

INTERNAL QUALITY ASSURANCE CELL (IQAC)

Minutes of Meeting					
Meeting Date	28 th Feb 2023	Meeting Time	3:00-5:00 PM	Venue	Committee Room

IQAC meeting was held on February 28, 2023, at 3:00 PM in committee room. Following members were present.

Prof. Padmakumar Nair, Director, Chairman IQAC
Prof. Ajay Batish, Deputy Director & IQAC Coordinator
Dr. Gurvinder Singh, Registrar
Prof Rafat Siddique, DoRSP
Prof. R S Kaler, DoFA & HEIED
Prof. Maninder Singh, Dean of Academic Affairs
Prof. Inderveer Channa, Dean of Student Affairs
Prof. Shalini Batra, Head, CSED
Prof. A K Verma, Head, CSED, Derabassi campus
Prof. Alpana Aggarwal, Head, ECED
Prof. Prempal Bansal, Head, CED
Prof T K Bera, Head MED
Prof. Rajeev Mehta, Head ChED
Prof. M S Reddy, Head BTD
Prof. Kulvir Singh, Head, SPMS
Prof. Satnam Singh, Head, SCBC
Prof. Mahesh Kumar Sharma, Head, SoM
Dr. Gurvinder Kaur, Head, SHSS
Dr. Anoop Kumar, Head, SEE
Prof. Santha Kumari, Head, TSLAS
Mr. H S Bawa, CILP
Mr. Ashwini Kumar Kapoor, Alumni (Online)
Mr. Rajat Sikka, Academic Liaison Officer, TCS (Online)
Mr. Kanav Marwaha, Student Representative
Mr. Ritvik Laroia, Student Representative

Action taken report on the minutes of previous IQAC

All pending issues have been acted upon and completed. A brief presentation on action taken report and other activities of IQAC was made by the IQAC coordinator. The report below summarizes the discussion points.

Stimulating research, development, and consultation:

The faculty of Thapar Institute had published 967 research papers in SCI Journals whereas 1478 research papers published in Scopus Journals in the year 2022 and many sponsored

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research projects are currently ongoing in different disciplines. With research focused in niche areas of engineering and sciences, Thapar Institute of Engineering & Technology has 11634 published research papers in Scopus journals under its belt. The average citation per publications from institution has risen to 16.69. The h-index of the institute has also been increased to 125. Overall, on average each faculty members have published at least 2 papers in Scopus/SCI journal meeting the expectation set in the last meeting. It is also observed that Thapar Institute's publication share in Q1 journal is 47.2% in last 5 years. Over 75% of total publication of last 5 years published by Thapar Institute's faculty are in Q1 and Q2 journals and the overall research quality is 53% above the world average as per one of the reports prepared by Elsevier. The quality of the publication is meeting the expectation of Institute. It is also observed that the impact of research publications published through international collaboration is higher than the publication received through national collaboration. As per the Elsevier report, the publications impact of Computer and Mathematics faculty are observed to be better than the Material science, Chemical Engineering, Physics and Astronomy and Biochemistry. The institute is also meeting the expectation of some of research indicators such as Number of patents granted, average citation in both Scopus and Web of Science journals and the number of Departments got funding support from UGC-SAP/DST-FIST

Research Indicators

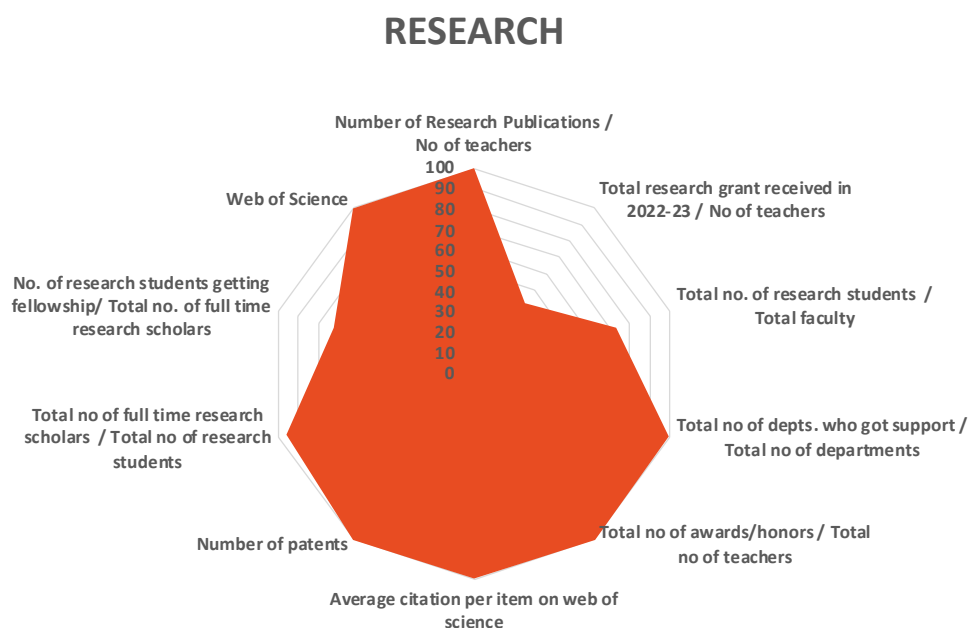
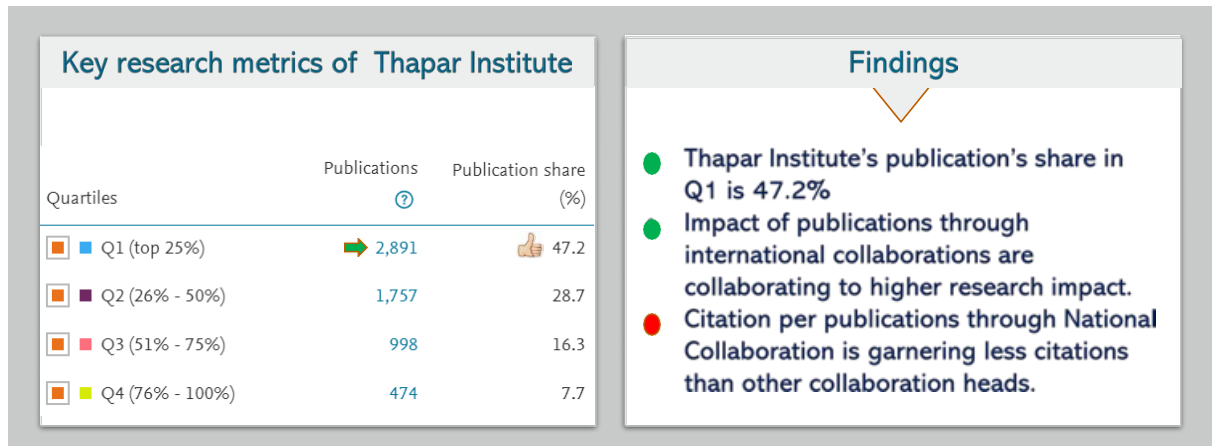


Figure 1: Research Performance of TIET

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Metric	Scholarly Output	Citations	Citations per Publication	Field-Weighted Citation Impact
International collaboration	22.8%	1,621	32,631	20.1
Only national collaboration	36.9%	2,627	22,519	8.6
Only institutional collaboration	37.7%	2,682	32,132	12.0
Single authorship (no collaboration)	2.6%	186	3,810	20.5

Figure 2: Quality of Publications in last 5 years

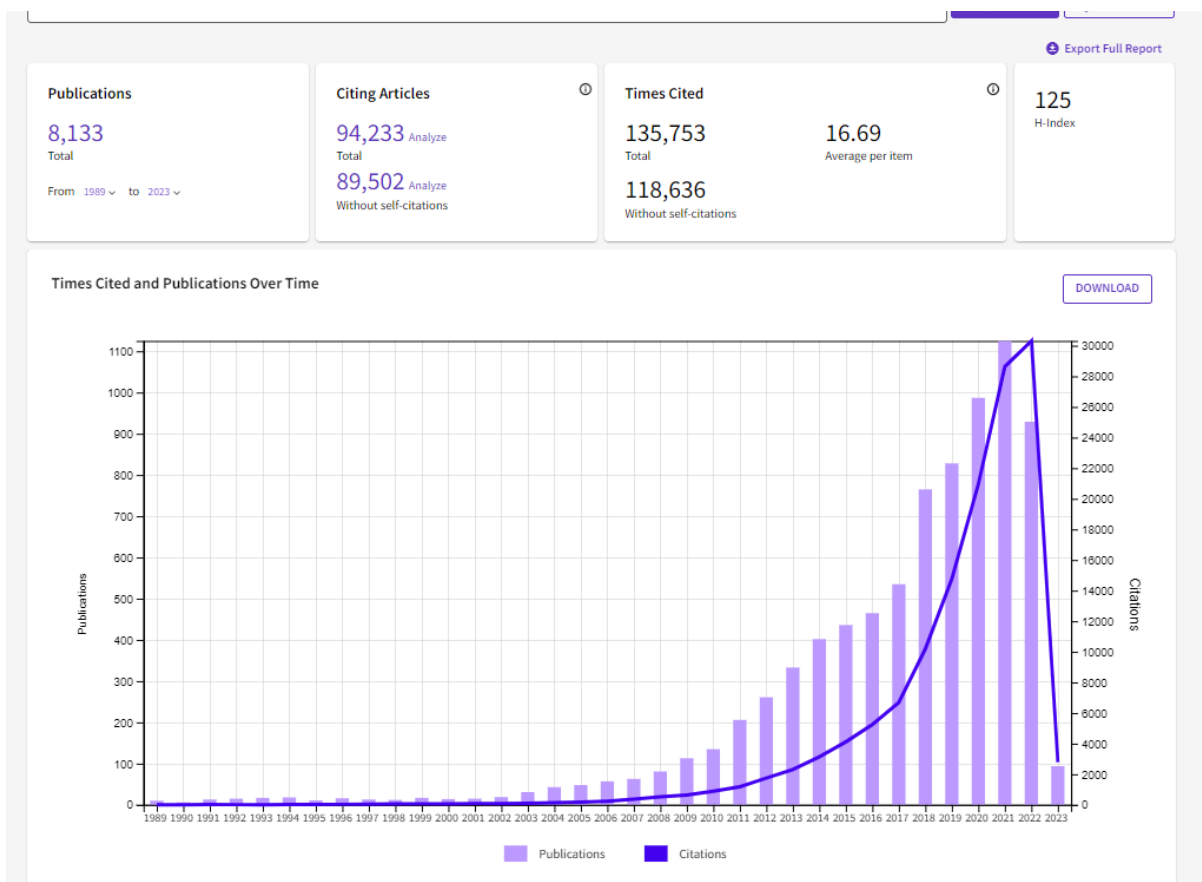


Figure 3: No of Publication, Citation and H index of TIET in Web of Science

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Although many sponsored research projects are currently ongoing in different disciplines, the Institute faculty members received a total grant of ₹430.93 Lakhs from various funding agencies for cutting edge research in their domains in the academic year 2022-23 upto the month of January 2023.

Table 1: Funding sanctioned/received in the year 2022

Sr.No.	Name of the Funding Agency	Sanctioned Amount (In Lacs)	Deptt.	Principal Investigator
1	SERB	30.62	SCBC	Banibrata Maity
2	SERB	25.59	CIVIL	Dr. Trishna Choudhury,
3	DST Inspire Faculty	7.00	BTD	Vanish Kumar
4	MEITY	88.76	ECED	Rajesh Khanna & Mayank Rai
5	SERB	29.82	CIVIL	Shruti Sharma
6	SERB	27.91	SPMS	Poonam Uniyal
7	DAE	19.43	CHED	Haripada Bhunia
8	SERB	14.56	BTD	Vasundra M
9	SERB	4.50	CSED	Jhilik Bhattacharya
10	Trident (Industrial)	10.49	SEE	Anoop Verma
11	ICMR	16.92	SCBC	Diptiman Choudhury
12	SERB	39.79	EIED	Prasenjit Basak
13	SERB	8.25	CSED	Rupali Bhardwaj
14	IIT	15.00	MED	Raja Rout
15	SERB	87.30	BTD	Manoj Barnwal
16	DST	4.99	BTD	N Tejo Prakash
		430.93		

Going Forward

The institution aims to make targeted investments to develop new interdisciplinary and inter-institutional collaborations to establish six centres of excellence (COE) across identified research themes. Presently, the centre for food security with Tel-Aviv University and Centre for Emerging materials with Virginia Tech, USA is fully operational and MoU has been signed for Centre for Advanced Manufacturing with Tel-Aviv University.

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Figure 4: Plan for establishing Centre of Excellence by 2025

As six CoEs are to be established, it is expected that close to 200 academic members of TIET staff, 100 Postdoc or PhD students would be working in these centres during the next five years.

Center for Excellence in Emerging Materials

Three new thrust areas have been added this year under Center for excellence in Emerging Materials

- Synthesis of Graphene and derivatives from precursors, including composites
- Cancer detection and treatment
- Sustainable construction

A total of 54 research projects are ongoing in this centre out which 35 are regular projects and 19 are seed money projects. There are 63 faculty members of TIET involved in this centre for research.

Center for Excellence in Food Security

A total of eight different projects have been allocated under the TIET-TAU Center of Excellence for Food Security. There are 34 TIET faculty, 20 faculty from Punjab Agricultural University and 11 faculty from Tel Aviv University Israel involved for research in this centre.

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Frontier Research Areas

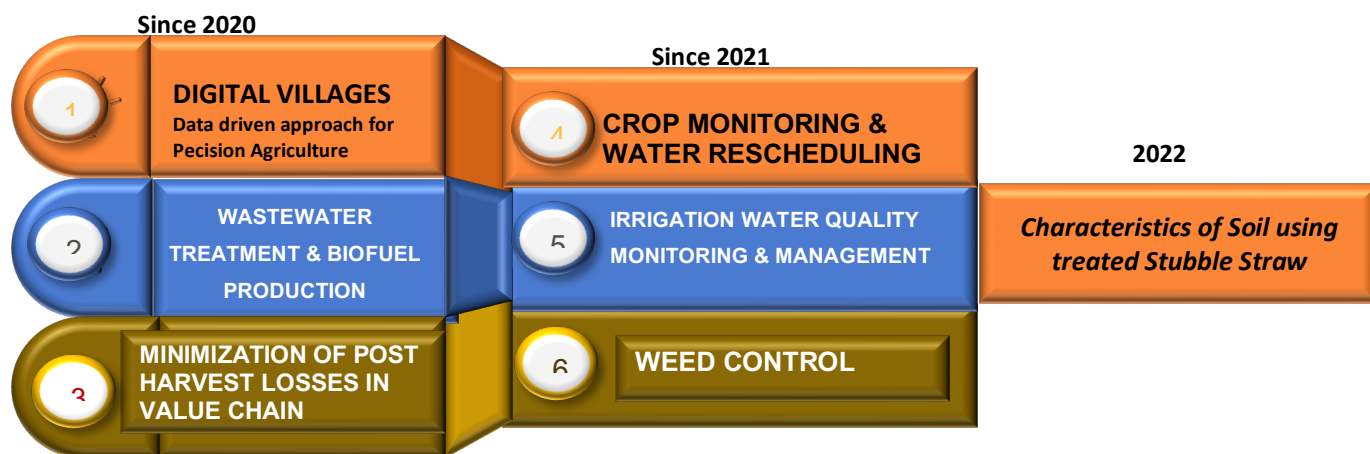


Figure 5: Projects at CoE Food Security

Academic Indicators

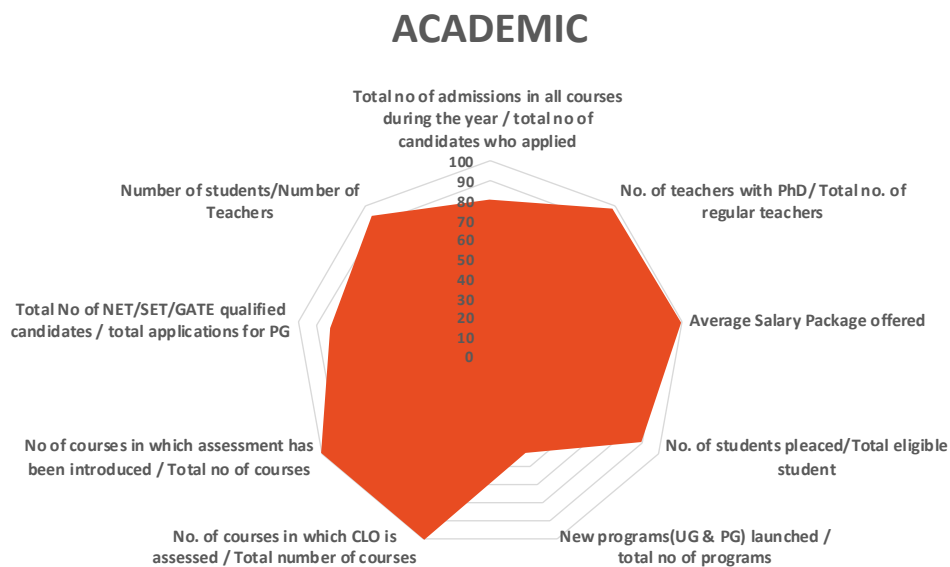


Figure 6: Academic Performance at TIET

Admissions 2022-23

The Institute received a total of 24000 applications for 3000 seats indicating the demand ratio as 1:8. The Institute has set a target of 1:10 for the demand ratio, which is around 80%

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achieved. The Institute has 94.34% teachers who are PhD qualified. All UG programs have been transformed into outcome-based education, where every course learning outcome is measured throughout the year. We have received 312 applications from students who have qualified NET/SET/GATE for around 750 seats, which is below the expectation of at least 50% applications.

Placements 2022-23

In academic year 2022-23, 273 companies visited TIET for the recruitment of UG & PG students till date. Of the students from UG and PG who were eligible and had opted for campus placements, 1503 were placed and having 1552 total offers. In BTech Bio-Tech 3 out of 35, Bio-Medical 1 out of 11, Civil 26 out of 116, Chemical 23 out of 48, Computer Engineering/Computer Science & Engineering/ Computer and Business Studies/ 830 out of 1238, Electronics and Communication 99 out of 178, Electronics & Computers 134 out of 199, Electrical 89 out of 177, Electronics Instrumentation & Control 80 out of 119, Mechanical 137 out of 224, Mechatronics 32 out of 69 & Mechanical Production 7 out of 26 got placed through campus placement. The overall placement percentage of all eligible students of UG courses is around 60% till 25th Feb 2023. Apart from UG branches, 21 master students (MCA, ME, MTech, MSc, MA) also got placement through campus interviews, making it around 10% overall in PG courses till 25th Feb 2023. Hence total numbers of offers received are 1526.

Table 2: Placement records

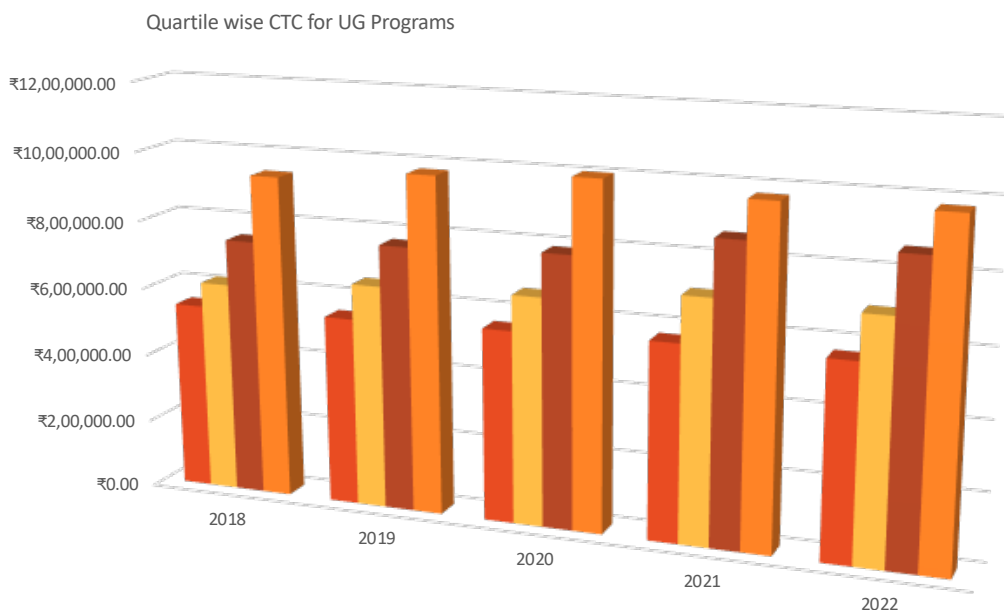
Academic Year	Companies Visiting	Number of students placed			
		Single Offer	Multiple Offer	Total Students Placed	Total Offer
2017-2018	322	934	203	1137	1345
2018-2019	332	1174	75	1249	1324
2019-2020	347	969	126	1095	1221
2020-2021	431	1104	120	1224	1344
2021-2022*	406	1342	263	1605	1868
2022-2023*	273	1454	49	1503	1552
*Till 28.02.2023					

The CGPA obtained by the students opted for campus placement have been prepared in a range of 4 quartiles (Q1, Q2, Q3 and Q4) and average CTC of placed students of corresponding CGPA quartiles have been plotted. It is observed that the students of higher CGPA range (Q1 quartiles) received higher average CTC in their placement.

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	2018	2019	2020	2021	2022
Q1	[5.71 - 7.34]	[5.93 - 7.51]	[6 - 7.63]	[6.14 - 7.8]	[6.11 - 7.78]
Q2	[7.34 - 7.995]	[7.51 - 8.14]	[7.63 - 8.235]	[7.8 - 8.38]	[7.78 - 8.38]
Q3	[7.995 - 8.58]	[8.14 - 8.72]	[8.235 - 8.79]	[8.38 - 8.9325]	[8.38 - 8.95]
Q4	[8.58 - 9.9]	[8.72 - 9.89]	[8.79 - 10]	[8.9325 - 10]	[8.95 - 10]

■ Q1 ■ Q2 ■ Q3 ■ Q4

Figure 7: CTC as per the quartile of CGPA obtained by UG students.

CAPSL 2022-23

- a. **New Directions Program (NDP):** A new batch of new directions program (NDP) has started from December 2022. The program will run for full semester and will continue for another 3-4 subsequent rounds of one week engagement of faculty members till July 2023. There are 82 newly joined faculty participating in the 7th batch of NDP, which has been divided into 4 groups. The faculty members will undergo 5 core modules, 3 (Out of 5) Fellow optional (FO) and 2 (Out of 3) CAPSL optional Modules during NDP.

Table 3: Modules of NDP 2022-23

<u>Core Modules:</u>	<u>FO Modules</u>	<u>CAPSL optional Modules</u>
Student Centric Learning	Peer Observation of teaching	Creativity
Assessment	Project based learning	Group work
Curriculum	Fostering self-regulated learning	Evaluated teaching
Reflection	Research integrated teaching	
Outcome based Approach	Learning and feedback skills of students through self and peer assessment	

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- b. **Advanced Program in Teaching and Learning 2022:** The advanced program in teaching and learning (ADP) focuses on professional development and integrating teaching, learning in an online environment. The whole program is designed by Thapar Trained Academic Fellows with inputs from TIET academicians. The program is research-informed and is practice-based. A total of 45 different faculty members have submitted their final assignment and expected to successfully complete this course. There are 5 modules offered in the course spanning three months. The modules include:
- c. Assessment for Higher Level Abilities of Bloom's Taxonomy
 - d. E-Content & Authoring Tools
 - e. Team work and collaboration
 - f. Designing Effective Course for Significant Learning
 - g. Teaching Philosophy Statement

Governance Indicators

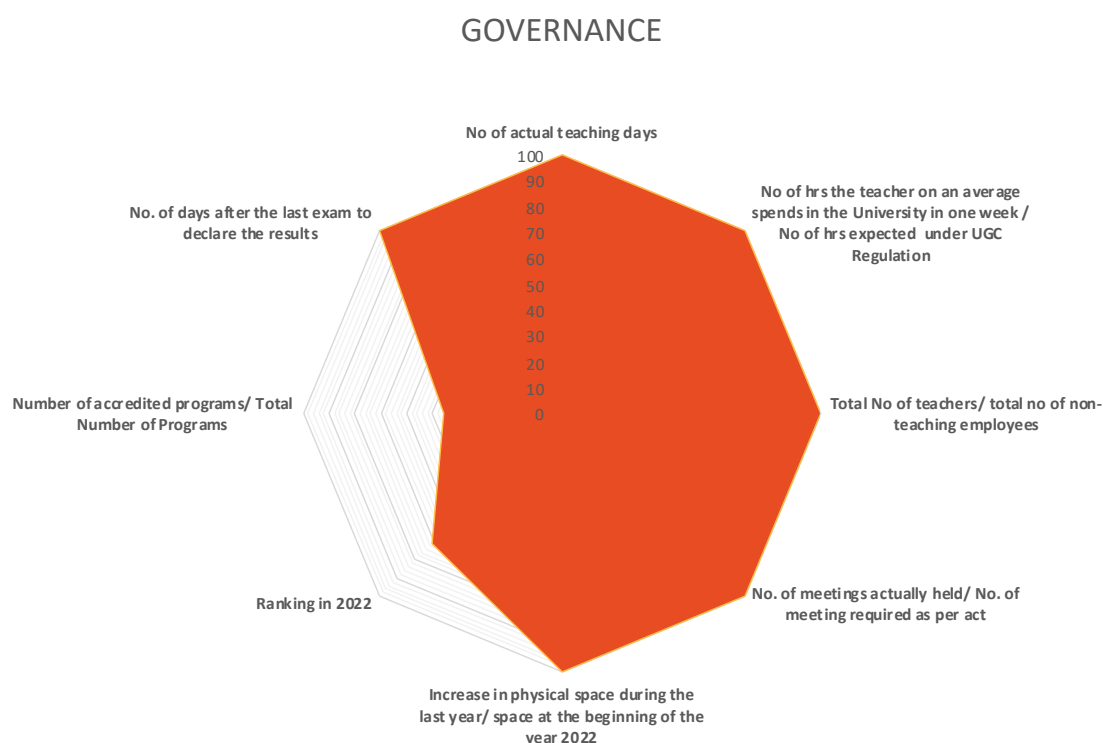


Figure 8: Governance Performance at TIET

Dean of Academic affairs reported a total of 180 days of teaching during 2022-23. The Institute took an average of 10 days for publishing the result from last day of examination in the odd semester of academic year 2022-23. The UG program of Mechatronics and Electronic and Instrumentation and Control recently accredited by NBA. At this point none of the PG program are accredited. IQAC advised all the heads of programs to apply for accreditation of eligible PG programs during next two years.

Rankings and Accreditations

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- Ranked in “601-800” bracket worldwide in the Times Higher Education World University Rankings 2023.
- THE World University Rankings 2023 by Subject
- Computer Science: 251-300 bracket worldwide (Last year: 301–400)
- Engineering: 401-500 bracket worldwide (Last year: 401–500)
- Ranked at =160 position in the Times Higher Education Emerging Economies Rankings 2022.
- Ranked at =127th position in the Times Higher Education Asia University Rankings 2022.



- Ranked in “1001-1200” bracket worldwide in QS World University Rankings 2023.
- Ranked at 228th position in QS Asia University Rankings 2023 (Last year: 281–290)
- QS World University Rankings by Subject 2023
- Engineering – Electrical & Electronic: 501–520 (Last year: 451–500)
- Computer Science & Information Systems: 451–500 (Last year: 601–650)

National Institute Ranking Framework (NIRF) Rankings 2022

- Ranked 28th in 'Engineering' category,
- Ranked 31st in 'University' category,
- Ranked 57th in 'Overall' category,
- Ranked 53rd in 'Management' category,
- Ranked 35th in 'Research' category.

Key Action Points

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• Research

Action Point	Responsibility	Target Date
It was observed that the number of SCI publications in the year 2022 have declined from previous year. DoFA will identify the reason and collect the SCI publication data of other institutes.	DoFA	With immediate effect
Faculty will be encouraged to apply funding from Technology Mission of Indian Railways (TMIR)	Head of Departments/ Schools	With immediate effect
Academics		
CTC of UG/PG placement should increase.	CILP/ Head of Departments/ Schools	With immediate effect.
Governance		
It was advised that all eligible UG and PG programs should also apply for NBA accreditation as soon as possible.	Heads of Academic Units	Over next two years

The committee also approved the following targets in the three categories of Research, Academics and Governance academic year 2022-23.

Research Indicators

S No	Indicators	Method of Computation	Benchmark value
a)	No of SCI research publications per teacher per year	Number of Research Publications / No of teachers	3
b)	Research grant received per eligible teacher per year	Total research grant received in 2022-23 / No of eligible teachers	2.0 lac per eligible teacher per year
c)	Research students per teacher per year	Total no. of research students / Total faculty	2.5 per year per teacher
e)	Percentage of Departments getting departmental support from various agencies like UGC-SAP, DST-FIST etc.	Total no of depts. who got support / Total no of departments	20%
g)	Citation Index	Average citation per item on web of science	20
h)	Number of Patents published or awarded	Number of patents	60

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i)	Percentage of full time research scholars	Total no of full time research scholars / Total no of research students	80%
j)	Percentage of research students getting research fellowship	No. of research students getting fellowship/ Total no. of full time research scholars	80%
k)	University H Index	Web of Science	130

Academic Indicators

S No	Indicators	Method of Computation	Benchmark value
a)	Demand Indicator	Total no of admissions in all courses during the year / total no of candidates who applied	1:10
b)	Percentage of teachers having Ph.D.	No. of teachers with PhD/ Total no. of regular teachers	100%
c)	Average no of activities like Workshops, Seminars, Symposia, Conference conducted / year	Number of Workshops/ seminars/ conferences conducted during the year	60 / year
d)	Average Salary Package offered to UG students	Average Salary Package offered	Rs. 12 Lacs CTC
e)	UG Placements PG Placements	No. of students placed/Total eligible student	90% 60%
f)	New programs introduced in last year	New programs (UG & PG) launched / total no of programs	5%
g)	Assessment of Course learning Outcomes	No. of courses in which CLO is assessed / Total number of courses	100%
i)	Assessment of teachers by students	No of courses in which assessment has been introduced / Total no of courses	100%
k)	Number of NET/SET/GATE qualified students	Total No of NET/SET/GATE qualified candidates / total applications for PG	50%
l)	Faculty STR	Number of students/Number of Teachers	1:15

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Governance Indicators

S No	Indicators	Method of Computation	Benchmark value
a)	Actual teaching days per year	No of actual teaching days	180
b)	Minimum workload of teachers	No of hrs the teacher on an average spends in the University in one week / No of hrs expected under UGC Regulation	40 hrs
c)	Teaching – Non teaching ratio	Total No of teachers/ total no of non-teaching employees	1:1.25
d)	Regular meeting of Institute bodies like council, senate, BOG, BOS, etc	No. of meetings actually held/ No. of meeting required as per act	100%
e)	Percentage increase in physical infrastructure	Increase in physical space during the last year/ space at the beginning of the year	10%
f)	NIRF Ranking	Ranking in 2023	Top 20
g)	NBA or ABET accreditation	Number of accredited programs/ Total Number of Programs	70%
h)	Final result declaration	No. of days after the last exam to declare the results	10 days

Targets 2025

Excellence in Research

- 2500 peer reviewed publications per year in Scopus by 2025; 2000 in web of science every year by 2025
- Establish six research centres in the next five years (major defined as 10+ faculty, Rs 5 crore research funding and >20 funded graduate students)
- Increase our average number of PhD students per member of academic staff to at least 2.5
- Increase our score for the citations-based measure on web of science at 15 citations per paper
- 20cr sponsored project funding by 2025

Outstanding student experience

- Recruit at least 80% of our UG students from the top 20% All India JEE scores or 10+2 scores
- Increase the student numbers to 15000 by 2025 (current: 11500)
- Invite at least 500 employers on campus for student recruitment
- Improve the student placement from campus to 100% of all eligible students

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People Development

- Developing recruiting best practices to attract talent
- Improve the teacher-student ratio to 1:15
- One successful high-impact senior faculty recruitment per year
- Increase our number of international applications for academic posts

World class infrastructure

- Construct the 2nd phase of academic buildings and new student residences by 2025
- Modernize the existing academic buildings by 2025
- Upgrade and modernize the remaining labs by 2025

Excellence in Teaching & learning

- Train and certify all faculty in academic practices
- Continually improve the learning outcome score (minimum 3.5 on a scale of 5)
- All undergraduates in engineering will participate in one or more of the following: competitive project teams, internship, research project, outreach
- Curricula continuously accredited by NAAC, NBA or ABET
- Increase student satisfaction with academic and mentor support for developing their graduate attributes and employability (Current campus employability 90%)

Partnering for impact

- 2nd phase of the contemporization program for 2021-2025 with major focus of research
- Improve number of our research publications which are collaboratively co-authored with other institutions
- Increase our number of students on joint programmes to 100
- Develop more joint programs with partners abroad

Innovative & entrepreneurial

- 30 start-up companies by 2025 functional from our venture lab
- 10-15 invited speakers on entrepreneurship every year
- Venture lab weekend activities every year

The meeting ended with vote of thanks to the chair and a cup of tea.