SELF STUDY REPORT

FOR

3rd CYCLE OF ACCREDITATION

THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY

THAPAR TECHNOLOGY CAMPUS POST BOX 32 PATIALA PUNJAB , INDIA 147004
www.thapar.edu

Submitted To

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BANGALORE

(Draft)

1. EXECUTIVE SUMMARY

1.1 INTRODUCTION

Soon after our nation became independent, Mr. K.C. Thapar, a visionary, with a sense of responsibility and nationalistic spirit conceived the idea of an engineering college. In 1956, it became a reality when he founded Thapar Institute. The foundation stone was laid by the then Indian President, Dr. Rajendra Prasad. Since that day, Thapar Institute of Engineering & Technology (TIET) has shaped the country's youth and helped them to be future leaders. Keeping pace with emerging global standards, globalization and advances in technology, Thapar Institute offers education ecosystems with quality learning ranked and also recognized worldwide. Thapar Institute is a rich heterogeneous mix of more than 8300 students both from India and other countries. Our students have dreams in their eyes and an indomitable spirit to succeed. Spread across a sprawling expanse of over 250 acres, the infrastructure of TIET, together with lush greenery strikes a balance between form and function. It embodies our modern direction and perspective for holistic growth outside the classroom. Significant investment in new infrastructure has been made while the older infrastructure will be renewed.

Ranked among the world's best universities. Not just best in India, but globally too. Thapar Institute is top ranked institution in Punjab.

- 20th in 'Engineering' category, 33rd in 'University' category and 50th overall category in NIRF 2018.
- Ranked 801-1000 worldwide (QS World University Rankings 2018)
- and Times HE World Rankings 2018)
- 251-300 in Asia and 29th among 42 universities in India (Times Higher Education Asia 2018)

Vision

The Vision of TIET is

"To be recognized as a leader committed to Excellence in Higher Education, Research and Innovation that meets the aspirations of the global community. "

Quality Policy

Thapar University is committed for creation, archiving and dissemination of knowledge in Science, Engineering and Technology for the service to the humanity. We undertake to carry out high quality research in the frontiers of technology as well as develop professionally groomed manpower with sound knowledge and skill, respect for profession, social and national values and ethics. This commitment is translated into practice through**:**

- Ensuring topical and relevant curriculum;
- Adept delivery mechanism;
- Professional and intellectual fulfillment of faculty and staff;
- Carrying our quality research in the frontiers of technology
- Involving all stake holders in growth and development of the University;

- Continuous augmentation and renewal of infrastructure and facilities;
- Creating congenial and conducive work environment.

Mission

Mission

- To redefine and revolutionize Indian engineering education by unlock the beauty of engineering and applied sciences for the current and future generation.
- To instill excitement of engineering in young minds.
- To make Patiala, Punjab and India proud of being the most sustainable region of the world through creating, disseminating and applying actionable engineering knowledge.

1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

Institutional Strength

The principal strength of TIET lies in the forward-looking vision, dedication, and outstanding quality of its leadership and faculty, and strong alumni network which is determined to cater to the ever changing needs of the youth nationally and globally.

Recognition and Accreditations:

Apart from being 20th amongst top engineering universities in NIRF Ranking in 2018, TIET has broken into the renowned international QS & Times HE Rankings. Ranked as an 'A" grade University by NAAC. Most B.E. programs are accredited by NBA. TIET is on the path to get all programs ABET accredited.

Pioneer in Outcome-Based Learning:

Pioneers in this area and have implemented Outcome-Based, project-led Learning.

Research environment:

Increasing trend in the number of publications and citations and multiple sponsored projects. The institute has taken specific steps to recruit quality PhD candidates. TIET has citation/article of 6.85 and 6.2 in Web of Science and Scopus respectively.

Faculty Development:

Established Centre for Academic Practice to expose the entire faculty to in-house learning modules.

State-of-the art infrastructure:

Working towards building and upgrading its infrastructure to match the best in the world.

Active Collaborations:

Academic links with 18 prestigious universities spanning more than 10 different countries in the world.

Reputation/prestige:

The alumni of TIET are well placed for their quality and performance across the globe.

Program relevance for the industry:

Evident in the placement figures. In previous academic year approximately 300 companies visited and over all placement was 87%.

Academic Excellence:

Transparent admission/evaluation process. Admissions to Engineering Programs is through JEE.

Institutional Weakness

TIET recognizes the existence of weaknesses and potential challenges, arising from a rapidly changing and globalizing environment for higher education, which will need to be addressed in order to support the realization of the vision of excellence embodied in the strategic plan.

Program innovation:

Majority of the academic programs delivered by the institute are not uniformly strong or equally relevant to the preparation of graduates for a distinguished career in some of the emerging and exciting fields/sectors.

Funding sources:

TIET has been relying primarily on fee revenue, which makes it over reliant on teaching orientation only.

Multiple layers of networks and connects with global academic community:

TIET's faculty is engaged in research with collaborators and top researchers from across the world but TIET has not been able to leverage its faculty connects.

Limited industry interaction:

Limited outreach towards industry connect for activities other than placements.

Alumni Interaction:

Although TIET boasts of over 26000 alumni over 61 batches in the last 65 years, the connect with some of the older batches is limited.

Limited experience in commercialisation of research :

While TIET has a good research output, TIET has made limited progress in filing patents and

commercialization of research.

Limited inter disciplinary research andinter department integration:

There exist limited interaction and collaboration for research between academic/administrative or between departments.

Faculty student ratio:

The current faculty to student ratio at TIET is 17.68, which can be improved.

Institutional Opportunity

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One of the major outcomes of globalization is the emergence of a global free market in higher education, resulting in the blurring of cultural, intellectual, spatial, temporal boundaries. This provides further incentives and opportunities for TIET to develop closer cross-border, cross-national and cross-institutional collaborations to expand its academic programs, research, and technology transfer, to prepare its graduates into well-informed citizens and leading professionals, ready to engage with the global community.

Alumni involvement and support:

TIET's visibility and reputation and the interest and involvement of its alumni have increased drastically in the last few decades. Yet, there is far more potential. Alumni is still a partly untapped opportunity for the institution as there is a possibility of initiating multiple engagement to gauge alumni support.

Power of technology:

TIET has a special opportunity to build on its strengths in technology and technology related fields to influence many aspects of university life. A first-rate technology infrastructure combined with an array of applications that integrate education, research, and administrative operations have the potential of moving

Partnerships & Collaborations:

There exists vast opportunity that is yet to be explored from partnerships and collaboration with organizations or academic institutions. Collaborations will benefit all stakeholders at the institute - faculty, staff, and students. TIET could partner and collaborate with many more institutions to deliver better overall service quality and increased global exposure.Expanded global focus on partnerships will allow TIET to gain fresh perspective and learn from the best of the best in every area.

Institutional Challenge

Academic administration skills:

There is a lack of trained education specialists with non-academic skills who can drive the agenda of an educational institution and manage the administration of the institute adequately with a sense of sensitivity. This threat is even more prominent for institutions like TIET, which are located in non-metropolitan areas.

Talent is now transnational:

With a limited pool of qualified, quality faculty, there is an increased global competition for quality faculty, which is set to rise as all institutes are looking to enhance their institutions and by recruiting new faculty and retaining existing faculty with innovative techniques and propositions.

Cost of education:

To keep pace with the growing needs for students and rising cost of education there is a need for the institute to explore and offer cost-effective learning and better employability solutions to students.

Future of jobs:

There is great uncertainty in industry requirements even in the near future. The current system HE system is not responsive and agile enough to cater to the changing skill requirements. Therefore, in the ever-changing job market and industry, it is imperative that the higher education system adapts itself to the new paradigm of imparting life skills and imbibing analytical thinking process among the learners to prepare them for any jobs that they may take up in their working lives.

Dynamic Technology

Changing technology is a threat that will be ever present. Failure to support and adapt to emerging technologies will adversely after the institutions performance efficiency.

1.3 CRITERIA WISE SUMMARY

Curricular Aspects

Undergraduate programs

Undergraduate 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 foundation to professional courses. Series of courses in technical-arts are designed to develop engineering skills. The professional courses are meant to develop creative abilities for the application of basic and engineering sciences to engineering problems. Courses in humanities and social sciences are incorporated to develop appreciation of the impact of science and technology on society. There is an in-built flexibility to encourage students to specialise in streams of their choice through a system of CBCS involving professional and free electives.

Post-graduate & PhD programmes

The Masters programmes have course work classified into Core and Elective Courses. The core courses are aimed at imparting knowledge of relevant basics analytical-tools & techniques necessary to build-up on

them. Elective courses are of professional nature with wide choice of electives. Presentation of a Seminar and a project in addition to the course work and further carrying out a thesis/dissertation are necessary components.

High caliber students with demonstrated capability can register themselves for Ph.D. There is a laid down course work requirement for Ph.D Programme. The provisions in the rules of publishing at least 2 SCI papers aim at ensuring high quality of research. Ph.D thesis is evaluated by a panel of examiners drawn from the peer group on the topic, both from India and abroad.

Teaching-learning and Evaluation

The teaching-learning and evaluation process is carried out as per the predefined academic calendar and examination through continuous assessment and a letter grade system. The academic calendar is prepared well in advance and ensures 90 days class room teaching, mid-semester Test and End-Semester Examination for each semester. Curriculum and Scheme of Courses document is uploaded for each program on the website. The curriculum and instructional strategies are reviewed and approved by the senate and its other bodies periodically before release at various levels and stages. Reviews are conducted at defined stages of the curriculum design. The new curriculum is introduced only after adequate verification. New/revised curriculum and instructional design is made applicable to the prospective students. The curriculum is validated in the initial stages of its introduction by taking a feedback from students and faculty members regarding the effectiveness and applicability of the curriculum, with regard to the documented needs.

We have undertaken major examination reforms. In the new procedure, the question papers are now being reviewed by an external examiner. The examination results are discussed by an Examination Board which is convened to review sample answer scripts, projects and the marks obtained by the students.

TIET has set up a Centre for Academic Practice and Student Learning (CAPSL) to expose the 'entire faculty to in-house learning modules including e-learning to hone pedagogical skills under academic mentorship of Trinity College Dublin. The existing curriculum has been adapted to reflect the specific academic needs of Thapar faculty.

Research, Innovations and Extension

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 centres of excellence for students and researchers. Many respected and renowned Indian/international companies are associated with this learning centre for research and faculty exchange programs.

- Ranked 15th in India on Research Output by NIRF-MHRD 2018
- Ranked among top research citation by Leiden University Rankings 2018
- Ranked 10th in Mathematics & Computer Sciences in India
- Ranked 22nd in Physical Sciences & Engineering in India
- Ranked 24th in All Sciences in India

Cutting-edge research is at the heart of the university, which believes that original research has to be the

backbone of engineering education. Thaparians had over 900 published research papers in Scopus in 2017-18 and 118 sponsored research projects are currently ongoing in different disciplines. With research focused in niche areas of engineering and sciences, Thapar Institute of Engineering & Technology has over 5300 published research papers in peer-reviewed journals (Scopus) under its belt. Majorly these publications have come during the last five years.

TIET has over 650 PhD research scholars with majority of them are stipendiary students. It is mandatory to publish at least 2 SCI papers before PhD thesis can be submitted. This has ensured quality of research dissertations.

Infrastructure and Learning Resources

Spread across a sprawling expanse of over 250 acres, the infrastructure of TIET, together with lush greenery strikes a balance between form and function. Significant investment in new infrastructure has been made while the older infrastructure is being renewed. Towering above the skyline, three new major buildings- the Library, Computer Science Building and Lecture Block form a composite sculptural group. This grouping is the first image one sees in the campus. The buildings with their inter-connect promote interdisciplinary research and study by merging and blending each facility into the next to create a flow of space and exchange of information and ideas. The sprawling campus is home to over 130 teaching and research laboratories in engineering and sciences.

All class rooms and most laboratories are equipped with multi-media audio-visual facilities. 16 new world-class smart class rooms have started to function from 2018 in the new Learning Centre. The University has earmarked funding of 70cr for modernization of lab equipment from 2015-2020.

The faculty, staff and students have unlimited access to information available on the web and has subscribed to thousands of e- journals and books for use. The faculty, staff and students can download information at high speed 24 hours from anywhere in the vast campus through a very secure network.

The New Men's residence comprises of 4 towers with accommodation for more than 1100 students. The New Women's residence is provided in separate building harnessing the existing three blocks of women's accommodation. The overall capacity is approximately 6000.

Student Support and Progression

Each department has an Academic Counselor for advising the students. He/she is also a one point contact for issues related to academic performance or any other issues faced by the students. The students are encouraged to meet him to seek guidance on any matter related to academic performance.

The newly admitted students are apprised of the activities of the counseling cell during the orientation program. The students are encouraged to seek guidance on academic, general or psychological issues, if necessary. Also, semester wise results are forwarded to the Student Counselor of the department and students are then invited to meet the counselor twice in a semester.

The students are encouraged to participate in different technical and other co-curricular events held on campus or anywhere in the country. The Institute provides career guidance, training and placement services to the

students. The centre arranges recruitment services to potential employers who are invited to the campus to hire students. Over 300 organizations visit TIET every year for campus interviews & this centre helps in coordination of all activities related to placements. This centre is also assisting various departments & schools for finding the slots for internships.

Over 13cr are earmarked for scholarships to students every yearwhich are disbursed to meritorious and needy students. Support services are also available for differently-abled students, SC/ST and economically weaker sections.

The institute has top class sports facilities for its students on campus. The Institute has over 30 societies and clubs catering to different needs of students.

Governance, Leadership and Management

The Institute has a hierarchy of leadership to ensure organization's management system development, implementation and continuous improvement. The Institute has established various academic and administrative bodies which are decision making bodies for all the Institute activities. The leadership is provided by the Director who is an eminent academician to guide the Institute ably assisted by Deputy Director, Deans, Registrar and Heads of academic Units. The officials of the University interact with stakeholders through interaction with Students, Alumni, Parents, Industry, Employees, Media periodically and takes their feedback. The scope includes the following for all the programmes/services offered by the Institute.

All positions in the various statutory bodies including IQAC are filled and meetings are held as per regulations. Institute promotes the culture of participative Management for all activities like Administration, Admission, Student activities, Curriculum Development, Research, Sports etc. The Institute has given equal representation in various committees at all cadres from various Schools. IQAC meets twice every year to review the performance of the established quality system. AQAR reports are submitted every year.

The Institute has budgetary control system to monitor effective and efficient use of financial resources. The Finance Committee is 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. All voucher are internally audited before it is produced to Statutory Auditor. In addition, the university also has pre-audit system in all payments exceeding1,00,000/-.

Institutional Values and Best Practices

Institutional Values

The core values adopted by TIET as fundamental principles are (i) Integrity (ii) Accountability (iii) Transparency (iv) Excellence in education and research (v) Diversity (vi) Social responsibility

*Integrity***:** We follow the highest standards of professional behavior and ethics to be transparent, honest and ethical in all our interactions with all stakeholders.

*Accountability***:** We value to honor all our commitments to diverse groups of stakeholders.

Transparency: We promote transparency in T&L by providing a culture of active involvement of all in decision making, owning responsibility of communicating and sharing the decision taken to build up trust and confidence.

Excellence in education and research: We focus on acquiring best human resource, embedding new technologies and innovation of new learning platforms.

Diversity: The emphasis is to provide a work-culture with a spirit of cooperation and value human dignity.

Social responsibility: We intend to be instrumental in social change by facilitating the right kind of education, tuned to the economic and social needs of the society.

Best Practices

The Institute has many best pratices that include Foundation Program for all faculty in pedagogical inputs to T&L, a semester long internship for all undergraduate and postgraduate students.

The processes used to evaluate and provide feedback about performance of the faculty can help the Institute thrive by providing appropriate rewards and encouragement for good performers, and guidance about how to improve their performance to others. A new performance incentive scheme was designed to reward performers and encourage all others to improve their performance.

2. PROFILE

2.1 BASIC INFORMATION

Name and Address of the University	
Name	THAPAR INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY
Address	THAPAR TECHNOLOGY CAMPUS POST BOX 32 PATIALA PUNJAB , INDIA
City	Patiala
State	Punjab
Pin	147004
Website	www.thapar.edu

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Dean	Ajay Batish	0175-2393526	9815604119	0175-2393521	abatish@thapar.edu
Director	PRAKASH GOPALAN	0175-2393022	8288008118	0175-2364498	registrar@thapar.edu

Nature of University	
Nature of University	Deemed University

Type of University	
Type of University	Unitary

Establishment Details	
Establishment Date of the University	08-04-1956
Status Prior to Establishment,If applicable	

Recognition Details

Date of Recognition as a University by UGC or Any Other National Agency :		
Under Section	**Date**	**View Document**
2f of UGC	30-12-1985	View Document
12B of UGC		

University with Potential for Excellence	
Is the University Recognised as a University with Potential for Excellence (UPE) by the UGC?	No

Location, Area and Activity of Campus							
Campus Type	**Address**	**Location***	**Campus Area in Acres**	**Built up Area in sq.mts.**	**Programmes Offered**	**Date of Establishment**	**Date of Recognition by UGC/MHRD**
Main campus	THAPAR TECHNOLOGY CAMPUS POST BOX 32 PATIALA PUNJAB , INDIA	Urban	250	389237.8	UG AND PG		
Off Campus	*L M Thapar School Of Management , Village Behra, Sas Nagar , Tehsil Derabassi , Punjab, India*	*Rural*	*26*	*24163.57*	*UG and PG*	*23-07-2007*	*30-04-2018*

2.2 ACADEMIC INFORMATION

Furnish the Details of Colleges of University

Type Of Colleges	Numbers
Constituent Colleges	0
Affiliated Colleges	0
Colleges Under 2(f)	0
Colleges Under 2(f) and 12B	0
NAAC Accredited Colleges	0
Colleges with Potential for Excellence(UGC)	0
Autonomous Colleges	0
Colleges with Postgraduate Departments	0
Colleges with Research Departments	0
University Recognized Research Institutes/Centers	0

Is the University Offering any Programmes Recognised by any Statutory Regulatory Authority (SRA)	: Yes

SRA program	Document
AICTE	14529_1838_1_1531810389.pdf

Details Of Teaching & Non-Teaching Staff Of University

	Teaching Faculty											
	Professor				**Associate Professor**				**Assistant Professor**			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned				51				102				307
Recruited	35	6	0	41	63	14	0	77	203	100	0	303
Yet to Recruit				10				25				4
On Contract	1	1	0	2	0	0	0	0	77	49	0	126

Non-Teaching Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned				490
Recruited	444	46	0	490
Yet to Recruit				0
On Contract	236	0	0	236

Technical Staff				
	Male	**Female**	**Others**	**Total**
Sanctioned				103
Recruited	95	8	0	103
Yet to Recruit				0
On Contract	52	8	0	60

Qualification Details of the Teaching Staff

Permanent Teachers										
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**			
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	35	6	0	59	13	0	137	55	0	305
M.Phil.	0	0	0	0	0	0	0	1	0	1
PG	0	0	0	4	1	0	51	27	0	83

Temporary Teachers									
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**		
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	1	0	0	0	0	2	5	0	8
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	1	0	0	0	0	0	12	13	0	26

Part Time Teachers									
Highest Qualification	**Professor**			**Associate Professor**			**Assistant Professor**		
	Male	Female	Others	Male	Female	Others	Male	Female	Others	Total
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

Distinguished Academicians Appointed As

	Male	**Female**	**Others**	**Total**
Emeritus Professor	0	0	0	0
Adjunct Professor	0	0	0	0
Visiting Professor	1	1	0	2

Chairs Instituted by the University

Sl.No	Name of the Department	Name of the Chair	Name of the Sponsor Organisation/Agency
1	Electronics Communication Engineering	LM Thapar Chair of Engineering	Thapar Institute of Engineering Technology Patiala
2	Computer Science and Engineering	BM Thapar Chair for Animation and Gaming	Thapar Institute of Engineering and Technology Patiala

Provide the Following Details of Students Enrolled in the University During the Current Academic Year

Programme		From the State Where University is Located	From Other States of India	NRI Students	Foreign Students	Total
PG Diploma recognised by statutory authority including university	Male	0	0	0	0	0
	Female	0	0	0	0	0
	Others	0	0	0	0	0
Doctoral (Ph.D)	Male	164	144	2	4	314
	Female	227	125	0	0	352
	Others	0	0	0	0	0
UG	Male	2268	2602	16	12	4898
	Female	679	479	10	7	1175
	Others	0	0	0	0	0
PG	Male	235	335	0	6	576
	Female	407	340	0	1	748
	Others	0	0	0	0	0

Does the University offer any Integrated Programmes?	Yes
Total Number of Integrated Programme	0

Integrated Programme	From the State where university is located	From other States of India	NRI students	Foreign Students	Total
Male	35	123	0	0	158
Female	11	32	0	0	43
Others	0	0	0	0	0

Details of UGC Human Resource Development Centre, If applicable

Year of Establishment	01-01-1970
Number of UGC Orientation Programmes	0
Number of UGC Refresher Course	0
Number of University's own Programmes	20
Total Number of Programmes Conducted (last five years)	20

Accreditation Details

Cycle Info	Accreditation	Grade	CGPA	Upload Peer Team Report	
Cycle 1	Reassement		B++	NAAC 2002.pdf	
Cycle 2	Reassement		A	NAAC 2009.pdf	
Cycle 3	Reassement		A	peer team report 2016.pdf	
	Accredation				

2.3 EVALUATIVE REPORT OF THE DEPARTMENTS

Department Name	Upload Report
Biotechnology	[View Document](#)
Chemical	[View Document](#)
Civil	[View Document](#)
Computer Science	[View Document](#)
Electrical And Instrumentation	[View Document](#)
Electronics And Communication	[View Document](#)
Mechanical	[View Document](#)
School Of Chemistry And Biochemistry	[View Document](#)
School Of Energy And Environment	[View Document](#)
School Of Humanities And Social Studies	[View Document](#)
School Of Mathematics	[View Document](#)
School Of Physics And Material Science	[View Document](#)

3. Extended Profile

3.1 Program

Number of programs offered year-wise for last five years

2017-18	2016-17	2015-16	2014-15	2013-14
46	47	49	41	37

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of departments offering academic programes

Response : 13

File Description	Document
Institutional Data in Prescribed Format	[View Document]

3.2 Students

Number of students year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
8264	7615	6805	6136	5668

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of outgoing / final year students year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1730	1723	1598	1666	1495

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of students appeared in the examination conducted by the Institution, year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
7696	7007	6269	5685	5327

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of revaluation applications year-wise during the last 5 years

2017-18	2016-17	2015-16	2014-15	2013-14
25	10	11	5	3

3.3 Teachers

Number of courses in all programs year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1093	1111	1120	995	984

File Description	Document
Institutional Data in Prescribed Format	[View Document]

Number of full time teachers year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
423	398	335	316	271

File Description	Document
Institutional Data in Prescribed Format	[View Document]

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

2017-18	2016-17	2015-16	2014-15	2013-14
460	405	350	330	288

File Description	Document
Institutional Data in Prescribed Format	[View Document]

3.4 Institution

Number of eligible applications received for admissions to all the programs year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
11530	14264	12549	13820	18869

File Description	Document
Institutional Data in Prescribed Format	View Document

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

2017-18	2016-17	2015-16	2014-15	2013-14
945	894	818	773	683

File Description	Document
Institutional Data in Prescribed Format	View Document

Total number of classrooms and seminar halls

Response : 116

Total number of computers in the campus for academic purpose

Response : 2023

Total Expenditure excluding salary year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
31302.35	21613.13	9303.20	9773.34	12951.84

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4. Quality Indicator Framework(QIF)

Criterion 1 - Curricular Aspects

1.1 Curriculum Design and Development

1.1.1 Curricula developed /adopted have relevance to the local/ national / regional/global developmental needs with learning objectives including program outcomes, program specific outcomes and course outcomes of all the program offered by the University

Response:

The statutory bodies of the Institute, BOS, Senate oversee the design and development process so that the activity is carried out in a planned manner. The detailed planning for this activity is the responsibility of the Department Head. The design and development process generally begins with a need analysis report which comprises of customer needs, overall goals of Instructions, Regulatory guidelines and general characteristics of target population.

Organizational and Technical interfaces between different faculty and external expert groups providing input to the instructional design are defined, committees are constituted and their reports are documented. Faculty members from different disciplines connected with the design & development activity are associated with the process. The updation/restructuring is carried out as the design process progresses. Input requirements are clearly understood and reconciled. The design input typically come from:

- Feedback from program stake holders
- Success/failure reports of similar courses & programs.
- Published literature relevant to programs.

Reviews are conducted at defined stages of the curriculum design, in which faculty members from the concerned area as well as experts from amongst the peer group from within and/or outside the Institute are associated. The program go through typically the following approvals:

- Design and review by Board of Studies (BOS)
- Review by Senate Postgraduate Committee (SPGC)
- Approval by Senate
- Ratification by Board of Governors (BOG)

The output of instructional design & development is documented in the form of a report named "Curriculum and Scheme of Courses". The design output report includes:

- Program Educational Objectives
- Scheme of courses and the detailed syllabi
- Instructional strategies.
- Assessment and evaluation.
- Course Learning Outcomes

The institute has taken several measures in framing the curriculum for the attainment of the program outcomes. Various workshops and seminars were conducted on the aspects of curriculum design to enrich the faculty with the best practices.

- An awareness of PEOs / POs and the relevance to program criteria by NBA/ABET was conducted.
- DPPC committees were formed for discussion on different courses and their syllabi.
- Finally BOS is conducted in which the scheme and syllabi are finalized.
- The framed scheme is sent to SGPC and then to senate for final discussion and approval.

Following is the process in identifying the requirements for design and improvements in the curriculum.

- The process is initiated by Department Policy and Planning Committee (DPPC) for the design or improvement of the curriculum.
- To redefine, the feedback data on existing curriculum is gathered through direct and indirect assessment methods.
- To improve the courses, the collected data is analyzed to identify the need for redefining.
- Based on identified changes in terms of courses, data on future, current industry need, program outcomes, program educational objectives, the administrative system like BOS, Senate Post Graduate Committee and Program Assessment Committee involve appropriate actions to revise the curriculum

The process of curriculum development to capture relevance to local, regional, national and global needs with Program Educational Objectives, Program Outcomes and course Learning Outcomes is depicted in the link provided.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

1.1.2 Percentage of programs where syllabus revision was carried out during the last five years

Response: 80.43

1.1.2.1 How many programs were revised out of total number of programs offered during the last five years

Response: 37

1.1.2.2 Number of all programs offered by the institution during the last five years

Response: 46

File Description	Document
Minutes of relevant Academic Council/BOS meeting	
Details of program syllabus revision in last 5 years	
Any additional information	

1.1.3 Average percentage of courses having focus on Employability/ Entrepreneurship/ Skill development during the last five years

Response: 38.23

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

2017-18	2016-17	2015-16	2014-15	2013-14
529	509	483	299	234

File Description	Document
Program/ Curriculum/ Syllabus of the courses	
MoU's with relevant organizations for these courses, if any	
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	
Average percentage of courses having focus on employability/ entrepreneurship	

1.2 Academic Flexibility

1.2.1 Percentage of new Courses introduced out of the total number of courses across all Programs offered during last five years

Response: 17.95

1.2.1.1 How many new courses are introduced within the last five years

Response: 311

1.2.1.2 Number of courses offered by the institution across all programs during the last five years

Response: 1733

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented

Response: 84.78

1.2.2.1 Number of programs in which CBCS/ Elective course system implemented.

Response: 39

File Description	Document
Minutes of relevant Academic Council/BOS meetings	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

1.3 Curriculum Enrichment

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

Response:

The Institute has incorporated courses such as Energy and Environment (UEN002) and Humanities for Engineers (UHU005) that incorporate aspects Environment and Sustainability; Human values; Ethics; and Psychological perspectives related to emotional intelligence, self and personality. These courses are taught to the students across all the streams of Engineering at Undergraduate levels (BE/BTech) scattered over two years of their academic career here at the Institute. In addition, the Psychological counselling sessions to students in need, by professional in-house counselor, focuses on learning and behavioural modification focused on building emotional maturity amongst the students.

With reference to the Environment and Sustainability, the exposure to the core course on Energy and Environment (UEN002) facilitates students to understand the terms definitions and scope of the environmental issues at local, regional and global level with emphasis on needs for conservation of energy and environment. The course incorporates topics such as climate change, carbon footprints, water footprints, management of greenhouse gases at sources and sinks, concept of sustainability with reference to energy source and generation, future energy sources; and sustainable use of natural resources,. The students are also given self-study assignments in these areas enabling them to read, collate and prepare

write-ups on current trends in understanding and application of sustainable approaches, across the globe. At the end of the course, the student is expected to be able to correlate major local, regional and global environmental issues with changes in global ecology and human health; be able to define the consumption patterns and conservation strategies; as well as be able to define the opportunities available for conservation of energy and use of renewable energy resources.

In context of Human Values, Gender Sensitization and Professional Ethics, the core course entitled Humanities of Engineers (UHU005) is designed to facilitate students in understanding the interplay between, psychological, ethical and economic principles in governing human behaviour. The course is designed to help the students to understand the basic principles and acquaint them with the major perspectives in psychology of human mind and behaviour and to provide an understanding about the how ethical principles and values serve as a guide to behaviour on a personal level and within professions. The notable topics include behavioural modification, components of emotions, emotional intelligence, interpersonal relationships, development of self and personality; Human values in context of individual, societal, spiritual, moral and psychological perspectives; codes of conduct, social responsibilities; professional ethos and ethics, etc. As a part of this curriculum the students have regular discussion fora, role plays, analysis of case studies on professional behavior and ethics including CSR; as well as discussions on aspects such as creativity, freedom, wisdom and trust.

File Description	Document
Upload the list and description of the courses which address the Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum	[View Document](#)
Any additional information	[View Document](#)

1.3.2 Number of value-added courses imparting transferable and life skills offered during the last five years

Response: 250

1.3.2.1 How many new value-added courses are added within the last 5 years

Response: 250

File Description	Document
List of value added courses	[View Document](#)
Brochure or any other document relating to value added courses	[View Document](#)

1.3.3 Average percentage of students enrolled in the courses under 1.3.2 above

Response: 66.89

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

2017-18	2016-17	2015-16	2014-15	2013-14
8264	6160	5062	2675	2016

File Description	Document
Any additional information	[View Document](#)

1.3.4 Percentage of students undertaking field projects / internships

Response: 21.09

1.3.4.1 Number of students undertaking field projects or internships

Response: 1743

File Description	Document
List of programs and number of students undertaking field projects / internships	[View Document](#)
Any additional information	[View Document](#)

1.4 Feedback System

1.4.1 Structured feedback received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni 5) Parents for design and review of syllabus Semester wise /year-wise
A. Any 4 of above

B. Any 3 of above

C. Any 2 of above

D. Any 1 of above

Response: A. Any 4 of above

File Description	Document
Any additional information	[View Document](#)
Action taken report of the University on feedback report as stated in the minutes of the Governing Council, Syndicate, Board of Management	[View Document](#)
URL for stakeholder feedback report	[View Document](#)

1.4.2 Feedback processes of the institution may be classified as follows:
A. Feedback collected, analysed and action taken and feedback available on website

B. Feedback collected, analysed and action has been taken

C. Feedback collected and analysed

D. Feedback collected

Response: A. Feedback collected, analysed and action taken and feedback available on website

File Description	Document
Any additional information	[View Document](#)
URL for feedback report	[View Document](#)

Criterion 2 - Teaching-learning and Evaluation

2.1 Student Enrollment and Profile

2.1.1 Average percentage of students from other States and Countries during the last five years

Response: 53.64

2.1.1.1 Number of students from other states and countries year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
4298	4227	3838	3234	2924

File Description	Document
List of students (other states and countries)	View Document
Institutional data in prescribed format	View Document
Any additional information	View Document

2.1.2 Demand Ratio(Average of last five years)

Response: 5.44

2.1.2.1 Number of seats available year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
3194	3085	2821	2415	2141

File Description	Document
Demand Ratio (Average of Last five years)	View Document
Any additional information	View Document

2.1.3 Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years

Response: 21.58

2.1.3.1 Number of actual students admitted from the reserved categories year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
138	197	167	205	166

File Description	Document
Average percentage of seats filled against seats reserved	View Document
Any additional information	View Document

2.2 Catering to Student Diversity

2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners

Response:

The institution has 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 at all levels including those for advanced and slow learners. As a part of the Mentorship programme, the students are assigned to each faculty member in groups of 20 to 25. Preferably, the students of a particular branch are assigned to the faculty members of that department.

Effective July 2016, these students are under continuous tutelage of the faculty mentor for all years of study. In subsequent year, the new students have been added to this group of each faculty member, thereby making the strength to be nearly 100 in 2020. Faculty mentors guide students and help them to adjust in 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 Centre for Training and Development as well as Professional Psychological Counseling 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.

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 which can result 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 to courses generally considered tough by the studnets and such classes are organized by best teachers. This helps such students to learn in a smaller group with focused monitoring.

Advanced Learners

The advanced learners are encouraged to pick up projects with a faculty mentor. Students are allowed to use the labs and workshop beyond office hours to carry out their project work. University also provide 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	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

2.2.2 Student - Full time teacher ratio

Response: 19.54

File Description	Document
Any additional information	[View Document](#)

2.2.3 Percentage of differently abled students (Divyangjan) on rolls

Response: 0.06

2.2.3.1 Number of differently abled students on rolls

Response: 5

File Description	Document
List of students(differently abled)	[View Document](#)
Institutional data in prescribed format	[View Document](#)
Any other document submitted by the Institution to a Government agency giving this information	[View Document](#)
Any additional information	[View Document](#)

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

Response:

The TIET experiential Strategy would comprise of two main threads, namely the Research thread and the Undergraduate thread.

Research Thread: In this thread three areas of strong interest to India will be nurtured. The identified areas include Water Purification, Solar Energy and Electric Vehicle.

At TIET, one of the strategies has been to immerse our students both into work with water purification systems, solar energy and electric vehicles. Such immersion is making them familiar with the technology, the issues, the solutions, the challenges and the methodologies of research. Such students are more likely to innovate in the Water Purification, solar energy and electric vehicle domains and to work in engineering labs/industry in these domains. Furthermore, exposure to research methodologies with hands-on experience will make them suitable for work in any research lab/industry.

The identified areas are the starting point, but the ground reality may move the various research areas into different directions.

Undergrad Thread: TIET students have a strong academic background. However, additional: hands-on, problem based and practical experience will make them better engineers. As the students acquire much needed theoretical exposure the TU strategy is to immerse them into real-world problems that are connected to the courses they are taking. The students get to apply their learning, realize its relevance and gain appreciation for the nuances of the subject. The real-world problems are offered in every semester, but a decent goal is to have one in every year in every program. Introducing real-world problems in programs is the key goal of the initiative. The initiative require funding and people and Rs 200 lacs have been earmarked each year.

An accomplished Professor from University of Waterloo, Canada has been hired (4 months every year) to spearhead this initiative. Faculty with knowledge of the curriculum provide the backbone of the initiative. They help develop the real-world initiatives for the undergraduate thread. The development of the activities is done by graduate students or by senior undergraduate students. These students are hired as research assistants.

The equipment required for the real world activities is designed by the faculty and research assistants and is built and maintained by staff. For the undergraduate thread two faculty members from each program. The faculty devotes equivalent of one teaching task towards the project. Two teaching assistants (grad or undergrad) provide assistance to faculty members in developing activities around the real-world problem.

The activities include: Hand writing recognition with neural networks; Aerial Logo activity; two axis robot; two axis machine; pitching machine, engine dissection, house electrical wiring, design and manufacturing of Heat Exchanger, Electric Vehicle.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

Response: 100

2.3.2.1 Number of teachers using ICT

Response: 423

File Description	Document
List of teachers (using ICT for teaching)	[View Document](#)
Any additional information	[View Document](#)
Provide link for webpage describing the " LMS/ Academic management system"	[View Document](#)

2.3.3 Ratio of students to mentor for academic and stress related issues

Response: 61.67

2.3.3.1 Number of mentors

Response: 134

2.4 Teacher Profile and Quality

2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

Response: 95.16

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	[View Document](#)
List of the faculty members authenticated by the Head of HEI	[View Document](#)
Any additional information	[View Document](#)

2.4.2 Average percentage of full time teachers with Ph.D. during the last five years

Response: 67.38

2.4.2.1 Number of full time teachers with Ph.D. year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
310	300	254	171	158

File Description	Document
List of number of full time teachers with PhD and number of full time teachers for 5 years	[View Document]
Any additional information	[View Document]

2.4.3 Teaching experience per full time teacher in number of years

Response: 7.63

2.4.3.1 Total experience of full-time teachers

Response: 3225.87

File Description	Document
Any additional information	[View Document]

2.4.4 Percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years

Response: 62.54

2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
68	63	42	25	20

File Description	Document
Institutional data in prescribed format	[View Document]
e-copies of award letters (scanned or soft copy)	[View Document]

2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years

Response: 57.88

2.4.5.1 Number of full time teachers from other states year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
239	231	209	192	180

File Description	Document
List of full time teachers from other state and state from which qualifying degree was obtained	View Document
Any additional information	View Document

2.5 Evaluation Process and Reforms

2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results during the last five years

Response: 34.6

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 last five years

2017-18	2016-17	2015-16	2014-15	2013-14
49	39	35	28	22

File Description	Document
List of programs and date of last semester and date of declaration of result	View Document
Any additional information	View Document

2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years

Response: 0.11

2.5.2.1 Number of complaints/grievances about evaluation year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
19	3	10	4	2

File Description	Document
Any additional information	[View Document](#)

2.5.3 Average percentage of applications for revaluation leading to change in marks during the last five years

Response: 68.72

2.5.3.1 Number of applications for revaluation leading to change in marks year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
19	3	10	4	2

File Description	Document
Any additional information	[View Document](#)

2.5.4 Positive impact of reforms on the examination procedures and processes including IT integration and continuous internal assessment on the examination management system

Response:

Examination Reforms

Each department/School has constituted an Examination Board for each year of study. All the instructors teaching courses to that batch (defined by the year of admission) form the members of the board. An external member will be appointed only for the senior years of the UG program (one for Year 3 and another for Year 4) and the final year of the PG programs.

The course instructor prepared the question papers along with model solutions which were sent for review to Trinity from 2015 onwards.

Minimum Pass Marks

It is important to realise that the marks in individual papers are essentially useful symbols for grading and ranking students in a course in a consistent and equitable manner. The present grading system of awarding

grades based on total marks obtained by the students would be applicable as documented in the Academic Regulations approved by the Senate. However, for each individual course a minimum of 33 marks would be required to be obtained by the student to pass the course with the lowest pass grade. In all project based courses (those courses where no formal written examination is conducted (e.g. Project Semester, Engineering Design II or III) a minimum of 50 marks will be required to pass the course.

For the purpose of awarding grades, all students with marks less than 33 were awarded "E" (fail) grade. The normal distribution curve was used to award grades as per the existing regulations at TU. The minimum marks considered for assessing the normal distribution will be 33. This would mean all students at 33 will be automatically awarded "C-" grade and other grades will be awarded based on normal distribution. **The Examination Board is the highest body deciding on matters related to the examination results in a department/school**. The AVGP and other matters related to final grading is also its sole discretion.

All the academic staff enter marks in the ERP system. The internal examiners also propose a grade for each student considering the guidelines listed above. The Examination Board results are reviewed on a case by case basis. The Examination Board also reviews the answer scripts on a sampling basis to check for consistency against the model solutions.

IT integration

Instructor(s) of the course set the question paper for all examinations. The instructor(s) along with the tutors evaluate the answer books. For each course, the instructors award the marks through continuous evaluation of the students during the semester as well as in the end semester examination. Project evaluation committee do the evaluation of projects as per the guidelines. The instructors upload the marks on the Institutional LMS which are visible to all stake holders including students. The ERP system helps to grade students as per their performance using statistical inferences and thereafter the Academic Section.

Letter grades are awarded to the students as per Institute academic regulations. Each letter grade indicates the level of performance in a course and has a grade point for purposes of computing the CGPA.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.5.5 Status of automation of Examination division along with approved Examination Manual
A. 100% automation of entire division & implementation of Examination Management System (EMS)

B. Only student registration, Hall ticket issue & Result Processing

C. Only student registration and result processing

D. Only result processing

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

File Description	Document
Current manual of examination automation system and Annual reports of examination including the present status of automation	[View Document](#)
Current Manual of examination automation system	[View Document](#)
Any additional information	[View Document](#)
Annual reports of examination including the present status of automation	[View Document](#)

2.6 Student Performance and Learning Outcomes

2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the Institution are stated and displayed on website and communicated to teachers and students

Response:

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 their 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 2014. 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 sub-committee to develop program objectives and PEOs. The committee finalized the second and the third draft of the PEOs, POs and CLOs and later in 2015 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	Document
COs for all courses (exemplars from Glossary)	[View Document](#)
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated by the institution

Response:

The step by step process for assessing program outcomes is tabulated below.

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	The Program Assessment Committee (PAC) analyzes the collected data. 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) 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.

The assessment process is based on performance criteria defined for each student outcome. These criteria are mapped to the course curriculum of program. The summary of professional courses for attainment of SO and performance criteria is summarized The level of attainment of each outcome is measured using various assessment tools is agreed beforehand.

This assessment is carried out using the following measurable and quantitative parameters and survey/questionnaire techniques/tools.

Assessment Tools

The assessment process uses both direct and indirect measures to measure the attainment of each outcome. The examples of such measures are given below:

Direct Measures through:

- Examinations
- Assignments
- Projects or any other instrument used by the academics for assessment

In-direct measures through:

- Surveys and questionnaires
  - Course Survey
  - Graduating student's survey
  - Alumni survey
  - Employer survey

Course Survey

Course Survey is completed for every course in each semester to get a formal feedback from students for the courses offered in a semester and provide objective information to the faculty for self-appraisal, self-improvement & development. Formal student feedback is obtained online through semester-by-semester mandatory course evaluation using course survey form.

Graduating student's survey

A questionnaire survey is used to measure the level of achievement of expected student outcomes and also generally about the program.

Alumni survey

To obtain this information, a survey is conducted for practicing alumni who graduate during the last 2 to 5 years. This survey like the graduating student survey was targeted at the student outcomes achieved during the last 2 to 5 years.

Employer survey

The employers provide information on the performance against each outcome and the employers are requested to fill survey form to compile the record of employer survey. The survey form, like the other forms, has questions related to the student outcomes. The rating is again given on a scale of 1 to 5 with 5 representing the best performance.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

2.6.3 Average pass percentage of Students

Response: 99.48

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 1731

2.6.3.2 Total number of final year students who appeared for the examination conducted by the institution

Response: 1740

File Description	Document
List of programs and number of students passed and appeared in the final year examination	View Document
Any additional information	View Document
Link for annual report	View Document

2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process

Response:

Criterion 3 - Research, Innovations and Extension

3.1 Promotion of Research and Facilities

3.1.1 The institution has a well defined policy for promotion of research and the same is uploaded on the institutional website

Response: Yes

File Description	Document
Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	View Document
URL of Policy document on promotion of research uploaded on website	View Document

3.1.2 The institution provides seed money to its teachers for research (average per year)

Response: 51.07

3.1.2.1 The amount of seed money provided by institution to its faculty year-wise during the last five years(INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
43.4	50.2	57	49.74	55.01

File Description	Document
Minutes of the relevant bodies of the University	View Document
List of teachers receiving grant and details of grant received	View Document
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	View Document
Any additional information	View Document

3.1.3 Number of teachers awarded international fellowship for advanced studies/ research during the last five years

Response: 64

3.1.3.1 The number of teachers awarded international fellowship for advanced studies / research year-wise

during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
35	17	6	1	5

File Description	Document
List of teachers and their international fellowship details	View Document
e-copies of the award letters of the teachers.	View Document
Any additional information	View Document

3.1.4 Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates, other research fellows in the university enrolled during the last five years

Response: 1020

3.1.4.1 The Number of JRFs, SRFs, Post Doctoral Fellows, Research Associates and other research fellows in the university enrolled year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
353	231	183	124	129

File Description	Document
List of research fellows and their fellowship details	View Document
Any additional information	View Document

3.1.5 University has the following facilities

1. **Central Instrumentation Centre**
2. **Animal House/Green House / Museum**
3. **Central Fabrication facility**
4. **Media laboratory/Business Lab/Studios**
5. **Research/Statistical Databases**

Any four facilities exist

Three of the facilities exist

Two of the facilities exist

One of the facilities exist

Response: Any four facilities exist

File Description	Document
List of facilities provided by the university and their year of establishment	View Document
Any additional information	View Document
Link to videos and photographs geotagged	View Document

3.1.6 Percentage of departments with UGC-SAP, CAS, DST-FIST, DBT, ICSSR and other similar recognition by government agency

Response: 46.15

3.1.6.1 The Number of departments with UGC-SAP, CAS, DST-FIST ,DBT,ICSSR and other similar recognition by government agency

Response: 6

File Description	Document
List of departments and award details	View Document
e-version of departmental recognition award letters	View Document
Any additional information	View Document

3.2 Resource Mobilization for Research

3.2.1 Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments,Chairs in the institution during the last five years (INR in Lakhs)

Response: 4129.62

3.2.1.1 Total Grants for research projects sponsored by the non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years(INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
1841.93	879.12	498.62	489.97	419.98

File Description	Document
List of project and grant details	[View Document](#)
e-copies of the grant award letters for research projects sponsored by non-government	[View Document](#)
Any additional information	[View Document](#)

3.2.2 Grants for research projects sponsored by the government sources during the last five years

Response: 3908.34

3.2.2.1 Total Grants for research projects sponsored by the government sources year-wise during the last five years(INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
1763.88	814.22	462.72	461.51	406.01

File Description	Document
e-copies of the grant award letters for research projects sponsored by government	[View Document](#)
Any additional information	[View Document](#)

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

Response: 1.68

3.2.3.1 Number of research projects funded by government and non-government agencies during the last five years

Response: 178

3.2.3.2 Number of full time teachers worked in the institution during the last 5 years

Response: 531

File Description	Document
Supporting document from Funding Agency	[View Document](#)
Any additional information	[View Document](#)
Link for funding agency website	[View Document](#)

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

Response:

An exciting programme that aims to nurture and support entrepreneurs within and outside the campus has been conceptualized at TIET. This is a journey of three years involving the following different tracks:

- **Startup Studio**: An extra curricular evening with eminent entrepreneurs who will visit the campus once a month and share their experiences and life journey with interested students of B.Tech II Year. These eight meetings during the whole year would include: interesting talks, videos, activities, role-plays, games, experiential learning about creating a startup with lots of fun and participation.
- **Innovation & Entrepreneurship**: This regular course to be offered in third year to equip you with fundamentals for establishing a startup, if you ever decide to do so. Students also undertake a project and apply their classroom learning (one session a week) in the tutorials to work on real/virtual business idea.
- **Startup Track**: Select few students who want to further develop their startup idea will create an app/prototype/working model at the campus for six months during their project semester. This is considered equivalent to project semester and evaluated in the same manner. Students are supported with need based skill trainings and other competency building workshop by industry experts & senior professionals.

Infrastructure and Organization Structure:

1. **Setting up of Design and Venture Lab:** A comprehensive Design and Venture Lab has been established with adequate infrastructure in the current STEP complex to provide a platform to students to ideate, prototype and create their ventures. It is equipped with 3-D printers and other manufacturing related machines so that students can create actual prototypes.
2. **Organizational Structure:** As a comprehensive programme for strengthening Entrepreneurial Promotion Programme has been rolled out. An organization structure to integrate the Venture Lab, STEP and Entrepreneurial Development Cell (ED Cell) is in place to spearhead the entrepreneurial programmes and activities initiated and activated at TIET

The innovation program has been institutionalized in the Institute across all years.

Year of UG Study at TU	Will broadly cover	When	Resource Person
Year 1	Introduction to the process of innovation and entrepreneurship.	Frosh week – Orientation time	Half a day Importance Entrepreneurship an entrepreneuri potentially a w smaller groups.
	Getting awareness of entrepreneurial	Evening sessions during the	Pref. organize

	processes, including identification of entrepreneurial opportuni-ties, formulating business models and main challenges in building entrepreneurial ventures.	first year **for interested students**	student commun coach from staff
Year 2 *Extracurricular course "Start-up Studio"*	Opportunity to learn more about entrepreneurship from both academic, peer and practitioner perspectives.	8 evening sessions	Invited speakers
		VentureLab weekend	Coaches from bu faculty + facilita days
Year 3 – Full course on *Innovation &* *Entrepreneurship*	Process of new venture creation, from both a theoretical and practical point of view.	Full taught course for **all UG students**.	Thapar Faculty and trained at Groningen.
Year 3 or 4 *Start-up Semester*	Hands-on Workshops on innovation and entrepreneurship, and a project course.	for **interested students**	Thapar Faculty

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

3.3.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry - Academia Innovative practices during the last five years

Response: 38

3.3.2.1 Total number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
13	9	6	4	6

File Description	Document
Report of the event	View Document
List of workshops/seminars during the last 5 years	View Document
Any additional information	View Document

3.3.3 Number of awards for innovation won by institution/ teachers/ research scholars/students during the last five years

Response: 89

3.3.3.1 Total number of awards for innovation won by institution/teachers/research scholars/students year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
41	19	6	14	9

File Description	Document
List of innovation and award details	View Document
e- copies of award letters	View Document

3.3.4 Number of start-ups incubated on campus during the last five years

Response: 17

3.3.4.1 Total number of start-ups incubated on campus year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
5	8	4	0	0

File Description	Document
List of startups details like name of startup, nature, year of commencement etc	View Document
e- sanction order of the University for the start ups on campus	View Document
Contact details of the promoters for information	View Document
Any additional information	View Document

3.4 Research Publications and Awards

3.4.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research

Response: Yes

File Description	Document
Any additional information	View Document

3.4.2 The institution provides incentives to teachers who receive state, national and international recognition/awards

Response: Yes

File Description	Document
e- copies of the letters of awards	View Document
Any additional infrrmation	View Document

3.4.3 Number of Patents published/awarded during the last five years

Response: 21

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

2017-18	2016-17	2015-16	2014-15	2013-14
1	5	6	7	2

File Description	Document
List of patents and year it was awarded	View Document
Any additional information	View Document

3.4.4 Number of Ph.D.s awarded per teacher during the last five years

Response: 1

3.4.4.1 How many Ph.Ds are awarded within last 5 years

Response: 310

3.4.4.2 Number of teachers recognized as guides during the last five years

Response: 310

File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	View Document
Any additional information	View Document
URL to the research page on HEI web site	View Document

3.4.5 Number of research papers per teacher in the Journals notified on UGC website during the last five years

Response: 9.55

3.4.5.1 Number of research papers in the Journals notified on UGC website during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1135	806	530	492	366

File Description	Document
List of research papers by title, author, department, name and year of publication	View Document
Any additional information	View Document

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

Response: 2.75

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

2017-18	2016-17	2015-16	2014-15	2013-14
233	216	162	172	174

File Description	Document
List books and chapters in edited volumes / books published	View Document
Any additional information	View Document

3.4.7 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index

Response:

File Description	Document
BiblioMetrics of the publications during the last five years	View Document
Any additional information	View Document

3.4.8 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution

Response:

File Description	Document
Bibiliometrics of publications based on Scopus/ Web of Science - h-index of the University	View Document
Any additional information	View Document

3.5 Consultancy

3.5.1 Institution has a policy on consultancy including revenue sharing between the institution and the individual

Response: Yes

File Description	Document
Soft copy of the Consultancy Policy	[View Document](#)
Minutes of the Governing Council/ Syndicate/Board of Management related to Consultancy policy	[View Document](#)
URL of the consultancy policy document	[View Document](#)

3.5.2 Revenue generated from consultancy during the last five years

Response: 829.8

3.5.2.1 Total amount generated from consultancy year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
177.31	156.34	187.41	160.91	147.83

File Description	Document
List of consultants and revenue generated by them	[View Document](#)
Audited statements of accounts indicating the revenue generated through consultancy	[View Document](#)
Any additional information	[View Document](#)

3.5.3 Revenue generated from corporate training by the institution during the last five years

Response: 53.79

3.5.3.1 Total amount generated from corporate training by the institution year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
15.62	0	35.97	.8	1.4

File Description	Document
List of teacher consultants and revenue generated by them	[View Document](#)
Audited statements of account indicating the revenue generated through training	[View Document](#)
Any additional information	[View Document](#)

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 last five years

Response:

Education means formal training or instructions that are provided to someone to improve their mind and character. Education is imparted by teachers at school level and can be self-gained, through various means. There are several types of education like moral education which teaches you values, physical education which keeps you fit. The sole purpose of education is to basically create awareness.

Many functional societies in T.I.E.T. like Pratigya, NSS, Paryawaran Welfare society aim at developing the creative and imaginative skills of the students of the University. Pratigya tries to do the same with the children who can only dream to be a part of such a university one day. Pratigya team nourishes the children of the 4th class staff of the university, the construction site laborers and few other students of the city who study in Government schools, but cannot afford additional tutoring. There are around 70 student volunteers who teach and around 150 kids which get enrolled in Pratigya every year. This ensures personal attention to everyone.

The concept of educating children has been overtaken by nurturing. In addition to academics as well the society also looks into the cultural, moral, health and hygienic related aspects of these children. The societies also organize extracurricular events aiming at the all-round development of the children. Card making competition, Rangoli competition, Movie celebration day, Hand-writing competition, Sports event and Poster making have been organized in the past. Cultural program called UDAAN is organized every year where the children perform on stage in the auditorium before a huge crowd. The motivated university students spare 2 hours a day out of their busy schedule for this noble cause. The society also plans to start some technical courses (including mobile repair and computer hardware) for the kids after class tenth so that they can be self-sustained and need not go back to the life they came from.

The institute also contributes to the society through the commitment of 15 NSS units. They organize from time to time various events for the welfare of society. 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. This also helps in grooming the national brotherhood among the inhabitants of the society.

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

3.6.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

Response: 2

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

2017-18	2016-17	2015-16	2014-15	2013-14
1	1	0	0	0

File Description	Document
Number of awards for extension activities in last 5 years	[View Document](#)
e-copy of the award letters	[View Document](#)
Any additional information	[View Document](#)

3.6.3 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., during the last five years

Response: 73

3.6.3.1 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
15	10	19	19	10

File Description	Document
Reports of the event organized	View Document
Number of extension and outreach programs conducted with industry,community etc for the last five years	View Document

3.6.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years

Response: 36.85

3.6.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
3305	2106	2780	2590	1900

File Description	Document
Report of the event	View Document
Average percentage of students participating in extension activities with Govt. or NGO etc.	View Document

3.7 Collaboration

3.7.1 Number of Collaborative activities for research, faculty exchange, student exchange per year

Response: 68.4

3.7.1.1 Total number of Collaborative activities for research, faculty exchange, student exchange year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
156	61	40	35	50

File Description	Document
Number of Collaborative activities for research, faculty etc	View Document
Copies of collaboration	View Document
Any additional information	View Document

3.7.2 Number of linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the last five years

Response: 2403

3.7.2.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
750	585	466	438	164

File Description	Document
e-copies of linkage related Document	View Document
Details of linkages with institutions/industries for internship	View Document
Any additional information	View Document

3.7.3 Number of functional MoUs with institutions of National/ International importance, Other Institutions, Industries, Corporate houses etc., during the last five years (only functional MoUs with ongoing activities to be considered)

Response: 31

3.7.3.1 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years (only functional MoUs with ongoing activities to be considered)

2017-18	2016-17	2015-16	2014-15	2013-14
4	7	2	9	9

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File Description	Document
e-copies of the MoUs with institution/ industry/ corporate house	View Document
Details of functional MoUs with institutions of national, international importance,other universities etc during the last five years	View Document

Criterion 4 - 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

Response:

With the growth of the Institute, it is imperative to develop the infrastructure. It is not only important to build new infrastructure it is also essential to maintain, renovate and augment the existing ones. Any new construction has to be according to the overall plan of the University. Therefore, the Campus Redevelopment Plan has been followed. The Plan is in consonance with the vision of the University. The Redevelopment would require relocation or augmentation of several existing facilities. Thus a phasing plan for five-year period (2015-2020) has been developed. This effort has brought in a structured vision of the future works on campus.

The Institute has already initiated growth that will have a ripple effect for another couple of years. In many cases it is not possible to wait for the construction of new facilities. Therefore, a combination of augmentation of existing facilities and construction of new structures has been adopted. The immediate requirement of Labs due to increase in numbers has been met by constructing additional floor on exisiting blocks. It provides a comfortable and creative environment to faculty in addition to interdisciplinary interactions.

Large construction works has been completed in the last five years. It includes the following facilities :

· Lecture Hall Complexes

· Boys and Girls Hostels

· Renovation of Hostels

· New Laboratory Block (H-Block)

· Creating new Laboratory space on new floor added to existing block

The Institute has adequate facilities that facilitate teaching-learning process such as classrooms, laboratories, computing equipment, etc.

Total number of Lecture rooms/theatres:

Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc. (current year data)		
Number of classrooms with LCD facilities	Number of classrooms with wifi/LAN facilities	Number of seminar halls with ICT facilities
106	106	10

There are a number of Laboratories (136) available for the undergraduate and post-graduate programmes.

All the labs are currently undergoing a makeover in removal of obsolescence.

The Centre of Information and Technology Management (CITM) has been established to cater the needs of users involving implementation, maintenance and support activities related to computing software and hardware; procurement, support and maintenance of various equipment for users. The centre offers internet access and network services and has two static leased line connections. The Campus-wide Local Area Network (LAN), which currently has 6000 live nodes (wired and wireless), is backboned by Optical Fiber connected with layer-3 and layer-2 switches, structured with CAT5 and CAT6 cabling and covers the entire campus including student and faculty residences, library and other campus locations. CITM has four state-of-the-art computational labs and one server room.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

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

Response:

The institute has several playgrounds and well-maintained athletic track to encourage the students to take part in different games such as Cricket, Hockey, Football, Basketball, Volleyball, Lawn Tennis and Badminton. The sports department has one assistant director along with 7 coaches for cricket, lawn tennis, badminton, volleyball, football, swimming and yoga instructor. The sports department organizes various sporting events like 'Thaparlympics', 'URJA', Inter-year competitions and inter-technology tournaments throughout the year. The information related to the sports facilities is as under:

Sr. No.	Name of the Facility	No. of Facility	Area (m2)	
1	Synthetic Track 400m with flood lights	1 Nos.	18928	
2	Swimming pool	1 Nos.	1190	
3	Cricket Ground	2 Nos.	39200	
4	Synthetic Lawn Tennis Court (with flood lights)	4 Nos.	3182	
5	Cemented Lawn Tennis Court	2 Nos.	1404	
6	Lawn Tennis Practice wall	1 Nos.	518	
7	Football Ground (11 a side) (with flood lights)	1+1 Nos.	12600	
8	Football Ground(6 aside)	1 Nos.	2700	
9	Basketball Court Out door (Synthetic with flood lights)	2+1 Nos.	1824	
10	Volleyball Ground	3 Nos.	858	

11	Badminton Hall (Synthetic Indoor)	1 Nos.	364	
12	Badminton ground (outdoor)	4 Nos	777	
13	Handball Ground	1 Nos.	1056	
14	Hockey Ground	1 Nos.	5605	
15	Cricket Net practice pitch	1 Nos.	900	
16	Table Tennis Hall	1 Nos.	550	
17	Yoga Room in COS	1 Nos.	338	
18	Chess room in COS	1 Nos.	120	
19	Gym Hall in Hostels(6+3)	9 Nos.	1350	
Total Area			**73864**	

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The institute also has a 250 seat convention hall, a 450 seat auditorium, a 3000 seat open-air theatre in addition to multiple high capacity lecture halls for organizing multiple extra and co-curricular activities. These activities are majorly organized by more than 40 student's societies and clubs which are headed by a Faculty President and a student General Secretary.

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

Response: 96.55

4.1.3.1 Number of classrooms and seminar halls with ICT facilities

Response: 112

File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	<u>View Document</u>
Any additional information	<u>View Document</u>
Link for additional information which is optional	<u>View Document</u>

4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

Response: 47.56

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
20240.45	12955.94	2022.59	3487.97	7219.88

File Description	Document
Audited utilization statements	<u>View Document</u>
Any additional information	<u>View Document</u>

4.2 Library as a Learning Resource

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

Response:

Library Resources and Services have been automated through Library Automation Software "KOHA" since 2016. Before that Library automation was done through "SOUL".

- Name of the ILMS software : Koha

- Nature of automation (fully or partially): Fully Automated
- Version : 17.11.07.000
- Year of automation : 2016
- URL: **http://library.thapar.edu**

LibLime Koha is the most advanced open-source Integrated Library System. LibLime Koha is web based, so there is no software to install on desktop computers, and LibLime hosting services means that no servers are required in the libraries. LibLime's IT experts manage all upgrades, backups and general system

maintenance, and the Library's local IT staff can focus on the Library's many other projects.

The development of LibLime Koha is steered by a growing number of libraries throughout the world. These libraries, either on their own, or collaborating in groups, sponsor the development of new features to support their workflows. LibLime Koha's impressive feature set continues to evolve and expand to meet the needs of its sponsoring libraries. Everyone may not use the same features. This freedom to pick and choose from features, through the administration of system preferences, offers librarians the opportunity to tailor their LibLime Koha instance to match their specific workflow needs.

In keeping with open source tradition, library-sponsored enhancements to LibLime Koha are available for others to use, modify, and re-distribute.

LibLime Koha offers Libraries:

• Easy-to-use circulation policies, strong patron management, intuitive navigation, and extensive permissions for staff accounts.

• Parent-child relationship for patron records, as well as a 'copy' patron feature to quickly add families.

• A Clubs and Services feature that allows libraries to manage reading groups, book clubs, and other other community outreach programs. This feature is easily managed by library staff.

• Extensive support for holds, including an option to 'suspend' and 'reactivate' a hold, an option to place holds from a patron's OPAC account, an option to allow staff to re-organize the holds queue, and an option to place holds at either the title or item level.

• Enhanced matching policy rules for the 001 and 035 tags, allowing libraries to update older records with a newer version.

• Libraries to 'undo' entire import batches from the catalog in a single click, rather than having to delete on a one-by-one basis.

• SIP2 configuration for a wide variety of vendors and their products, including ITG, 3M, EnvisionWare, Talking Tech, Overdrive, TechLogic, and Librarica. LibLime Koha also works with EzProxy as a dual authentication source for remote database access.

• OPAC, staff, administrative features and self-checkout interfaces are all based on standards-compliant World Wide Web technologies--XHTML, CSS and Javascript--making LibLime Koha a completely Web-based solution.

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resource for library enrichment

Response:

There are several resources for library enrichment that includes NPTEL.

NPTEL (National Programme on Technology Enhanced Learning) is a joint initiative of the IITs and IISc. Through this initiative, we offer online courses and certification in various topics. A Local Chapter of NPTEL has been established at Central Library to facilitate the Access of Video Lectures of NPTEL. The Library has hosted a video and web courses of about 280 courses run by NPTEL. About 350+ Students have already registered for various online courses in 2018 and about 50+ student have already got certification in last year after establishment of the Local Chapter. The subject coverage for NPTEL Video includes Mechanical Engineering, Civil Engineering, Chemical Engineering, Electronics and Communication Engineering, Biotechnology, Humanities and Social Science, Biological Science and Engineering, Aerospace Engineering, Architecture & Planning, Computer Science Engineering, Design Engineering, Electrical Electronics & Communication Engineering, Business Management, Social Science, Mathematical Sciences, Metallurgy and other multidisciplinary subjects. These resources includes online video lectures and web resources which facilitate the access of content at Local Server through IP throughout the campus. The students are actively registered with various courses and taking this course of their choice. Student can register for 4, 8, 12-week program run by IITs and IIMs in two sessions July-December and January June each year. As on date there has been 300+ registration for various courses and about 50+ student have already got certification through NPTEL.

The resources can be accessible at Thapar Institute of Engineering & Technology Patiala through Local LAN at http://nptel.thapar.edu

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

4.2.3 Does the institution have the following

1. e-journals
2. e-ShodhSindhu
3. Shodhganga Membership
4. e-books
5. Databases

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

Response: Any 4 of the above

File Description	Document
Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc	View Document
Any additional information	View Document

4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)

Response: 105.34

4.2.4.1 Annual expenditure for purchase of books and journals year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
87.01	83.22	111.79	127.09	117.58

File Description	Document
Details of annual expenditure for purchase of books and journals during the last five years	View Document
Audited statements of accounts	View Document
Any additional information	View Document

4.2.5 Availability of remote access to e-resources of the library

Response: Yes

File Description	Document
Any additional information	View Document

4.2.6 Percentage per day usage of library by teachers and students

Response: 17.41

4.2.6.1 Number of teachers and students using library per day over last one year

Response: 1512

File Description	Document
Any additional information	[View Document](#)

4.2.7 E-content is developed by teachers :

1. **For e-PG-Pathshala**
2. **For CEC (Under Graduate)**
3. **For SWAYAM**
4. **For other MOOCs platform**
5. **For NPTEL/NMEICT/any other Government Initiatives**
6. **For Institutional LMS**

Any 5 of the above

Any 4 of the above

Any 3 of the above

Any 2 of the above

Response: Any 5 of the above

File Description	Document
Details of e-content developed by teachers for e-PG-Pathshala, CEC (UG)	[View Document](#)
Any additional information	[View Document](#)
Give links or upload document of e-content developed	[View Document](#)

4.3 IT Infrastructure

4.3.1 Institution frequently updates its IT facilities including Wi-Fi

Response:

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 backboned 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. CITM Labs remain open from 8.00 AM to 6.30 PM on all working days and from 9.00 AM to 5.30 PM on Saturdays. 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.

- **CITM OBJECTIVES:**

- Maintain and Administer Internet, LAN/WLAN and allied services
- To help in the implementation of E-Governance Project
- Central Computing facility
- To make the facility available to students and faculty, and also offer possible assistance in conducting their research.
- To organize and conduct short term courses/ workshops for the students and staff of the Institute.
- Assist Institute /Departments in computerizing their activities
- Undertake Consultancy
- Provide assistance to Technological/Cultural Societal Activities
- Acquire latest knowledge and impart knowledge to the Institute staff.
- To keep track of the latest developments in Computer Hardware/ Software technologies, Web technologies
  - **CITM Instrument and PC Repair Laboratory**

- **Activities**
    1. Repair & Maintenance of Instruments/ Equipment
    2. Repair & Maintenance of Personal Computers/ Peripherals
    3. Provide guidance technical assistance for purchase of new equipment

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

4.3.2 Student - Computer ratio

Response: 4.09

File Description	Document
Any additional information	[View Document](#)

4.3.3 Available bandwidth of internet connection in the Institution (Lease line) ?1 GBPS

500 MBPS - 1 GBPS

50 MBPS-250 MBPS

250 MBPS-500 MBPS

Response: ?1 GBPS

File Description	Document
Any additional information	[View Document](#)

4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)

Response: Yes

File Description	Document
Facilities for e-content development such as Media Centre, Recording facility,LCS	[View Document](#)
Any additional information	[View Document](#)
Link to photographs	[View Document](#)

4.4 Maintenance of Campus Infrastructure

4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years

Response: 52.44

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

2017-18	2016-17	2015-16	2014-15	2013-14
11062.00	8657.19	7280.61	6285.37	5731.96

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic facilities	View Document
Audited statements of accounts.	View Document
Any additional information	View Document

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.

Response:

The Institute has a designated officer, General Manager Estate and has appointed sufficient support staff for the overseeing the maintenance of buildings, class-rooms and laboratories. The maintenance departments maintains 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 case within 24 hours.

Each department/school has its own staff that include 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 class rooms and labs whose services can be requisitioned upon request. These staff report to the Administrative Officer who ensures that class rooms, laboratories and other academic areas are functional and well maintained.

The Sports Section has full time Grounds men 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 ambience of the campus, several initiates are taken from time to time. Some of these are:

- Periodic painting and white washing of building and labs
- Ground-men for maintaining grounds, lawns and upkeep of plants
- Tree plantation drives every semester
- A meditation park with a walk way in the woods
- Adequate Housekeeping staff for general cleaning
- Rest rooms
- 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

File Description	Document
Any additional information	[View Document](#)
link for additional information	[View Document](#)

Criterion 5 - Student Support and Progression

5.1 Student Support

5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

Response: 0.93

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
54	68	71	68	53

File Description	Document
Upload self attested letter with the list of students sanctioned scholarships	[View Document](#)
Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years	[View Document](#)
Any additional information	[View Document](#)

5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

Response: 7.77

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
892	723	535	384	252

File Description	Document
Any additional information	[View Document](#)

5.1.3 Number of capability enhancement and development schemes –

1. **Guidance for competitive examinations**
2. **Career Counselling**
3. **Soft skill development**
4. **Remedial coaching**
5. **Language lab**
6. **Bridge courses**
7. **Yoga and Meditation**
8. **Personal Counselling**

7 or more of the above

Any 6 of the above

Any 5 of the above

Any 4 of the above

Response: 7 or more of the above

File Description	Document
Details of capability enhancement and development schemes	[View Document](#)
Any additional information	[View Document](#)
Link to Institutional website	[View Document](#)

5.1.4 Average percentage of students benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years

Response: 26.18

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

2017-18	2016-17	2015-16	2014-15	2013-14
1880	1820	1750	1750	1700

File Description	Document
Number of students benefited by guidance for competitive examinations and career counselling during the last five years	[View Document](#)
Any additional information	[View Document](#)

5.1.5 The institution has an active international students cell to cater to the requirements of foreign students

Response:

The Institute has an International Students Mentoring Unit under the chairmanship of the Dean, Student Affairs (DoSA). The mentors associated with students approaching this Unit, in addition to DoSA, are Dean, Academic Affairs, one of the senior level Professors, and the Student Counselor. The Mentorship program that is in place for the regular students is also applicable to the International students also. As-on-date, there are 45 undergraduate; 07 post-graduate and 05 PhD students registered in the academic years 2015 to 2017. The Mentors are in contact with the international students at periodic intervals and are linked through various forms of networking.

The Institute has about 250 international students on campus. The Academic Section of the Institute deals with the International students and the office of the Dean of Student affairs and the academic section jointly look after any special needs of the foreign or NRI students.

During 2017-18, the Institute decided to create a separate teaching section for the incoming international students. The data during the previous years was showing that many international students struggled with courses during the first year as they didn't go through the rigor of Joint Entrance Examination through which the domestic students come in. Holding these students in one group ensured that we could assign the best teachers in a smaller lecture section than usual. This allowed the teachers to engage with these students more closely and help them with those topics in the courses that were otherwise considered to be difficult and needed some hand holding. Mathematics and some engineering science courses are typically the ones in which these students struggle often. Additional classes and close monitoring of their performance has significantly helped these students.

The students are also assigned faculty mentors and are constantly encouraged to keep a dialogue with them until a complete integration with their peers take place.

The international student section functions under the Dean of Student Affairs and periodic meetings are held with these students to ensure their seamless immersion in the academic and general life style a campus.

Activities of the Cell:

1. Periodic meetings with international students to find about their stay, academic achievement and other aspects.
2. Rendering guidance and help on their feedback.
3. Associating Indian students with them as buddies for continuous support and help.
4. Motivating them to participate in functions, celebration of festivals etc.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases

Response: Yes

File Description	Document
Minutes of the meetings of student redressal committee, prevention of sexual harassment committee and Anti Ragging committee	[View Document](#)
Details of student grievances including sexual harassment and ragging cases	[View Document](#)
Any additional information	[View Document](#)

5.2 Student Progression

5.2.1 Average percentage of placement of outgoing students during the last five years

Response: 69.87

5.2.1.1 Number of outgoing students placed year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
1321	1159	1330	1075	867

File Description	Document
Self attested list of students placed	[View Document](#)
Details of student placement during the last five years	[View Document](#)
Any additional information	[View Document](#)

5.2.2 Percentage of student progression to higher education (previous graduating batch)

Response: 5.32

5.2.2.1 Number of outgoing students progressing to higher education

Response: 92

File Description	Document
Upload supporting data for student/alumni	[View Document](#)
Details of student progression to higher education	[View Document](#)

5.2.3 Average percentage of students qualifying in State/ National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)

Response: 60.98

5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil services/ State government examinations) year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
138	101	83	28	6

5.2.3.2 Number of students appearing in state/ national/ international level examinations (eg: NET/SLET/GATE/GMAT/CAT, GRE/TOEFL/ Civil Services/State government examinations) year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
177	112	108	76	26

File Description	Document
Upload supporting data for the same	[View Document](#)
Number of students qualifying in state/ national/ international level examinations during the last five years	[View Document](#)
Any additional information	[View Document](#)

5.3 Student Participation and Activities

5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at

national/international level (award for a team event should be counted as one) during the last five years

Response: 143

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

2017-18	2016-17	2015-16	2014-15	2013-14
46	36	34	14	13

File Description	Document
Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years	[View Document](#)
e-copies of award letters and certificates	[View Document](#)
Any additional information	[View Document](#)

5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution

Response:

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. SCC?s objective is to assist the administration in preparing and implementing students? welfare plans and to obtain the students feedback on various aspects of their stay at campus that includes, academic, co-curricular or extra-curricular activities or hostels and residences. SCC meets at least twice a semester. Every year a fresh SCC is framed with nominations received from various departments/schools. 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) as mandated by NAAC.

The students extensively serve on the placement committee and are primarily responsible for smooth conduct of placement sessions when organizations visit TIET campus.

Students are actively represented on the activities of over 40 technical and other societies and are responsible for undertaking large number of its activities each year. The student committee is empowered to manage funds allocated and ensure smooth conduct of some very large activities on campus.

File Description	Document
Any additional information	[View Document](#)
Link for Aditional Information	[View Document](#)

5.3.3 Average number of sports and cultural activities / competitions organised at the institution level per year

Response: 169.4

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
219	212	159	126	131

File Description	Document
Report of the event	[View Document](#)
Number of sports and cultural activities / competitions organised per year	[View Document](#)
Any additional information	[View Document](#)

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 non financial means during the last five years

Response:

The involvement of Alumni in supporting and providing contributions willingly and voluntarily to their Institution is vital for maintaining, expanding and escalating its growth and development. The Alumni Association/Chapters has contributed significantly to the development of the institution through financial means by offering scholarships to meritorious students. Funds were also donated to constitute scholarships to promote the academic culture and to help the needy through Merit-cum-means Scholarships.

Thapar has a legacy of Distinguished Alumni who have excelled in various walks of Life, so for the benefit of the Alma Mater, in particular, and the society in general, Thapar Institute of Engineering and Technology (TIET) Alumni interacted with students and faculty and participated in various interactive and motivational events, viz. Alumni in the making, Exordium: a Freshers welcome, start up conclaves to mention a few.

The focus was not only for resource generation but Alumni were involved in various innovative activities. Prestigious alumni interacted through Global leadership Summit organised to enhance the leadership skills in students and to assist them through interaction to construct Business Plan on some real world case studies. The real life practical experience of the Alumni helped to enhance their Entreprenurial and leadership skills.

Alumni involvement in Board of Governors is integral for assisting in vision and Mission strategy of the Institute. Thapar Institute has Alumni involvement in the Board. Alumni also eagerly assisted in branding of the Institute.   Experiences shared by the alumni through invited lectures are easily accepted by the students and assisted in guidance and inspiration. Through sharing their experiences and expertise alumni assisted in strengthening confidence, improving motivation and inculcating the values and culture in line with what the Institution intends to communicate to its students.

As our distinguished Alumni are leaders in the professional world and are working as CEO's, Managing Directors and successful entrepreneurs, they assisted in placement in reputed companies. Thapar has a unique culture of offering Internship in Undergraduate and Postgraduate Engineering Programmes to enable the students to gain practical experience. Our Alumni lent support through facilitating internships in reputed organisations across the globe. We are lucky that Thapars Alumni are loyal and lifelong supporters and always ready to offer their help in Internships and Placements.

Alumni through Local and international chapters remained connected to their alma mater and offered active involvement and support to pursue and sustain excellence in education through interaction with faculty and students. Alumni that have served successfully in various sectors across the globe have been associated with these Chapters and facilitated networking and assisted in building stronger ties to uplift their Alma mater to achieve new heights and escalate the rating and ranking of the Institution for wider acceptance in the world.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

5.4.2 Alumni contribution during the last five years (INR in Lakhs)

? 100 Lakhs

50 Lakhs -100 Lakhs

20 Lakhs -50 Lakhs

5 Lakhs -20 Lakhs

Response: ? 100 Lakhs

File Description	Document
Any additional information	[View Document](#)
Alumni association audited statements	[View Document](#)

5.4.3 Number of Alumni Association / Chapters meetings held during the last five years

Response: 25

5.4.3.1 Number of Alumni Association /Chapters meetings held year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
7	5	4	5	4

File Description	Document
Report of the event	[View Document](#)
Number of Alumni Association / Chapters meetings conducted during the last five years	[View Document](#)
Any additional information	[View Document](#)

Criterion 6 - Governance, Leadership and Management

6.1 Institutional Vision and Leadership

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

Response:

The term "Institution governance" is used to describe all those structures, processes and activities that are involved in the planning and direction of the institutions and people working in tertiary education.

The governance team is the most important directive structure that appreciates the current status of the economy and defines the plan toward excellence for the institute keeping the macroeconomic, academic and social impacts of the education imparted. The institute is not just an academic institution but has multiple facets to its operations – research, social impact, teaching, finances, entrepreneurship and industrial connects. A strong governance framework ensures that the limited resources of the institute – in terms of manpower and financial and other finite resources- are put to the best impact despite competing priorities.

Strong governance mechanisms are the cornerstone of the successful universities globally – the multi-dimensional functions of strategic and operations direction, connecting with the industry and the society at large and maintaining strong risk identification and mitigation and feedback mechanisms ensure that the institute is run as a body corporate with clear responsibilities and accountabilities defined for the actions.

The governance process of TIET could be listed as below –

* Develop the strategic direction of the university
* Connect to the larger societal ecosystem – including with the learning community, industry, society, alumni, learners and the government
* Be the university ambassadors among the respective fields of influence
* Allow the voice of the varied stakeholders of the university – society, industry, academic and research community, learners and alumni are adequately included in the strategy and operations of the university
* Ensure the best and robust internal controls in the university functions
* Prioritise among the competing functions of the universities for the share among finite resources –aligned to the overall strategy of the institute

TIET has robust governance process at the institute – consisting of the 3 arms of governance – the trust, the Board and the executive, aligned to the UGC regulations as applicable from time to time. TIET would like to implement new initiatives to further strengthen the governance process of the institute, so as to make it ready to compete against the best in the world.

Governance Structure

The Trust, Board of Governors and Executive make up the current structure of TIET's Governance.

* The Trust is an independent entity that has promoted the institute and owns the physical assets of

the institute. The trust does not get into day to day operations of the institute and only financially supports the institute when required.

- The Board of Governors is the prime decision making and governing body of the institute.
- The Executive reports into and is accountable to the Board of Governors.
- The Senate reports into (through the director) and accountable to the Board of Governors.
- The Committees report into and accountable to the Board of Governors.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.1.2 The institution practices decentralization and participative management

Response:

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 aboard.

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	Document
Any additional information	**View Document**
Link for Additional Information	**View Document**

6.2 Strategy Development and Deployment

6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution

Response:

One activity successfully implemented based on the strategic plan

Curriculum Harmonization with Global benchmarks

TIET has aim to develop teaching and learning methodologies that can be benchmarked with highest level of international standards and to address changing rapidly changing industry scenarios. The holistic and institutional partnership with Trinity College Dublin has focused on strategies to deliver a project-led, research inspired, outcome based educational experience to the students at all levels. This has been a major shift in focus from the then content-oriented imparting of engineering education. The new teaching pedagogy lays emphasis on applying engineering skills through relevant engineering design projects, improving team-working skills and awareness of issues relating to ethics and professionalism.

As a start to this endeavour, Trinity College of Dublin conducted an academic review of its departments and schools in 2015. For implementing the findings of the academic review, as a first step the harmonization of curriculum was taken up to bring it up to date with global standards.

Today, there is tectonic shift in the paradigm of education is to make the Individual learner, centre of the education ecosystem – rather being a taker of the present education ecosystem. The higher education ecosystem is transforming globally to cater to the personal interests and varying demands of the learner.

TIET has developed curriculum and programs that focus on all 4 types of learning – Teacher Led, Self-Paced, Peer to Peer and Social Learning. This entails a bold move towards teachers supporting active, deep and independent learning through group works, assignments, internships etc. It also mean that students have increased responsibility and accountability for their learning.

Digital technology has enabled faculty at TIET to create more interactive, engaging, flexible learning materials in a range of digital and multimedia formats and make them available to students online. These changes enables them to have a more diverse set of pedagogical approaches to support students, which means that they can be more inclusive in their teaching methods. For many of its programs, TIET has developed high quality online learning content with up to 20% online material through co-opting publicly available content from open sources. TIET would identify partners for content and screen courses from SWAYAM to use in more courses.

TIET has setup a Centre for Academic Practices and e-learning (CAPSL) with an overarching aim to enable the shift to a new paradigm of teaching and learning. The new paradigm requires TIET faculty to move from Teacher- Centred Learning to Student-Centred Learning, including alignment of understanding of the shift of both staff and students. CAPSL works on the presentation and lecturing skills and bring in creativity and imagination in teaching. All academic staff have taken up 3 to 5 Teaching/Learning foundation modules. The certification course is based on the premise that everybody educating our students at TIET should be committed to and supported in achieving an excellent student learning experience. TIET will expose the entire faculty to in-house modules during the next 3 to 5 years

File Description	Document
Any additional information	View Document
Strategic Plan and deployment documents on the website	View Document
Link for Additional Information	View Document

6.2.2 Organizational structure of the University including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism

Response:

The internal coordination is carried out effectively through the proceedings of various bodies such as Board of Governors, the main executive body of the University, Finance Committee, Staff Affairs Committee through the progress reported by the Director on quarterly basis. Within the Institute, the Director monitors the complete coordination through the proceedings of Planning and Monitoring Board, Senate and Building and Works committee through the meetings held on regular basis. Besides, the coordination is also monitored through the Management Review Committee/IQAC meetings held once a semester. The powers and functions of various bodies are well enunciated in the Rules which help the statutory bodies to exercise effective monitoring of the entire functioning of the Institute. The officers of the University have also been vested with extensive powers and functions as elaborated in the Rules of the University to closely monitor the internal coordination.

All the key decisions are taken by the statutory committees as prescribed by the regulatory bodies. The functions of each of these bodies is briefly described below:

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 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; approves the Budget Estimate and Development Plans; manages & regulates the finances, accounts, 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.

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, and all other academic matters related to the University.

Finance Committee: The Finance Committee has been constituted for preparing the Budget estimates and Annual Accounts of the University.

Staff Affairs Committee: The Staff Affairs Committee has been constituted to review the staff structure, revision of cadre, new posts, minimum qualification and experience of staff, recruitment policies, procedure for recruitment related to the staff of the University.

Building & Works Committee: This committee looks after all major construction works under the
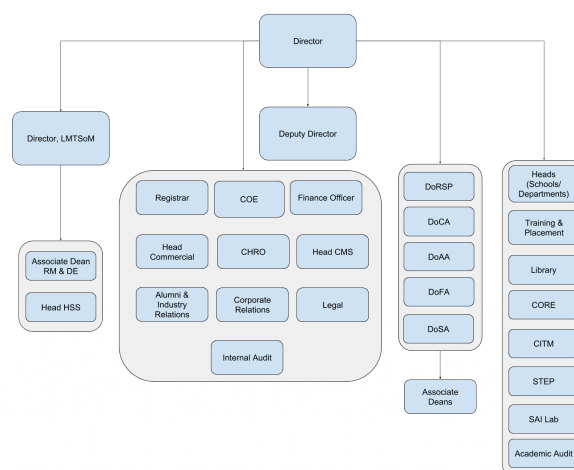
Grievance Redressal Committee and statutory bodies have been constituted by the Board of Governors to address grievances of the faculty and staff of the University. Any employee of the University could address his grievance in writing to the Chairman of the Committee.

File Description	Document
Any additional information	[View Document](#)
Link to Organogram of the University webpage	[View Document](#)
Link for Additional Information	[View Document](#)

6.2.3 Implementation of e-governance in areas of operation

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

All 5 of the above

Any 4 of the above

Any 3 of the above

Any 2 of the above

Response: All 5 of the above

File Description	Document
Screen shots of user interfaces	[View Document](#)
ERP Document	[View Document](#)
Details of implementation of e-governance in areas of operation Planning and Development,Administration etc	[View Document](#)

6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions

Response:

All positions in the various statutory bodies are filled and meetings are held as the general rules and regulations of the University. The records and the minutes and agenda of the meetings of various bodies will be presented to the expert committee during their visit. The meetings of the Statutory Bodies are held frequently.

Board of Governors

The Board specifically focuses on strengthening 3 verticals of Academics, Communication and External Stakeholders through these initiatives.

- The Board has an important role in the assessment and evaluation of learning and teaching and in ensuring the quality of, and improvement in, teaching and learning practice.
- The Board brings a whole of institution perspective on academic matters and through effective communication, maximises efficiency and quality and removes unnecessary duplication.
- The Board have in place strategies to ensure transparent communication, such as regular reports, summaries of agendas and minutes, a functional website, and a guide to academic policies.
- The Board has an important role in debating and establishing research policy, and in encouraging and supporting research
- The Board implements high-level strategies and mechanisms for communication.

Senate

The Senate is primarily concerned with academic functions of the institute. The Senate will be responsible for determining the list of all students who are deemed to have completed the requirements for the conferral of an award of the institute. The Senate will also be responsible for disciplining students who may have engaged in inappropriate behaviour such as plagiarism, dishonesty on a tested material etc.

Finance Committee:

This Committee reports to the Board on a regular basis regarding the overall financial status of the institute, including its budget and reserves.

Planning and Monitoring (P&M) Board

The P&M Board is engaged with improving the infrastructure of the Institute, modernization of the laboratories, and research & development. The Board monitors the implementation of the   approved plans of the institute, and schemes sanctioned by the U.G.C., Ministry of Education and other agencies

Building and Works Committee

The B&W Committee manages the all the major capital works of TIET. The Committee will invest significantly in creating more research facilities as well as renewing the research and other living and academic infrastructure regularly.

Board of Studies

The Board of Studies is associated with academic and examination related matters The main function of the Board of Studies is related to the proper conduct of examinations, deciding the syllabus and dealing with matters that may be referred to it by the Senate.

The Board will recommend books and reading materials for subjects concerned, collate and create detailed syllabi of different courses and revise and update the syllabi in a timely manner.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.3 Faculty Empowerment Strategies

6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

Response:

Thapar Institute of Engineering & Technology has implemented enhanced pay structure for its employees. The pay structure at TIET includes Basic Pay, Dearness Allowance, PF Management Share, Transportation Allowance, Medical Allowance, Communication Allowance, Academic Allowance, HRA, and Professional Development Allowance (PDA). The salaries at TIET both when the 6th and now the 7th pay commission has been implemented are significantly more than the peers at other institutions. These steps have been implemented to attract and retain the best faculty and staff.

All the employees with the families (including those who retired years ago) are offered a free medical insurance scheme by TIET which they can avail in case of medical emergencies. Leave Travel Concession (LTC) can be availed by all as per rules.

All the wards of the employees study for free (no tuition or development fee) for up to two children if they are admitted to TIET. Jobs on compassionate grounds to family member of a staff who died in service is offered.

- TIET provides an additional incentive to its faculty members every year based on performance parameters.
- TIET has institutes 10 post-doctoral fellowships for young faculty to spend a year at top world Universities up to an amount of Euro 20000 pr year. This is over and above his/her regular salary.
- TIET also offers other benefits to its faculty members. These are Gratuity, Leave Encashment, LTC, Group Medical Insurance and Children Education Allowance.
- TIET offers 1% quota to the wards of its employees on merit basis.
- TIET offers full fee waiver for one child for education in TU and full fee waiver for second child on merit basis.
- TIET offers an initial research grant up to Rs. 5.0 lacs to the faculty members.
- TIET has a flexible cadre structure and pays all the allowances as per government of India allowance structure.
- The faculty and many students can avail the funds allocated for international travel under the head RF(25) for attending international conferences/ workshops/ seminars etc over and above their professional development allowance.

The University has organized Computer proficiency upgradation programmes for the ministerial staff to achieve the desired standards and all the ministerial staff has been trained to handle computers for the routine jobs. The non-teaching staff has been motivated and the self-development achieved can be gauged from the higher qualifications attained by its staff during the last five years.

File Description	Document
Any additional information	[View Document]()
Link for Additional Information	[View Document]()

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

Response: 17.49

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

2017-18	2016-17	2015-16	2014-15	2013-14
124	87	54	38	22

File Description	Document
Details of teachers provided with financial support to attend conferences,workshops etc during the last five years	View Document
Any additional information	View Document

6.3.3 Average number of professional development / administrative training programs organized by the University for teaching and non teaching staff during the last five years

Response: 8.4

6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
31	7	3	1	0

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centres).	View Document
Reports of Academic Staff College or similar centers	View Document
Details of professional development / administrative training programs organized by the University for teaching and non teaching staff	View Document
Any additional information	View Document

6.3.4 Average percentage of teachers attending professional development programs viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Program during the last five years

Response: 44.15

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
392	332	31	28	72

File Description	Document
Reports of the Human Resource Development Centres (UGC ASC or other relevant centers).	View Document
IQAC report summary	View Document
Details of teachers attending professional development programs during the last five years	View Document
Any additional information	View Document

6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff

Response:

For TIET, the processes used to evaluate and provide feedback about the performance of the faculty and staff 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 TIET. The aim of the new evaluation process is to appropriately quantify the academic and research performance of all faculty members at TIET through a self-appraisal system wherein marks are awarded for pre-defined activities of a faculty during a calendar 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 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.

The staff appraisal is completed by the reporting officer on pre-defined parameters and is reported on year-on-year basis to each candidate.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.4 Financial Management and Resource Mobilization

6.4.1 Institution conducts internal and external financial audits regularly

Response:

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 non-recurring 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	Document
Any additional information	View Document
Link for Additional Information	View Document

6.4.2 Funds / Grants received from non-government bodies, individuals, Philanthropists during the last five years (not covered in Criterion III) (INR in Lakhs)

Response: 6.79

6.4.2.1 Total Grants received from non-government bodies, individuals, philanthropists year-wise during the last five years (INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
1.60	1.38	1.43	1.25	1.13

File Description	Document
Details of Funds / Grants received from non-government bodies during the last five years	[View Document](#)
Annual statements of accounts	[View Document](#)

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

Response:

TIET aims to get funding from numerous sources such as alumni, research, fees, industry, philanthropy, CSR etc. These funds would be used to fund scholarships as well as for developing infrastructure for both academics and research. Apart from this surplus will also be generated from operational revenue over a period of time. The institute will pitch for funds from alumni, company's CSR fund, philanthropic agencies etc. to contribute to TIET's endowment fund and corpus for infrastructural development, expansion of campus facilities and building and improving the institute's research infrastructure. The institute already has a strong funding position which it will strengthen further through these endeavours.

Due to the strengthened brand value of Thapar, the institute will be enrolling more students into its programs and will thus increase the funds being received from student fees. As the institute has established its credibility it will now undertake more research and consulting projects as well as enroll more students in their executive and online programs. The institute aims to utilize its enhanced brand value and market position to strengthen bonds with its connections and further increase the incoming funds. The institute will also significantly invest both knowledge and facilities in research on matters of social impact which will further attract CSR and philanthropic funding.

In the 10 year plan TIET aims to have engaged the alumni to the extent that they enthusiastically participate in events organized by TIET and are willing to contribute to the different funds being set up.

Engagement initiatives

- The institute will create and support initiatives for alumni to conduct business with fellow alumni through multiple networking opportunities.

- The institute will further strengthen and grow alumni chapters both nationally and internationally which will lead to increased socializing opportunities.

Funding initiatives

- In the long term TIET will adopt innovative techniques such as using prospect research to tailor alumni outreach, hosting alumni-only fundraising events and creating and promoting an alumni matching gift program (a matching gift is a donation that an alumnus makes to his/her university and is then doubled by the university's matching gift program)

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

6.5 Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

Response:

The University has established, documented and implemented a Quality Management System under the aegis of IQAC. Continuous improvement in the implementation and effectiveness of the quality management system is ensured through continuous reviews and periodic meetings of the IQAC cell. 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 continuality 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 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 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.

The IQAC mandated that we conduct Academic Reviews of engineering departments at TIET every year since 2014. Since then we have had three audits completed by a top International University, Trinity College Dublin. Each time a large team of experts from Trinity College Dublin have visited TIET and have submitted a detailed report about the findings of the review. The objective of the review was to identify the gaps between the current performance levels of TIET and those levels which would be needed to bring the

University into the top ten for the university rankings of India resulting in TIET rising to a university of significance on the global stage. The academic review for the first phase of the contemporisation programme has been completed for – Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, and Mechanical Engineering. The process covered review of curriculum, research, staffing, infrastructure, governance, academic and administrative decision making, strategic and implementation planning encompassing much of the entire academic culture of the University.

The findings report sets out a path, by means of a set of recommendations, to achieve a closing of the performance gap. There are also some observations and recommendations which are core to the IQAC. A substantial overall plan for change is being implemented. In order to kick start this process of developing an overall plan, an operational document was developed as a first step listing a broad implementation plan for effecting the necessary changes. The operational document has several action points which have been acted upon by faculty and staff and required a sustained effort from all of us to achieve the goals.

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

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

Response:

IQAC has been set up as per the norms prescribed by NAAC and meets and reviews the performance of the Institution once every semester in a formal set up. The coordinator of IQAC convenes this meeting which is chaired by the Director. External members include Mr Rajat Sikka from TCS, prominent alumni and senior students with senior University faculty and functionaries attend this meet. The agenda circulated beforehand provides all the relevant data related to teaching learning process, structure of operations and learning outcomes which are measured every semester for every course offered at TIET. The members contribute significantly to all discussions discussed during the meetings. They share their experiences in improving various work situations and offer valuable suggestions in improving the teaching and learning processes.

During its last meeting, the IQAC debated and agreed upon a Teaching and Learning Strategy. During the last two years, we at TIET, have mapped our curriculum that meets the requirements of not only the international Accreditation agencies but also the global employers. We are supplementing the classroom based education system with project oriented teaching and learning.

- Training our faculty by exposing them to processes which are being followed by internationally acclaimed and accredited universities & institutions.

- To understand the student needs and help them in their transition from a purely 'classroom type' learning to 'classroom-cum-project and research' based learning. This has been achieved through CAPSL by organizing technical sessions with experts from the field, exposing faculty to short term

projects and also hone their presentation skills.

- We have introduced an external review of the teaching learning process by co-opting experts from internationally acclaimed institutions.
- Flexible curriculum (CBCS and electives) has been introduced with more number of free electives.
- Hybrid learning (online and offline) is being followed.

Research Strategy

Considering the goal of the University for the next 5 years, a research strategy is being followed to fulfill the aims and objectives for the research. TIET aims to act as a facilitator for knowledge generation & dissemination of international repute. The strategy to fulfill this aim is:

- Publications by all academic staff in international journals of repute (Web of Science SCI) with higher impact factors. Aim for higher Impact factors and citations in publications.
- Consulting projects with research angle has been explored
- Attract research sponsored funding especially by younger faculty within three years of their joining.
- To create a center of excellence in six different multi-disciplinary areas.
- Promote interdisciplinary and multidisciplinary research programs involving top 30% of the faculty from each department/school to publish in high impact journals.
- Improve the patent output of the University.
- Research partnership with reputed national (IIT's and IISc) and International Universities.
- Establishment of incubation centres to leapfrog research and innovation.

IQAC cell measures and presents the data on learning outcomes of various years of study typically course wise and actions are taken where score are lower than 3 on a 5-point scale.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

Response: 2.2

6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
2	2	2	2	3

File Description	Document
Number of quality initiatives by IQAC per year for promoting quality culture	[View Document](#)
IQAC link	[View Document](#)

6.5.4 Quality assurance initiatives of the institution include

1. **Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements**
2. **Academic Administrative Audit (AAA) and initiation of follow up action**
3. **Participation in NIRF**
4. **ISO Certification**
5. **NBA or any other quality audit**

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

Response: Any 4 of the above

File Description	Document
e-copies of the accreditations and certifications	[View Document](#)
Details of Quality assurance initiatives of the institution	[View Document](#)
Any additional information	[View Document](#)
Annual reports of University	[View Document](#)

6.5.5 Incremental improvements made during the preceding five years *(in case of first cycle)* **Post accreditation quality initiatives** *(second and subsequent cycles)*

Response:

TIET has taken necessary steps to implement the recommendations made by the peer team during the last NAAC visit in May 2016. The details response to all the recommendations is provided in the link below and also in additional information provided with this section. Some improvements are summarized below:

Teaching and Learning

- From Teacher Centered Learning to Student Centered and Outcome Based learning.
- The new teaching pedagogy lays emphasis on applying engineering skills through relevant engineering design projects, improving team-working skills and awareness of issues relating to ethics and professionalism. Also, all academic staff is encouraged to bring in cutting-edge research ideas from their own research into their teaching. Some of the significant changes made in the curriculum is introduction of three large engineering design projects during the first two years followed by a capstone and an individual research project during the later years.
- 300 faculty members from all disciplines trained in New Directions Program on pedagogical improvements featuring curriculum development, assessment, outcome based learning, self-directed learning, scholarship etc offered in groups of 20 during 2016, 2017 and 2018.
- Setting up of an Experiential Learning Centre under the mentorship of a top Professor from University of Waterloo, Canada who spends 4 months a year at TIET leading this initiative.
- Establishment of a Venture Lab in partnership with University of Groningen where several companies are getting incubated and all students are exposed to entrepreneurship and innovation programs.
- Major examination reforms in which all end semester exam papers are reviewed by an external examiner before the examinations begin. The review is to ensure learning outcome are met.

Research

TIET has set up a Research Committee to oversee a structured PhD program, form inter-disciplinary research groups, encourage/ support the academics to publish, take research students, raise research funding and feed this knowledge into advanced undergraduate and postgraduate courses and oversee the setting up of a major Research Centres. The committee reviews the metrics for measurement of research output (Publications, PhD student(s), research funding, innovation and impact). Some key parameters on research indices are as under:

- Institute's-index is 62;
- Over 900+ publication annually; (Source: Scopus)
- 120+ sponsored research projects.
- Highest number of publication/faculty amongst peer institution as per QS ranking;
- Citation per publication of 6.85 in Web of Science and 6.2 in Scopus
- Multilevel collaboration with International Universities
- Identified and conceptualized areas for establishment of COEs include, Smart cities, Big data, Advanced manufacturing, Food security, Nanoscience and Animation & Gaming
- Ongoing research activities in centres such as CORE, SAI lab
- 5% of faculty with H index >10;

Infrastructure

Over Rs 400 cr spent on campus infrastructure development. The new construction during 2016 till date spreads across 90000 sq.m comprising of Learning Centre (Computer Science block, Modern and iconic lecture halls), Library and student accommodation. TIET has also rolled out a rolling program to refurbish existing facilities that includes modernization of labs (56 labs completed in three years) and other academic infrastructure.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

Criterion 7 - Institutional Values and Best Practices

7.1 Institutional Values and Social Responsibilities

7.1.1 Number of gender equity promotion programs organized by the institution during the last five years

Response: 6

7.1.1.1 Number of gender equity promotion programs organized by the institution year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
2	1	1	1	1

File Description	Document
Report of the event	[View Document](#)
List of gender equity promotion programs organized by the institution	[View Document](#)
Any additional information	[View Document](#)

7.1.2 Institution shows gender sensitivity in providing facilities such as
a) Safety and Security
b) Counselling
c) Common Room

Response:

Safety and Security

TIET has a vast campus of 250 acres with boundary wall and barbed fencing all around its perimeter. The three gates are manned 24 hours by security staff at all times. Similarly academic blocks and hostels have round the clock security arrangement which ensures a safe and secure surroundings. All hostels and academic areas including in gates have CCTV installed at strategic points to check any untoward incidents. During the past several decades, no major incident in terms of safety or security has been reported.

The girls stay in separate hostels with additional fencing around each block and 24-hour security with CCTV assistance. The girls are generally required to report back to the hostel by 8.30 pm. Entry of outsiders is strictly prohibited in residential areas. The institute has constituted a committee and a separate cell to deal with issues related to safety and security of girls and women, in particular an entire youth in general. The committee also looks into the matters related to gender based violence and conduct gender sensitisation programs to give effect to a policy of zero tolerance on campus for gender based violence and harassments. The cell provides on-going management advise, supervision and oversight, as well circulate

information material from time to time.

Counselling

Dean of Student Affairs has established a student mentorship initiative program to create an interactive and target oriented counselling program involving students, faculty and parents to address common student concerns ranging from anxiety, stress, fear of change and failure, homesickness and other academic concerns. The purpose is to mentor and monitor the academic and behavioral patterns of the students through faculty mentorship. The students are assigned to each faculty member in groups of 20 to 25. These students are under continuous tutelage of the faculty mentor for a full period of four years of his/her study. In subsequent year, the new students will be added to this group of each faculty member, thereby making the strength to be nearly 100 in 2020. Faculty mentors guide students and help them to adjust in the university life. Through a supportive environment, the students are able to make the most of their university experience.

The Institute has also hired a full time psychological counsellor, Ms Sonam Dulat, who is available on all days for counselling. Whenever, anything is reported, the student is advised to seek her advise.

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.

The counselling cell offers following services:

Counseling & Consultation Services

Outreach Services

Crisis Services

Common Room

The girls have common room facilities across all hostels as well as in the academic areas. The students use these facilities at all times.

File Description	Document
Any additional information	[View Document]()
Link for Additional Information	[View Document]()

7.1.3 Percentage of annual power requirement of the Institution met by the renewable energy sources

Response: 30.35

7.1.3.1 Annual power requirement met by renewable energy sources (in KWH)

Response: 465200

7.1.3.2 Total annual power requirement (in KWH)

Response: 1533000

File Description	Document
Details of power requirement of the university met by renewable energy sources	View Document

7.1.4 Percentage of annual lighting power requirements met through LED bulbs

Response: 60

7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)

Response: 98550

7.1.4.2 Annual lighting power requirement (in KWH)

Response: 164250

File Description	Document
Details of lighting power requirements met through LED bulbs	View Document
Any additional information	View Document

7.1.5 Waste Management steps including:
- **Solid waste management**
- **Liquid waste management**
- **E-waste management**

Response:

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	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

7.1.6 Rain water harvesting structures and utilization in the campus

Response:

Thapar Institute is setting up thirty three rain harvesting pits across the campus in various locations.

Rain Water Harvesting Plan

Rain water harvesting pits have been constructed in the Institute premises for the recharge of ground water. There are thirty five such structures proposed out of which four are constructed in the existing academic area (See details below), two more have been constructed in the new hostels and five more are planned for construction this year in the M-Hostel and new learning centre. The rain water harvesting structure which are in operations are located near parking of Mechanical Engineering Department of size 6m×6m, parking of B & C blocks of size 7m×4m and 3m diameter of (02) number structures are located near R & D gate and faculty residences (FRC).

Sr. No	PROPOSAL FOR R.H.P	CONSTRUCTED TILL DATE	
1	We have proposed 18 no of rain harvesting pits (R.H.P.) in existing building	Out of 18 we have already constructed four no 6.00mx6.00m Mech deptt., 7.00mx4.00m B& C , 3.00m dia R&D GATE & 3.00m dia FRC) a will constructed within coming three years	
2	One RHP has been proposed for hostel -K	It has been already been constructed and in op 8.00mx4.00m)	
3	One RHP has been proposed for hostel -L	It has been already been constructed and in op 6.00mx3.00m)	
4	Three RHP has been proposed in new boys hostel (Hostel –M)	Location has been finalized and work will be rainy season	
5	Total twelve no RHP has been proposed in learning centre which is under construction	Two are under construction and remaini constructed with completion of buildings	

File Description	Document	
Link for Additional Information	[View Document](#)	

7.1.7 Green Practices
- **Students, staff using**
a)   **Bicycles**
b)   **Public Transport**
c)   **Pedestrian friendly roads**
- **Plastic-free campus**
- **Paperless office**
- **Green landscaping with trees and plants**

Response:

Bicycles

TIET Patiala is housed in a lush green campus of 250 acres where use of powered vehicles by students is prohibited by Institute rules. No student (other than day scholars who can bring two wheelers up to the parking spot near the main gate) is exempted from this rule. The students are encouraged to walk on nice path ways built along all roads shaded with green trees on both sides. Students, if they wish, can use bicycle to transit to various campus locations. There are adequate parking lots in hostels and academic areas for bicycles.

Public Transport

There are some e-Rickshaws that are allowed to run on the campus between hostels and academic areas at nominal rates. We have authorized these e-Rickshaws after verification of credentials of their owner and drivers. Staff and faculty members are also encouraged to use bicycles.

Pedestrian friendly roads

Dean Student Affairs in consultation with the Student Consultative Committee has designated some roads only for pedestrians in the campus for their comfort and safety. These are roads that connect the student hostels with the academic blocks. No vehicular traffic is allowed on these roads.

Plastic Free Campus

The use of polythene is not allowed in the campus and strict guidelines in this regard have already been issued to all the vendors and shops operating in the campus.

Paperless office

Various activities of the Institute like registration of students, allotment of hostels, examination, library etc. are fully automated to ensure paperless campus. We are mostly using institute ERP system or e-mails for all official communication. Other than those activities, where we cannot avoid (eg. Question papers during formal examinations) paper is seldom used.

Green Landscaping

We have a campus where we frequently run tree plantation drives through many of the student societies like NSS, Paryawaran Welfare Club, etc. We have larger varieties of trees even some trees are more than 100 years old. These trees host a lot of birds and one can enjoy the scenic beauty of our national bird Peacock at our campus. We have also setup a nature park on campus with hundreds of trees and walk ways through the woods.

All the residents of campus are fully aware of their responsibility towards nature and help to maintain the clean and green campus.

File Description	Document
Link for Additional Information	[View Document](#)

7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

Response: 7.41

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year-wise during the last five years(INR in Lakhs)

2017-18	2016-17	2015-16	2014-15	2013-14
2184.2	1607.14	1291.32	416.40	579.44

File Description	Document
Green audit report	[View Document](#)
Details of expenditure on green initiatives and waste management during the last five years	[View Document](#)
Any additional information	[View Document](#)

7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. **Physical facilities**
2. **Provision for lift**
3. **Ramp / Rails**
4. **Braille Software/facilities**
5. **Rest Rooms**
6. **Scribes for examination**
7. **Special skill development for differently abled students**
8. **Any other similar facility (Specify)**

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

Response: A. 7 and more of the above

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File Description	Document
Resources available in the institution for Divyangjan	View Document
link to photos and videos of facilities for Divyangjan	View Document

7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years

Response: 170

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
36	36	34	32	32

File Description	Document
Number of Specific initiatives to address locational advantages and disadvantages	View Document
Any additional information	View Document

7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

Response: 23

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
3	4	7	5	4

File Description	Document
Report of the event	View Document

7.1.12

Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal /Officials and support staff

Response: Yes

File Description	Document
Any additional information	View Document
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	View Document

7.1.13 Display of core values in the institution and on its website

Response: Yes

File Description	Document
Any additional information	View Document
Provide URL of website that displays core values	View Document

7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations

Response: Yes

File Description	Document
Details of activities organized to increase consciousness about national identities and symbols	View Document
Any additional information	View Document

7.1.15 The institution offers a course on Human Values and professional ethics

Response: Yes

File Description	Document
Any additional information	View Document
Provide link to Courses on Human Values and professional ethics on Institutional website	View Document

7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions

Response: Yes

File Description	Document
Any additional information	[View Document](#)
Provide URL of supporting documents to prove institution functions as per professional code	[View Document](#)

7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years

Response: 64

7.1.17.1 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year-wise during the last five years

2017-18	2016-17	2015-16	2014-15	2013-14
19	16	7	11	11

File Description	Document
List of activities conducted for promotion of universal values	[View Document](#)
Any additional information	[View Document](#)

7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities

Response:

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 Independance 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 memebrs with their families are invited for these celebrations.

Following are the detailed programs of Independence and Republic day.

Independence Day

The **Independence Day** function is celebrated by Thapar Institute of Engg. & Technology, Patiala on August 15 every year at 7:30 A.M. **at Main Lawn (in front of Lilly Pool)** as detailed below :

	ACTIVITIES	Timings	
(a)	Assembly for the celebrations	7:30 A.M.	
(b)	Flag Hoisting & National Anthem	7:45 A.M.	
(c)	Patriotic Songs	7:50 A.M. – 8:20 A.M.	
(d)	Director's Address	8:20 A.M.	
(e)	Distribution of Sweets	8:30 A.M.	
(f)	Retreat Ceremony	6:30 P.M.	

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All faculty & staff with their families and students are encouraged to attend the celebrations. The program sees wide participation from the campus community.

Republic Day

The Republic Day function is celebrated by Thapar Technology Campus, Patiala on January 26 at 9 : 00 AM in the lawn in front of the administrative block as per programme below :

Ø Assembly	:	9 : 00 AM
Ø Flag Hoisting & National Anthem	:	9 : 05 AM – 9:15 AM
Ø Patriotic Songs	:	9 : 15 AM – 9:40 AM
Ø Director's Address	:	9 : 45 AM
Ø Distribution of Sweets	:	10 : 00 AM
Ø Retreat Ceremony	:	6:00 P.M.

7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions

Response:

TIET has a governance structure that embody the institute's values of transparency and accountability in its financial, administrative and auxiliary functions.

Transparency

TIET, through its Governing Bodies makes sure that there is a centralized, coordinated system that enables 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. Having an open and competitive process for the recruitment (appointment) of employees at TIET is ensured by announcing an open call for expression of interest, publication of selection criteria and justification of the decision taken. In order to maintain transparency within the system, the new Governance Structure at TIET is clarified to all members of it, with clear instructions of accountability.

Students and staff of the institution have appropriate access to information about the proceedings of all Institute functions; other than the matters covered in standing orders where it is necessary to observe confidentiality.

Good practice for TIET include placing copies of the minutes on the institution's intranet and in its library, reporting on decisions in a newsletter, and ensuring that the annual report and accounts are circulated to

academic departments and any student representatives.

The institute's annual report and audited financial statements are made widely available outside the institute. The Institute publishes reports at the end of each annual year in order to address the milestones and challenges they faced. The Institute also makes available to the public the budget, funding, and current expenses of the institute - in order to analyse the requirements and areas of investments. The Institute also makes available the salary structure of the institute faculty and staff in order to maintain the highest level of transparency.

The Institute declares all its functions as part of the mandatory disclosure exercise on its website every year. This includes data of number and qualification of faculty, labs and equipment therein, number of students enrolled and graduating, finances and all such allied functions.

The Institute has ensured establishment and monitoring of proper, effective and efficient systems of control and accountability (including financial and operational controls and risk assessment, clear procedures for handling internal grievances and for managing conflicts of interest.)

The Anti-Sexual Harassment Committee monitors any grievances and report them to the authorities as necessary. The Committee prepares reports and take action where required.

The annual report of TIET's performance from all its Governing Bodies is published widely. It includes identification of key individuals and a broad summary of the responsibilities and accountabilities that the governing body delegates to management, or those which are derived directly from the instruments of governance.

The Institute, wherever possible, benchmarks TIET's performance against indicators of performance of other comparable institutions in India or abroad. The results of effectiveness reviews, as well as of TIET's annual performance against clearly identified performance indicators, are published widely, including on the Internet and in the institution's annual report.

7.2 Best Practices

7.2.1 Describe at least two institutional best practices (as per NAAC Format)

Response:

Since it is not possible to write the best practices in the given format in 1200 words, the detailed writeup is provided in the uploaded document under "Any Addtional Information". A brief of the two best practices is as under:

For the writeup here, we are presenting the Title and the objectives of the two best practices. More details as per the required format are provided in the uploaded file.

Best Practice - I

1. Title of the Practice

To prepare TIET faculty for a student-centred approach to learning, through a programme of workshops that promotes professional development and acquisition of key skills.

2. Objectives of the Practice

TIET's contemporisation programme is committed to further develop, among other things, its teaching, learning and research culture. At the moment, TIET is committed to deliver a full change and development programme that will contribute to the realization of this aspect of the contemporisation programme. This programme is running under the academic mentorship of Trinity College Dublin. Following a comprehensive needs analysis conducted by survey, workshops, and consultation meetings we now have a better understanding of the development needs, and as a result a tailor bespoke programme has been developed that is delivering more meaningful results for Thapar.

We believe that simply delivering modules will not address the culture and organization changes that will need to happen if Thapar is to realize the teaching, learning and research objectives of its contemporisation programme. We need an approach that develops a teaching, learning and research culture that builds on existing strengths within Thapar and that also addresses gaps. The first priority is to address with Thapar staff the paradigm shift needed from teaching to learning, and to teaching, learning and research, shifting emphasis from teachers as content experts to teachers as facilitators of student-centred learning. This will support a whole-institutional approach to teaching and learning and facilitate a broad adoption of this new learning paradigm

Best Practice - II

1. Title of the Practice

Project Semester- A Six-Month Internship programme aimed at carrying out projects and problem solving in industry.

2. Objectives of the Practice

What are the objectives/intended outcomes of this "best practice" and what are the underlying principles or concepts of this practice?

Objectives of the project semester programme are to:

- expose the students to industrial working and the practical aspects of theoretical knowledge and skills they acquire in the Institute
- involve the students in industrial problem solving through systematic analysis and development of innovative solutions under the guidance of industry experts
- make students industry ready not only in technical aspects but also interpersonal skills, communication skills, team work, and project orientation
- improve contacts with industry through joint mentoring of student projects by industry mentors and a faculty mentor and use these contacts for improving curriculum and other aspects of teaching-learning process

File Description	Document
Any additional information	View Document
Link for Additional Information	View Document

7.3 Institutional Distinctiveness

7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority and thrust

Response:

Apart from being a leading institute in undergraduate and post graduate education, TIET puts a strong emphasis on basic and applied research. TIET aims to reform teaching delivery within our subject disciplines by bringing in learning from research activities.

Research is a core component of the mission of TIET and is the cornerstone for providing the best possible educational experience for students, for training research leaders of the future, for creating a vibrant environment of inquiry, and for fostering partnerships with our local and global communities – including industry, governments, and other institutions. At TIET there is an inextricable link between teaching and research; the essential thread is learning.

Over the last 5 years, TIET has experienced remarkable growth in research activity and has become one of India's most research-intensive institutions. Clear evidence of this is the upward trend in the quantum of citations, publication and collaborative works.

TIET Research Output (Scopus Data as on August 7, 2018)

Total Documents: 4982; **Total Citations:** 31445; **H-Factor:** 58; **Average citations per documents:** 6.31

The spike is the number of publications is visible in the SCOPUS as well as Web of Science databases. Score of 6.85 (WoS) and 6.31 (SCOPUS) citations per article demonstrates the qualitative improvement in research. The institute today has an H-index of 58, with several faculty members having an h-index equal to or over 10.

87% of the regular faculty today holds a PhD. as compared to just 50%, 5 years back. This growth is also attributed to the significant and transformational investments made in the research space and infrastructure.

Initiatives undertaken by TIET include:

Contemporization Program:

- 70 Cr earmarked for lab development between 2015-2020
- Introduction of experiential learning
- Faculty training and development program delivered through the CAPSL

Joint research chairs: Two sponsored research professorships at Trinity. The professor is expected to

spend time both at TIET and Trinity and would lead a major research effort which will culminate in setting up the research centres at TIET over the next few years

Budget: About 15% of the TIET's budget is marked for R&D activities.

Faculty recruitment: TIET does not recruit any faculty without PhD since 2011.

PhD evaluation: There is a stringent requirement for evaluation of PhD. Thesis wherein the student is required to publish at least 2 SCI papers before submission

Other initiatives include:

- Faculty Selection norms laying clear focus on research
- Initiation of Initial research grants of INR 5 Lakhs to new faculty
- Performance Incentive Scheme

The Scopus data shows an impressive growth in publications over the years and this is one of the significant contributors in enhancing TIET ranking in NIRF, entry into QS and Times World Rankings.

Further steps: Our current practice of faculty selection/promotion and PIS is purely based on number of publications, sponsored projects and Ph.D. guidance. This will now be modified to include quality parameters (Citations & H-Factor) even at the highest academic level. This will bring about a significant change in quality of research output.

File Description	Document
Any additional information	[View Document](#)
Link for Additional Information	[View Document](#)

5. CONCLUSION

Additional Information :

The curriculum followed at most engineering institutions up till 2014 was mostly textbook style and a content-based teaching was practiced. Mindful of these shortcomings we developed a unique contemporization program to place a greater emphasis on research-inspired and project -led teaching. We adopted the learning-outcomes approach for teaching with greater reliance on self-directed learning, mini-projects within the courses and research-led teaching. Some significant changes made were introduction of three large engineering design projects during the first two years followed by a capstone and an individual project. The students are trained to design their own experiments and they take up many cross-functional, multi-disciplinary design projects. We measure the attainment of course learning outcomes and corrective actions are initiated as and when required. The feedback from students, industry and alumni is fed back into the system to effect improvement in pedagogy. The new teaching pedagogy lays emphasis on applying engineering skills through relevant engineering design projects, improving team-working skills and awareness of issues relating to ethics and professionalism.

We have made one-semester internship as a significant feature of our curriculum since 1997. Both industry and students view this engagement as extremely useful. All students write a goals, interim and a final report along with a reflective diary for the projects. Several students have been offered jobs by the participating industries.

We have introduced need-based soft skills development programs for students. Specialists are hired to help students develop good communication skills and also harness other soft skills.

Concluding Remarks :

Aspiring to become a globally acclaimed university, TIET is undertaking a unique Contemporisation Program to deliver a research inspired, outcome based educational experience to the students. This project is being undertaken in partnership with Trinity College Dublin and covers all the major academic and research activities of the Institute. We invited Trinity to conduct an academic review of our programs. The findings of the review set out a path to achieve a closing of performance gap. An overall plan for change was prepared for implementing the findings of academic review. Accordingly, the harmonization of engineering program curriculum was taken up to bring it up to date with global standards. We have undertaken major examination reforms.

To give a major fillip to research, we have sponsored two research-professorships at Trinity. The Professors would spend time both at Thapar and Trinity and would lead major research effort which will culminate into setting up of State-of-the-Art research centre at Thapar.

We have envisioned improving the laboratory and physical infrastructure on the campus. A modernization plan for the important teaching and research laboratories is being implemented. Many of these new facilities are functioning from 2017-18. Face lifting and modernization of older buildings has also been planned in a major way.

The results of these efforts is already showing. TIET has jumped several notches in NIRF rankings 2018 at 20th position amongst engineering institutions and 33rd amongst Universities in India. TIET is also featuring in

Times HE and QS world rankings in 801-1000 category.