



Ref: TCET/GEN/FRM/IP-10/10  
TCET/IT/ 06 of August 2025

Date : 16/8/2025

## REPORT ON LOCAL IV

### 1) Event Details:

Local Industrial Visit to Taiwan Excellence – Automation Expo 2025 was conducted by TCET-ACM on 13<sup>th</sup> August, 2025 & 14<sup>th</sup> August, 2025 from 03:30 pm to 05:30 pm. The Industrial Visit was conducted in offline mode.

2) Date: 13<sup>th</sup> August, 2025 & 14<sup>th</sup> August, 2025.

3) Time: 03:30 pm to 05:30 pm.

4) Venue: Bombay Exhibition Centre, NESCO, Goregaon East, Mumbai.

5) Participants: The session was attended by SE IT students & TE IT students of TCET.

### 6) Objective :

- To provide on-field, practical exposure to industrial robotics and automation systems.
- To familiarize students with real-world applications of robotics in manufacturing and service industries.
- To enable participants to observe project demonstrations and interact with engineers regarding technologies, tools and workflows.

### 7) Resources persons involved:

		Responsibilities
TCET-ACM faculty	Dr. Rajesh Bansode	TCET-ACM Branch Counsellor
	Mr. Avinash Shrivastava	Process Incharge
	Dr. Rahul Neve	Advisory
	Mrs. Mary Margarat Mrs. Apeksha Waghmare	Faculty Incharge
TCET-ACM Committee	All core committee members	Attendance, Report Generation, Maintain the flow of the event, Getting Feedback from students



**Attendance Analysis :**

CLASS	NUMBER OF PARTICIPANTS
SE IT - A	26
SE IT - B	18
SE IT - C	20
TE IT - A	23
TE IT - B	39
TE IT - C	13
<b>TOTAL</b>	<b>139</b>

**8) Plan & Schedule:**

**Plan:**  
Circulate the official notice and visit schedule in advance, in coordination with the expo organizers. Schedule visits by year: SE on 13th August and TE on 14th August.

**Schedule :**

Time	Activity
03:30 pm	Arrival at BEC, NESCO — <i>Registration and Entry</i>
03:35 – 05:25 pm	Guided Walk-through — Explore automation stalls, interact with engineers, and see live demos
05:25 – 05:30 pm	Wrap-up & Group Assembly



9) Highlights of the event:

Topics Discussed During the Visit	Description
Interaction with Project Owners and Engineers	Students had the opportunity to engage directly with project owners and engineers from various automation domains. These interactions offered practical insights into the real-world challenges faced in industrial applications and helped students understand the mindset behind solving complex engineering problems.
Live Demonstrations of Automation Systems	The visit included live demonstrations of cutting-edge automation technologies such as articulated and collaborative robots, conveyor systems, pick-and-place setups, machine vision systems, specialized end-effectors, and industrial safety mechanisms. These demos illustrated how automation works in real industrial settings.
Introduction to Industrial Technologies	Students were introduced to key industrial technologies like PLC/SCADA systems, a wide range of sensors and actuators, communication protocols such as Modbus and Profinet, IIoT dashboards, predictive maintenance concepts, and interactive HMI panels, giving them a strong foundation in core automation components.
Understanding the Automation Workflow	Through in-depth discussions, students learned about the end-to-end automation workflow — starting from system design and simulation, moving into commissioning, and finally into real-time monitoring and optimization. This helped them grasp the systematic approach required in professional automation projects.
Career Guidance in Robotics and Automation	The session also included career-focused guidance that emphasized the broad scope of opportunities in robotics and automation. Industry experts advised students on the importance of certifications, developing hands-on projects, and building strong portfolios to enhance employability and technical expertise.



**10) Learnings :**

**Technical and Professional Takeaways**

Topic	Description
Fundamentals of Robot Kinematics	Students gained a solid understanding of robot kinematics, including how joints and links interact, the significance of selecting appropriate payloads, designing the robot's work envelope for optimal reach and flexibility, and the importance of managing cycle time to balance speed and accuracy.
Sensor Fusion and Machine Vision	The session provided insights into how sensor fusion improves accuracy in automated systems. Students learned about the use of cameras for quality inspection, aligning components with precision, and detecting manufacturing defects to ensure consistency and product reliability.
Basics of PLC Programming and Safety Systems	Attendees were introduced to ladder logic programming and the importance of interlocks in maintaining operational safety. The role of emergency stops, safety relays, and light curtains was also discussed, emphasizing how these systems protect both human operators and equipment in industrial setups.
Integration with IoT Systems	Students explored how IoT enables real-time data acquisition from controllers, the use of dashboards for live monitoring, automated alert generation for abnormal conditions, and the use of digital logs to optimize maintenance processes and reduce equipment downtime.
Human-Robot Collaboration (HRC)	The concept of Human-Robot Collaboration was introduced, focusing on safety standards, workspace design, and how robots and humans can work together efficiently. Best practices were shared to ensure safe interaction while maintaining high productivity in collaborative environments.
Understanding the Project Lifecycle	A comprehensive overview of the project lifecycle was provided—from gathering requirements and preparing a Bill of Materials (BOM) to vendor coordination, installation, testing, and final documentation. This helped students understand the complete flow of professional engineering projects.



**Programme Outcomes:-**

Mapping (✓ indicates coverage) :-

PO	Description	Covered
PO1	Engineering Knowledge	✓
PO2	Problem Analysis	✓
PO3	Design/Development of Solutions	✓
PO4	Conduct Investigations of Complex Problems	✓
PO5	Modern Tool Usage	—
PO6	The Engineer & Society	✓
PO7	Environment & Sustainability	—
PO8	Ethics	✓
PO9	Individual & Team Work	✓
PO10	Communication	—
PO11	Life-Long Learning	✓
PO12	Project Management & Finance	—

**Mapping of Program Educational Objectives (PEO) with Program Outcomes (PO):-**

PEO	Focus	Related POs
PEO 1	Knowledge	PO1, PO5, PO10
PEO 2	Skill & Professionalism	PO2, PO3, PO4, PO9, PO12
PEO 3	Attitude, Presentation & Growth	PO8, PO10, PO11



Question	PO1	PO2	PO3	PO4	PO6	PO8	PO9	PO11	Total
What is the importance of Taiwan Excellence in showcasing global innovations?	7	7	7	6	7	6	7	7	7
What did you learn about automation & product design from the visit?	6	6	6	6	6	6	6	6	6
How can this industrial visit help in future career opportunities?	6	6	6	5	6	7	6	7	6
score out of 10	6.3	6.3	6.3	5.6	6.3	6.3	6.3	6.6	6.3
	2.1	2.1	2.1	1.8	2.1	2.1	2.1	2.2	2.1

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
<b>PEO1</b>	2.1	2.1	2.1								
<b>PEO2</b>		2.1		1.8		2.1		2.1	2.1		
<b>PEO3</b>									2.1		2.2

	M1 Quality Education	M2 Industry Ready	M3 Professional Ethic & Social Value	M4 Responsibl e Citizen
<b>PEO1 Knowledge</b>		2.02	2.02	
<b>PEO2 Skill &amp; Professionalism</b>		2.1		
<b>PEO3 Attitude, Presentation &amp; Growth</b>			2.15	2.15



### 11) Actions Taken:

Some actions that were taken post the event are :-

- Visit documentation and report preparation-initiated post event.
- Feedback form circulated to all participating students (SE & TE batches).
- Outcomes reviewed for curriculum & lab integration ideas.
- Suggestions collated for future industrial visits.

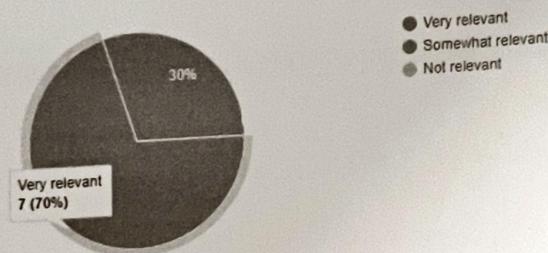
### 12) Feedback Analysis:

SE :

How relevant was the visit to your academic and professional interests?

10 responses

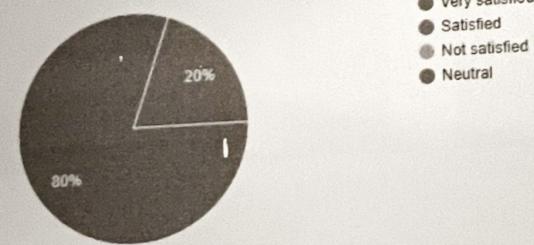
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How satisfied were you with the overall experience of the Industrial Visit?

10 responses

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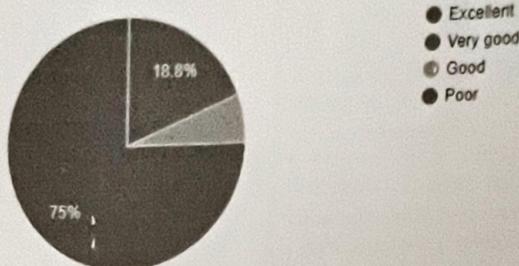


TE:

Overall, how would you rate the Industrial Visit?

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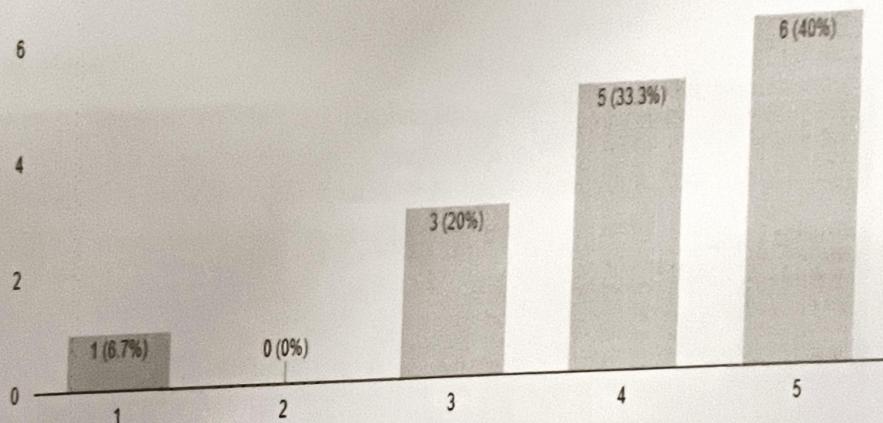
16 responses



How relevant and informative was the visit in relation to your academics and career goals?

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15 responses





Reviews/Comments given by the students:

Name	Class	Roll No.	Reviews/Comments given by students
Simran Samanta	SE IT B	54	What I liked most was seeing the latest automation and smart manufacturing solutions up close. The live demos and hands-on interactions made the technology feel real and exciting, and I enjoyed talking to experts who explained things in such a simple, engaging way.
Nistha Mishra	TE IT A	67	The most valuable part of the IV was seeing a robot controlled by hand gestures, where AI and a camera made a robotic hand instantly copy the movements for precise tasks.
Ayush mote	TE IT B	19	The most valuable part of the IV was seeing new innovative products that helped me gain knowledge and find new ideas .
Devashree Shrikant Raut	TE IT B	61	The most valuable part of the IV was learning various things related to different Domains

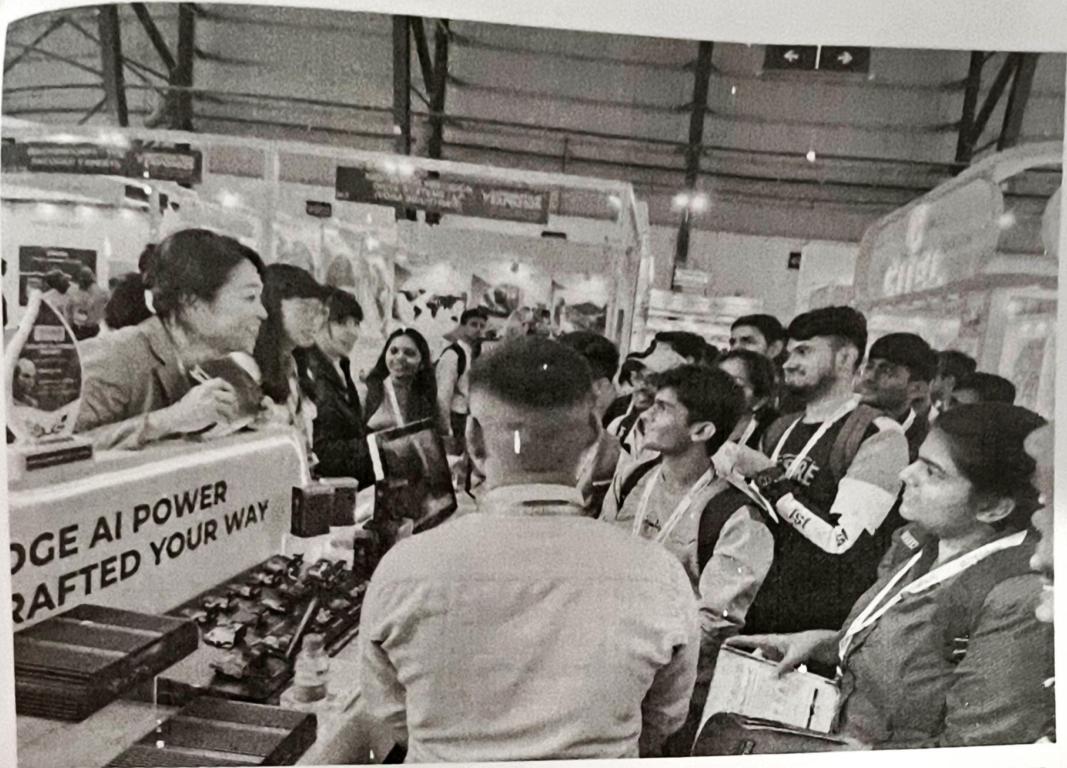
Glimpses of the IV :





Association for  
Computing Machinery  
SIGITE

TCET-ACM SIGITE Students' Chapter





### 13) Risks and Mitigations:

#### Risks

- Peak-hour crowd leading to reduced interaction time at popular stalls.
- Technical jargon density makes concepts hard for some students.
- Time constraints across multiple stalls.

#### Mitigations adopted/suggested

- Pre-brief students with a quick concept primer and stall-route plan.
- Encourage small-group rotations to maximize Q&A.
- Share resource sheets (glossary, links, certification paths) post-visit

### 14) Outcomes:

- Students gained hands-on experience with industrial robotics and automation systems through on-site exposure.
- Learners understood the practical applications of robotics across manufacturing and service sectors.
- Participants engaged with real-time project demonstrations and interact with industry professionals to explore technologies, tools, and operational workflows.

### 15) Scope of improvement:

- Share pre-visit reading packs and videos to deepen engagement during demos.
- Allocate more time per stall or plan a two-phase visit (core robotics + IIoT focus).
- Arrange a post-visit lab session to replicate a mini-demo (e.g., sensor + PLC + HMI).



#### 16) SWOT Analysis:

Strengths	Weakness	Opportunities	Threats
Participants gained practical exposure to the latest innovations and technologies showcased at Taiwan Excellence. The visit enhanced their understanding of industry applications, product design and emerging trends, bridging the gap between academic learning and real-world practices.	Due to the limited time of the visit, students could only get an overview of multiple technologies rather than in-depth hands-on experience. Additionally, the large group size made it challenging to ensure equal interaction opportunities with industry experts.	The visit opens doors for future collaborations with industry leaders and organizations, providing students with opportunities for projects and certifications. Exposure to cutting-edge technologies also motivates participants to explore specialized career paths in Automation and Robotics.	The lack of an online provision restricted participation, leading to fewer attendees. This limitation could reduce the overall reach and impact of the visit, preventing a wider group of students from benefiting from the industry exposure.

#### 17) Conclusion:

The local industrial visit to the Taiwan Excellence – Automation Expo successfully delivered on-field practical knowledge to SE (13th Aug) and TE (14th Aug) students. Through live demos and guided interactions, learners explored robotics fundamentals, safety, PLC/SCADA, and IIoT integrations. The visit effectively bridged theoretical learning with real industrial practices, motivating students to pursue projects, certifications, and career opportunities in the rapidly evolving field of robotics & automation.

#### 18) 5W1H analysis:

**Who:** SE IT students and TE IT students of TCET. Organized by TCET-ACM. Guided by project engineers.

**What:** Local industrial visit to observe Robotics & Automation demonstrations.

**When:** 13th & 14th August 2025, 03:30–05:30 pm.

**Where:** Bombay Exhibition Centre (BEC), NESCO, Goregaon (E), Mumbai.

**Why:** To provide on-field practical exposure to robotics and modern automation technologies.

**How:** Students were taken to the venue; project owners showcased systems and answered queries;

the committee coordinated schedule, safety, and feedback.

*Vivek  
25/8/25*  
Mr. Vivek Gupta  
Chairperson, TCET-ACM  
*Tanmayi  
25/8/25*  
Ms. Tanmayi Reddy  
Secretary, TCET-ACM

*Mary Margaret  
25/8/25*  
Mrs. Mary Margaret  
Mrs. Apeksha Waghmare  
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Faculty Incharge  
*Avinash  
25/8/25*  
Mr. Avinash Shrivastava  
TCET-ACM  
Process Incharge

*Rajesh  
25/8/25*  
Dr. Rajesh Bansode  
HOD IT & ACM  
Branch Counsellor



TCET ACM SE LOCAL IV 2025 ATTENDANCE SHEET 13/08/2025

Sr.no	Name	Roll No.	Div	A.Y.	Contact	Sign
1	Harsh Agarwal	2	A	SE	7304082775	Harsh
2	Tamanna Attar	6	A	SE	9527783000	Tamanna
3	Komal Chaudhary	12	A	SE	8928729460	Komal
4	Mihir Chettiar	16	A	SE	7977270944	Mihir
5	Tanishka Dombe	21	A	SE	9820593092	Tanishka
6	Vidhi Dubey	24	A	SE	8329572647	Vidhi
7	Vedant Dusane	25	A	SE	8329390449	
8	Aarya Gaikwad	26	A	SE	9082537280	Aarya
9	Sneha Anil Gajera	27	A	SE	7977280521	Sneha
10	Rounak	29	A	SE	9422561276	Rounak
11	Bhumika Vinod Gothankar	31	A	SE	7700923338	Bhumika
12	Gupta Anuj	32	A	SE	9324599299	
13	Lavi Gupta	36	A	SE	8779655886	Lavi Gupta
14	Utsavi Gurjar	39	A	SE	9619817239	Utsavi
15	Alok Jha	46	A	SE	8591040081	Alok
16	Vedant Kadam	48	A	SE	9529749909	Vedant
17	Vinit Kadam	49	A	SE	8805517305	Vinit
18	Ananya kanchan	52	A	SE	8169797464	Ananya
19	Muskan kapri	55	A	SE	9920894980	Muskan
20	Janhavi Sandeep Kharnar	59	A	SE	81691 82898	Janhavi
21	Mohammed Zakiullah Khatib	60	A	SE	8459535128	Zakiullah
22	Ananya Mohan Konda	61	A	SE	9373981123	Ananya
23	Rudra Kothari	64	A	SE	8169152320	Rudra
24	Isha Ganesh Jain	DSE	A	SE	9082635025	Isha
25	Ameya Kulkarni	1	B	SE	9082260951	Ameya
26	Yash Mattha	9	B	SE	8591129559	Yash Mattha
27	Harshvardhan Miskin	15	B	SE	9137539959	Harshvardhan
28	Riddhi More	17	B	SE	9869704841	Riddhi More
29	Ayush Mote	19	B	SE	9152537955	Ayush Mote
30	Manasvi Patel	35	B	SE	8767167358	Manasvi Patel
31	Deepu Pushkar	46	B	SE	91514 23911	Deepu Pushkar
32	Riya S. Rajpurkar	48	B	SE	9326085765	Riya S. Rajpurkar
33	Shashank Dhananjay Roy	50	B	SE	7208693567	Shashank Dhananjay Roy

Vedant Sawant 56 13

VST



34	Khushi Sah	52	B	SE	90284 82593	<i>Khushi</i>
35	Anannya Salvi	53	B	SE	9757414340	<i>Anannya</i>
36	Simran Samanta	54	B	SE	8356062520	<i>Simran</i>
37	Pratik Sharma	61	B	SE	9960108006	<i>Pratik</i>
38	Shubh Wade	63	B	SE	8454079844	<i>Shubh</i>
39	Surajkumar Dinesh Sharma	1	C	SE	9326834262	<i>Surajkumar</i>
40	Trisha Shetty	3	C	SE	9967381399	<i>Trisha</i>
41	Janhavi Shrotriya	7	C	SE	9137679541	
42	Harsh Shukla	11	C	SE	8591196751	<i>Harsh</i>
43	Jatin vinod shukla	12	C	SE	6266816912	<i>Sukla</i>
44	Pratha Shukla	15	C	SE	9607713974	
45	Saksham Singh	24	C	SE	8828766052	
46	Shiva Singh	26	C	SE	8879976877	
47	Mihir Sonawane	28	C	SE	8425006806	
48	Pradnya Mukesh Sonawane	29	C	SE	9422848610	
49	Devansh Tiwari	31	C	SE	8928273381	
50	Prasham Tiwari	35	C	SE	9372540885	<i>Prasham</i>
51	Disha Upwanshi	36	C	SE	9518903075	
52	Aayush Vengurlekar	40	C	SE	9892458696	
53	Ansh Viramgama	42	C	SE	9284883293	
54	Gautam Vishwakarma	45	C	SE	7798196127	<i>Gautam</i>
55	Diksha Chavasani	13	A	SE	9029339924	<i>Diksha</i>
56	Rajas Patil	36	B	SE	7498803029	<i>Rajas</i>
57	Sanket More	18	B	SE	9026016690	<i>Sanket</i>
58	Eirin Shweta	10	C	SE	7304361777	<i>Eirin</i>
59	Riddhi Yadav	58	C	SE	859123876	<i>Riddhi</i>
60	Shvet Singh	27	C	SE	8830752007	<i>Shvet</i>
61	Saechha Wade	50	C	SE	9769458214	<i>Saechha</i>
62	Harmish Patel	33	B	SE	913794377	<i>Harmish</i>
63	SHABDANSU · PRAJAPATI	44	B	SE	7208305851	<i>Shabdansu</i>
64	Raj Prajapati	40	B	SE	7238003986	<i>Raj Prajapati</i>
Mr. Dhiger Shrivastava Vice-Chairperson, TCET-ACM		Mr. Vivek Gupta Chairperson, TCET-ACM		Dr. Rahul Neve Mrs. Mary Margaret Faculty In-charge TCET-ACM		Dr. Rajesh Bansode HOD-IT & TCET-ACM Branch Counsellor

TCET ACM TE LOCAL IV 2025 ATTENDANCE SHEET 14/08/2025

Sr. No.	Name	Roll No.	Div	A.Y.	Contact number	Sign
1	Aman Jha	3	A	TE	7987485799	<i>Aman</i>
2	Anagha Balakrishnan	5	A	TE	9867666036	<i>Ana</i>
3	Aniket Chavan	6	A	TE	9637360999	<i>Aniket</i>
4	Karansingh Bist	12	A	TE	7208606266	<i>Karansingh</i>
5	Aashay Chhajed	20	A	TE	9975718250	<i>Aashay</i>
6	Prakash Choudhary	22	A	TE	9769245630	<i>Prakash</i>
7	Vraj Gaglani	32	A	TE	9320295788	<i>Vraj</i>
8	Shlok Gaikwad	33	A	TE	9892781219	<i>Shlok</i>
9	Amit Giri	36	A	TE	9867631803	<i>Amit</i>
10	Ankit Giri	37	A	TE	9137975648	<i>Ankit</i>
11	Cherita Gullapalli	38	A	TE	9136911957	<i>cherita</i>
12	Harsh Gupta	42	A	TE	7020744709	<i>Harsh</i>
13	Pawni Gupta	45	A	TE	7417045586	<i>Pawni</i>
14	Harsh Sonawane	50	A	TE	9152358293	<i>Harsh</i>
15	Raj Ranjit Jamsutkar	55	A	TE	8692005715	<i>Raj</i>
16	Sourav Kumar	64	A	TE	6006275492	<i>Sourav</i>
17	Anjali Chaurasiya	66	A	TE	8591687879	<i>Anjali</i>
18	Rachna Galipelli	68	A	TE	93244 93543	<i>Rachna</i>
19	Fawaz Khan	71	A	TE	7738835528	<i>Fawaz</i>
20	Milin Kanu	1	B	TE	7058574082	<i>Milin</i>
21	Vishesh Karad	2	B	TE	7977442127	<i>Vishesh</i>
22	Sarfraj Khan	5	B	TE	7208397031	
23	Zeenat Khatib	7	B	TE	8669250760	<i>Zeenat</i>
24	Parth	17	B	TE	9136843308	<i>Parth</i>
25	Utkarsh Mishra	23	B	TE	8591047262	<i>Utkarsh</i>
26	Vrishketu Mishra	24	B	TE	9518340299	<i>Vrishketu</i>
27	Vinay Mor	27	B	TE	8482883553	<i>Vinay</i>
28	Vinaykumar pal	36	B	TE	9326778976	<i>Vinaykumar</i>
29	Shivangi Girjesh Pandey	42	B	TE	9322997527	<i>Shivangi</i>
30	Patel Yogesh Narayan	49	B	TE	7045185148	<i>Yogesh</i>
31	Rimay Rajendra Patil	51	B	TE	9325322518	<i>Rimay</i>
32	Patra Durga Gourang	52	B	TE	8104304204	<i>Patra</i>
33	Mamta Rajpurohit	56	B	TE	83559 16593	<i>Mamta</i>
34	Sharvari Rane	57	B	TE	9082215204	<i>Sharvari</i>
35	Vaishnavi Ranjan	58	B	TE	9967745830	<i>Vaishnavi</i>
36	Nikhil Rathi	59	B	TE	8591578807	<i>Nikhil</i>
37	Devashree Shrikant Raut	61	B	TE	8208346964	<i>Devashree</i>
38	Aadit Rawal	62	B	TE	7977728976	<i>Aadit</i>

Krishna Jaiswal

53 A TE

Om Yadav

69 C TE

Saad Shah

66 C TE



39	Vishaka Sharma	7	C	TE	8850967810	Vishaka - Nehaika
40	Nihaarika Singh	23	C	TE	8452032530	
41	Ojas Surana	33	C	TE	9403624935	
42	Prashanth Swamy	36	C	TE	8976306434	Sudh JES
43	Hrishikesh Thakur	38	C	TE	8669059530	
44	Krish	39	C	TE	9226884631	
45	Abhishek Vishwakarma	43	C	TE	9359722491	
46	Sachidanand Vyas	52	C	TE	9156349029	Sach
47	Utsav Yadav	62	C	TE	8898893955	UTSAN
48	Nidhi Prajapati	64	C	TE	7977645396	Nidhi
49	Suhani Sinha	68	C	TE	8591540957	Suhani
50	Krishna Kumbre	10	B	TE	8369687582	KRISHNA
51	Ritika	69	B	TE	9602359230	RITIKA
52	Christina	66	B	TE		CHRISTINA
53	Rushi	70	B	TE		RUSHI
54	Nishtha	67	B	TE		NISHTHA
55	Anuj	65	B	TE		ANUJ
56	Vinay Mar	27	B	TE		VINAY MAR
57	Utkarsh Mishra	23	B	TE		UTKARSH MISHRA
58	Shazia Noz	33	B	TE	9870785375	SHAZIA NOZ
59	Dankalip Pandey	41	B	TE		DANKALIP PANDEY
60	Pranush Mehta	65	B	TE		PRANUSH MEHTA
61	Krushna Kale	61	A	TE		Krushna
62	Poonam Thakur	54	B	TE		POONAM
63	Harsh Khandare	06	B	TE		HARSH
64	Aman Pandey	38	B	TE		AMAN
65	Hariram Nadar	31	B	TE		HRIRAM
66	Aditya Mishra	19	B	TE		ADITYA
67	Milim Kanu	01	B	TE		MILIM
68	Gulvinder Singh	08	B	TE		GULVINDER
69	Sofia Khan	05	B	TE		SOFIA KHAN
70	Riddhish Agarwal	12	B	TE		RIDDHISH AGARWAL
71	Aryan Rathore	60	B	TE		ARYAN RATHORE
Mr. Dheer Shrivastava Vice-Chairperson, TCET-ACM						
Mr. Vivek Gupta Chairperson, TCET-ACM						
Mr. Avinash Shrivastava Mrs. Apeksha Wagmare Faculty In-charge TCET-ACM						
Dr. Rajesh Bansode HOD-IT & TCET-ACM Branch Counsellor						
72	Gaurav Mishra	20	B	TE		Gaurav Mishra
73	Murabat	64	B	TE		MURABAT
74	Shourya	23	A	TE		SHOURYA