier courses.

Problems encountered and resources required

Design and build experience is essential to making of an engineer. Our courses are so siloed that meaningful engineering experience is hard to provide through course projects and labs. An alternate method, such as a design and build week, is required. We have now built in Design and build week provides benefits in learning, context, soft skills, self-learning etc. that are only limited by imagination. Decision-making is an important engineering skill. Open-ended projects give students an opportunity to make decisions and to live by their choices. Instilling importance of decision-making early in a career can launch students along a successful career path.

7.3 - Institutional Distinctiveness

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

Thapar Institute offers world-class infrastructure and a sound knowledge base to carry out complex research projects. Research is a stated mission, and many are funded by government agencies and industry. Our research projects are not just for technological innovation but also for amplification of research results, transfer of technology, and establishing technology-driven businesses. Thapar Institute has several centers of excellence for students and researchers. Many respected and renowned Indian and international companies are associated with this learning center for research and faculty exchange programs.

Cutting-edge research is at the heart of the university, which believes that original research must be the backbone of engineering education. Thaparians had 1116 published research papers in SCI Journals in 2020-21 and many sponsored research

projects are currently ongoing in different disciplines. With research focused on niche areas of engineering and sciences, Thapar Institute of Engineering & Technology has over 9600 published research papers in peer-reviewed journals under its belt.

Total No. of SCI papers

(2016-2021) No. of Faculty members with at least 10 SCI papers
(2016-2021) 4440 280

Research Indicators

Figure 1: Research Performance of TIET

The University faculty has published 1116 Scopus publications in the last academic year out of which 903 were published in SCI journals of repute. The average citation for publications from institutions has risen to 13.93 from last year's 12.03. The h-index of the institute has also been increased to 102. Overall, on average, each faculty member have published at least 2 papers in Scopus/SCI journal meeting the expectation set in the last meeting.

Figure 2: Publications by TIET Faculty

Figure 3: SCI Publications in last 5 years

Figure 4: Citation and H index of TIET

University faculty members secured a total grant of ₹475.88 Lakhs from various funding agencies for cutting-edge research in their domains. A total of 638 students have been funded by the institute/MHRD/other govt. funding agencies at various levels for contributing to ongoing research projects and their Ph.D. programs in various departments/schools. Overall, the Institute has kept a benchmark for a research grants of Rs. 2 lacs per eligible faculty per year. Based on 2020-21 years data an average grant of Rs. 1.31 lac per faculty member has been received, which is meeting 65% of the benchmark value.

Table 1: Funding sanctioned/received in 2020-21

Funding agency

Grant Sanctioned (INR LAKHS)

Grant Received

(INR Lakhs)

AICTE

9.57

9.42

DST WOS-A

17.03

10.04

SERB

125.71

74.03

DST-FIST

92

40

DBT

60.39

38.28

DAE-NBHM

16.15

5.48

DASSAULT SYSTEMES FOUNDATION

15.75

15.75

RCED

10.08

3.18

INDSTL

5.56

5.59

DRDO

8.59

2.59

ICMR

42.44

42.44

BEO

5

5

DST-NSM

12.3

12.3

DST-DDP

55.31

36.99

INTEL

44

44

Total

475.88

301.09

Figure 5: Sanctioned projects from funding agencies in 2020-21

Figure 6: JRFs and other Fellows in 2020-21

A total of 92 students were awarded PhD degree in academic year 2020-21, whereas 790 ongoing PhD students doing their research in various departments/schools. The Institution has seen a remarkable increase in number of patents published during the last academic year 2020-21. A total of 64 patents were published, although many of these have been published without TIET affiliation. IQAC has advised all head of departments/schools to ensure that TIET is one of the applicant in every patent application.

Figure 7: Department/School wise Patents published during 2020-21

An amount of ₹224 Lakhs has been generated through consultancy by various faculty members and academic units. The committee appreciated the efforts made by the institute faculty members for the consultancy work and has applauded the Civil Engineering department for securing consulting services for third party design, geotechnical, safeguards, road safety and work zone safety review for Himachal Pradesh Road upgradation project sponsored by World Bank. The consulting amount for this project is Rs. 6.75 crores.

Figure 8: Consultancy during 2020-21**Going Forward**

TIET has experienced remarkable growth in research activity during the last 5 years, and growth is often the by-product of doing things better. Some initiatives cited above and many, many more help explain TIET's journey till date. Going forward the institution aims to make targeted investments to develop new interdisciplinary and inter-institutional collaborations to establish six centres of excellence (COE) across identified research themes. TIET is also undertaking multiple other initiatives to build research excellence focused at solving real world problems and providing students with experiential learning for better application and analytical skills.

7.3.2 - Plan of action for the next academic year

The IQAC approved the following targets in the three categories of Research, Academics, and Governance for the academic year 2021-22.

Research Indicators

S No

Indicators

Method of Computation

Benchmark value

a)

No of SCI research publications per teacher per year

Number of Research Publications / No of teachers

3

b)

Research grant received per eligible teacher per year

Total research grant received in 2020-21 / No of eligible

teachers

2.0 lac per eligible teacher per year

c)

Research students per teacher per year

Total no. of research students / Total faculty

2.5 per year per teacher

e)

Percentage of Departments getting departmental support from various agencies like UGC, SAP, DST, COSIST etc.

Total no of depts. who got support / Total no of departments

20%

g)

Citation Index

Average citation per item on web of science

20

h)

Number of Patents published or awarded

Number of patents

60

i)

Percentage of full time research scholars

Total no of full time research scholars / Total no of research students

80%

j)

Percentage of research students getting research fellowship

No. of research students getting fellowship/ Total no. of full-time research scholars

80%

k)

University H Index

Web of Science

110

Academic Indicators

S No

Indicators

Method of Computation

Benchmark value

a)

Demand Indicator

Total no of admissions in all courses during the year / total no of candidates who applied

1:10

b)

Percentage of teachers having Ph.D.

No. of teachers with PhD/ Total no. of regular teachers

100%

c)

Average no of activities like Workshops, Seminars, Symposia, Conference conducted / year

Number of Workshops/ seminars/ conferences conducted during the year

60 / year

d)

Average Salary Package offered to UG students

Average Salary Package offered

Rs. 12 Lacs CTC

e)

UG Placements

PG Placements

No. of students placed/Total eligible student

90%

60%

f)

New programs introduced in last year

New programs (UG & PG) launched / total no of programs

5%

g)

Assessment of Course learning Outcomes

No. of courses in which CLO is assessed / Total number of courses

100%

i)

Assessment of teachers by students

No of courses in which assessment has been introduced / Total no of courses

100%

k)

Number of NET/SET/GATE qualified students

Total No of NET/SET/GATE qualified candidates / total applications for PG

50%

l)

Faculty STR

Number of students/Number of Teachers

1:15

Governance Indicators

S No

Indicators

Method of Computation

Benchmark value

a)

Actual teaching days per year

No of actual teaching days

180

b)

Minimum workload of teachers

No of hrs the teacher on an average spends in the University in one week / No of hrs expected under UGC Regulation

40 hrs

c)

Teaching - Non teaching ratio

Total No of teachers/ total no of non-teaching employees

1:1.25

d)

Regular meeting of Institute bodies like council, senate, BOG, BOS, etc

No. of meetings actually held/ No. of meeting required as per act

100%

e)

Percentage increase in physical infrastructure

Increase in physical space during the last year/ space at the beginning of the year 2020

10%

f)

NIRF Ranking

Ranking in 2021

Top 20

g)

NBA or ABET accreditation

Number of accredited programs/ Total Number of Programs

70%

h)

Final result declaration

No. of days after the last exam to declare the results

15 days