



Lagdu Singh Charitable Trust's (Regd.)

THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY

Autonomous College Affiliated to University of Mumbai

Approved by All India Council for Technical Education (AICTE) and Government of Maharashtra (GoM)

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

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

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

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

Website : www.tcetmumbai.in

Date: 1/5/2021

National Initiative Program

Report on Student Exchange Program (A.Y 20-21 Even Semester)

As per the Initiatives of Ministry of Human Resource - Development and AICTE, Thakur College of Engineering and Technology started to conduct Students exchange programs. Student exchange program gives an opportunity for students to broaden their knowledge on their study of choice from a different institute. This gives them a chance to develop their work experience by seeing how the course domain they are studying is being practiced in another institute. It helps them to understand the working philosophy of the other institute and also enhances their ability to work in collaboration for particular problem statements with students of other institute. The purpose is to learn the culture, living styles, social customs and such other aspects of the social and cultural affairs of each other's institute along with learning technical skills regarding a latest technology.

Objective:

1. To develop a platform for students to learn collaboratively with student exchange partner institute students the most commonly used subject areas from mentors in the institute and industry experts.
2. To give partner institute students an exposure to the new skills like domain knowledge, design and development, leadership, managerial, interpersonal relationship building skills and develop competency to work on real time industry problem statements .
3. To adopt the national initiatives under EBSB: Students exchange program at institute level.

Program Tracks:

- Web Development (COMP-IT Dept.)
- Smart Solutions using Aurdino (E&TC-ETRX Dept.)
- Drawing of machine parts using AutoCAD (Mechanical Dept.)
- Building Drawing using AutoCAD 2D & 3D (Civil Dept.)

Target Participants:

Undergraduate Engineering students from Host College and partner colleges.

Host College:

(1) Thakur College of Engineering & Technology

Partner Colleges:

(1) **Gandhi Institute of Engineering and Technology, Odisa**

(2) Vardhaman College of Engineering, Hyderabad (Telangana)

(3) Government Engineering College Nawada, Bihar

(4) Muthayammal Engineering College, Rasipuram, Namakkal, Tamilnadu, India

(5) Maratha Vidya Prasarak Samaj's Karmaveer Baburao Ganpatrao Thakare College of Engineering, Nashik, Maharashtra

Overall Coordinators:

- Dr. Lochan Jolly (Dean SSW)
- Dr. Megharani Patil (Activity Head- National Initiative Program)

Program Faculty In-charges:

- Dr. Sanjeev Chaudhary (Building Drawing using AutoCAD 2D & 3D (Civil Dept.))
- Dr. Megharani Patil (Web Development (COMP-IT Dept.))
- Mr. Niket Amoda & Mrs. Leena Chakroborty (Smart Solutions using Aurdino (E&TC-ETRX Dept.))
- Mr. Sachin Oak & Mr. Pankaj Rawool (Drawing of Machine Parts using AutoCAD (Mechanical Dept.))

Program Coordinators:

- Mr. Rahul Neve, Mr. Laukik Salvi (Web Development (COMP-IT Dept.))
- Mrs. Sonali Singh & Ms. Jalpaben D. Pandya (Smart Solutions using Aurdino (E&TC-ETRX Dept.))
- Mr. Vaibhav Madane & Mr. Ashwin Patak (Drawing of machine parts using AutoCAD (Mechanical Dept. & ES&H Dept.))
- Mr. Arpit Vyas (Building Drawing using AutoCAD 2D & 3D (Civil Dept.))

Industry linkage for the Program:

- Web Development (COMP-IT Dept.), E-Samyak Software
- Smart Solutions using Aurdino (E&TC-ETRX Dept.), Avenir Group
- Drawing of machine parts using AutoCAD (Mechanical Dept.), KGN lights
- Building Drawing using AutoCAD 2D & 3D (Civil Dept.), D'quor spaces

Venue: Online Platform (Zoom/YouTube), Offline Platform GCR

Speakers: TCET and Partner College Faculty members and Industry Experts.

Program Details and Duration:

Program Specifications	Dates	Time duration
Sessions	6 th Feb, 20 th Feb, 6 th Mar, 20 th Mar, 3 rd April 2020.	11.00 AM to 12.30 PM
Group/Panel Discussions	6 th Feb, 20 th Feb, 6 th Mar, 20 th Mar, 3 rd April 2020.	4.00 PM to 5.00 PM
Assignments (GCR Submissions)	25 th Jan 2021 to 17 th April 2021	Weekly 4 hrs. Task (12 Weeks)

Details of Event:

1) Training & Evaluation Sessions:

a. Description of the event:

NIP Student exchange program were held on 6th Feb, 20th Feb, 6th Mar, 20thMar, 3rd April 2020 for the students of all department of not only Thakur College of Engineering and Technology but also from student exchange partner colleges. In this program along with sessions assignments were assigned to students. It was kind of Student exchange program. The student exchange program was proposed for different domains with different tracks by the suggested choice of interest. Due to pandemic situation, this event of TCET was conducted online where participants could learn in-depth about the specific track.

Day 1: The inauguration ceremony was scheduled and organized by Dr. Megharani Patil and her NIP team. The event started with the inauguration at 10:30a.m. which comprised of welcome speech by Ms. Neerul Sharma and Ms Alisha Gupta, student of TCET. Dr. Megharani Patil, Activity head National Initiative Program (NIP), TCET introduced the programme with its objectives, the various student exchange programs under NIP to our participants where she talked

about the complete flow of the student exchange program and its conduction on Saturdays. This was followed by an address by Dr. Lochan Jolly, Dean SSW where she talked about the MHRD initiative and its organization by TCET. This was followed by a short introduction by Dr. B.K. Mishra, Principal TCET. He elaborated the industry needs and how this NIP training session for the students will be beneficial to them. He highlighted the most important benefits of student exchange program. Also explained how it is beneficial to students of host college along with partner colleges. The inauguration ended with a vote of thanks proposed by Ms. Alisha Gupta where she expressed her gratitude to management, Principal, Vice Principal, Deans, Faculty members and students attending the student exchange program.

The first session was a theoretical session from 11 am to 12:30 pm. A basic introduction of the respective student exchange program was given the speakers to all the participants. Evening session from 4.00 PM to 5.00 PM was dedicated for group/panel discussion. Students came forward to show their shortlisted tasks and spoke their experiences.

Day 1-5: - Similar to Day 1, two sessions (morning and evening) were held from 11am to 12:30 and 4pm to 5 pm respectively. The morning session comprised of student exchange program training, students were introduced to various new aspects of the respective student exchange program and also informed about the next week assignment. The second session consisted of evaluation, doubt solving session and further discussion on the previous week's assignments assigned to them by student exchange program coordinators, faculty in-charges and industry experts.

Day 5: - The evening session (that was from 4pm – 5pm) was conducted for final evaluation of student exchange program assignments. Also, all the doubts were cleared by the speakers. This session was followed by valedictory function from 5:00 pm to 6:00 pm. It started with the institute's video, welcome to all dignitaries, faculties and the participant. There was a program report share by Dr. Megharani Patil, followed by sharing live feedback by one participant of each student exchange program, views about the program were shared by the faculties from partner colleges. Lastly was delivered by, a speech was delivered by Principal of TCET, Dr. B.K. Mishra regarding the upcoming events by TCET to promote collaborative learning. The event concluded with vote of thanks from Dr. Lochan Jolly.

b. Day wise detailing of each track with topic covered by speaker :

Tracks	Topic and speakers of morning session				
	Day 1	Day 2	Day 3	Day 4	Day 5
Web Development	Modern approach of Web development and codeless web designing using google sites - Dr. Megharani Patil (TCET)	Introduction to HTML and CSS. Designing website using bootstrap. - Jitendrakumar Ramjatan Prajapati (Esamyak LTD)	Designing a website using Bootstrap and Javascript-beginner level. Bootstrap advantages and usefulness in future. - Saket Bhala (Esamyak LTD)	Introduction to PHP(backend programming of Website). How to modify databases, creating dynamic content. - Vijaylaxmi Patil (KLS GIT)	Using XML and JSON files for development of Websites. Difference between HTML and XML, how to store and organize the data, Structure of JSON, Connection of the whole project. - Pushkar Pratap Shinde(MVPS's KBTCOE)
Smart Solutions using Arduino	Introduction to Arduino - Review of Basic Concept - Mr. Niket Amoda (TCET)	LM 35 temperature sensor and its calibration with its interfacing to Arduino board and the code to be written for temperature measurement - Ms. Jalpaben D. Pandya (TCET)	Stepper motor actuator and its interfacing to Arduino board and the code to be written for the same. - Ms. Leena Chakraborty (TCET)	Discussed about the projects and then simulated the projects using TinkerCad software - Mr. Niket Amoda (TCET)	Arduino for Wireless applications - Ms. Poonam Choudhary

<p>Drawing of machine parts using AutoCAD</p>	<p>Basics of AutoCAD</p> <p>-</p> <p>Mr. Sachin Oak(TCET)</p>	<p>‘ First & third angle projection methods for orthographic projection’</p> <p>Step-by-step procedure for orthographic projection of 3-D machine part – Bracket</p> <p>-</p> <p>Mr. Sachin Oak(TCET)</p>	<p>explained first & third angle projection methods for orthographic projection.</p> <p>Detailed step-by-step procedure for orthographic projection of 3-D</p> <p>-</p> <p>Mr. Pankaj Rawool(TCET)</p>	<p>explained about different methods of solid modeling in 3-D workspace of AutoCAD like add material, cut material.</p> <p>-</p> <p>Mr. Pankaj Rawool(TCET)</p>	<p>Explained use of the inbuilt library of AutoCAD. Detailed step-by-step procedure for Hexagonal screw and Nut assembly.</p> <p>Explained different methods of solid modeling in 3-D workspace for assembly of machine parts.</p> <p>-</p> <p>Mr. Pankaj Rawool(TCET)</p>
<p>Building Drawing using AutoCAD 2D & 3D</p>	<p>Explained importance of building bylaws, open areas, Floor space index in the design of buildings</p> <p>-</p> <p>Dr. Sanjeev Chaudhari(TCET)</p> <p>Highlighted the common errors made while drawing buildings, this was intended to ensure drawings made by students are error free</p> <p>-</p> <p>Mr. Arpit Vyas(TCET)</p>	<p>Explained importance of layers in AutoCAD, how to convert single line plan to double line plan and detailing’s (txt, dimensions, properties</p> <p>-</p> <p>Mr, Ninad Khandare(TCET)</p>	<p>Explained nuances of drawing elevation and section of the double line plan developed in the previous session.</p> <p>-</p> <p>Mr, Ninad Khandare(TCET)</p>	<p>Revised the nuances of drawing elevation and section of the double line plan developed in the previous session.</p> <p>Also how to convert 2D drawing to 3D in AutoCad.</p> <p>-</p> <p>Mr, Ninad Khandare(TCET)</p>	<p>Explained importance of building bylaws, open areas, Floor space index in the design of buildings.</p> <p>The student exchange program was conclude and wrapped up in the morning session</p> <p>-</p> <p>Dr. Sanjeev Chaudhari(TCET)</p> <p>Mr. Arpit Vyas(TCET)</p>

c. Shortlisted Participants based on first two prerequisite assignments (College-wise): -

College	Registered Participants	Shortlisted Participants
Gandhi Institute of Engineering and Technology, Odisha	192	76
Thakur College of Engineering and Technology	165	121
Vardhaman College of Engineering	24	14
Maratha Vidya Prasarak Samaj's Karmaveer Baburao Ganpatrao Thakare College of Engineering, Nashik, Maharashtra	9	6
Government Engineering College	56	21
Muthayammal Engineering College, Rasipuram, Namakkal, Tamilnadu, India	647	215
Total	1093	453

d. Daily Attendance(Morning/Evening)

Track	Web Development	Smart Solutions using Aurdino	Drawing of machine parts using AutoCAD	Building Drawing using AutoCAD 2D & 3D	Total
Day 1 Morning	171	45	37	33	286
Day 1 Evening	122	37	17	12	188
Day 2 Morning	148	57	40	34	279
Day 2 Evening	96	48	28	10	182
Day 3 Morning	103	41	30	19	193
Day 3 Evening	70	21	15	10	116
Day 4 Morning	83	35	20	12	150
Day 4 Evening	57	5	12	5	84
Day 5 Morning	82	45	16	10	153
Day 5 Evening	39	42	06	05	92

2) Assignments as a part of Student exchange program.

a. Description of the event:

As an extension to the training sessions, the students from respective student exchange program track were encouraged to work on problem statements proposed by industry experts. Depending on different student exchange programs requirements, assignments were assigned to all participants. In total it was 4 hrs of weekly assignment for 10 weeks which gave them a chance to develop their work experience as per industry norms. It helped them to understand the working philosophy of industry and also enhances their ability to work in collaboration for particular

industry-proposed problem statements with students of another institute. Faculty mentors also ensured that any/all obscurity faced by the students for completing the assignment were cleared.

b. Number of students completed minimum requirement of assignments:

Track	Web Development	Smart Solutions using Aurdino	Drawing of machine parts using AutoCAD	Building Drawing using AutoCAD 2D & 3D	Total
Gandhi Institute of Engineering and Technology, Odisha	10	0	0	0	10
Thakur College of Engineering and Technology	75	2	3	7	87
Vardhaman College of Engineering	0	0	0	1	1
Maratha Vidya Prasarak Samaj's Karmaveer Baburao Ganpatrao Thakare College of Engineering, Nashik, Maharashtra	2	0	0	0	2
Government Engineering College	0	0	0	1	1
Muthayammal Engineering College, Rasipuram, Namakkal, Tamilnadu, India	9	50	2	5	66
Total	96	52	5	14	167

Feedback:

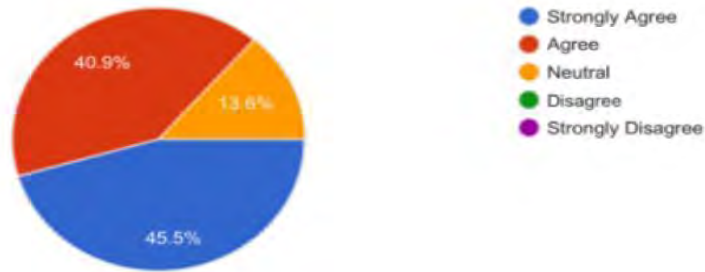
1. This Student Exchange Program will be useful in my work

88 responses



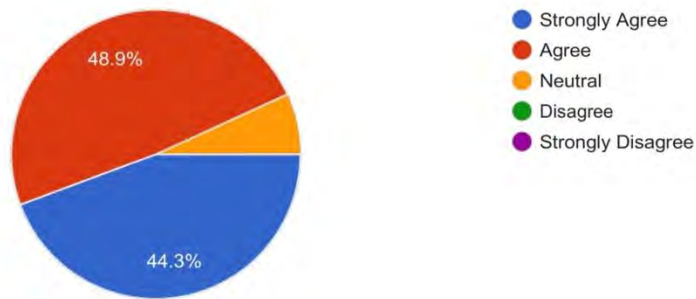
2. The time allotted for the Student Exchange Program was sufficient

88 responses



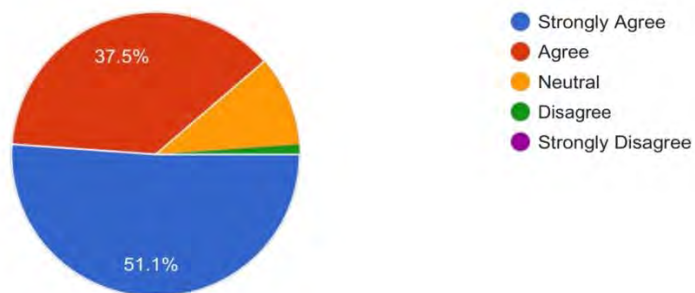
3. The content was organized and easy to follow

88 responses



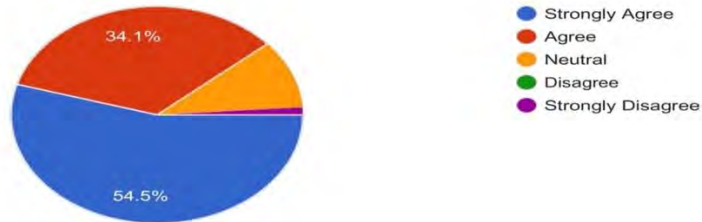
4. The Trainer was knowledgeable about training topics.

88 responses



5. Exposure to new methodology, tools, and technologies.

88 responses



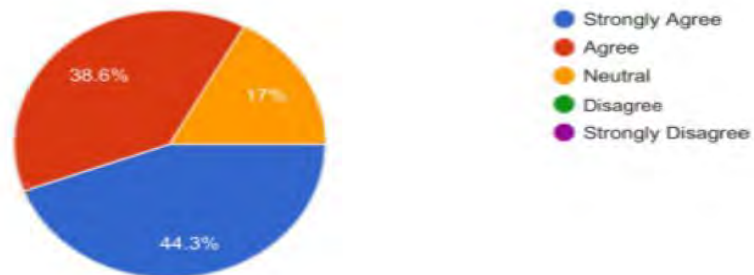
6. Was your Student Exchange Program experience related to your major area of study?

88 responses



7. This Student Exchange Program allowed You to apply classroom theory to practice?

88 responses



8. Helped you in developing new interests and abilities?

88 responses



9. In what areas did you most develop and improve?

88 responses

Arduino

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Web development

Coding

Yes

Nothing

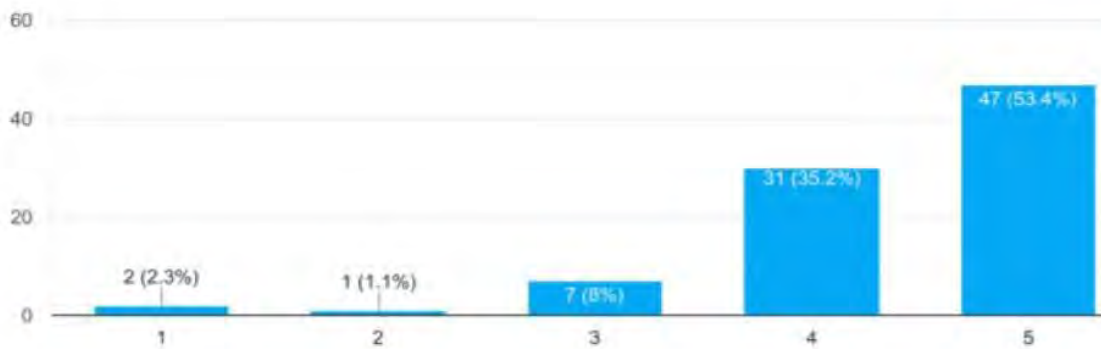
In 3D

All area it was used my knowledge

Front end part

10. Considering your overall experience, how would you rate this Student Exchange Program?

88 responses



11. Give suggestions as to how your Student Exchange Program experience could have been improved

Good

No

Nothing

None

Nil

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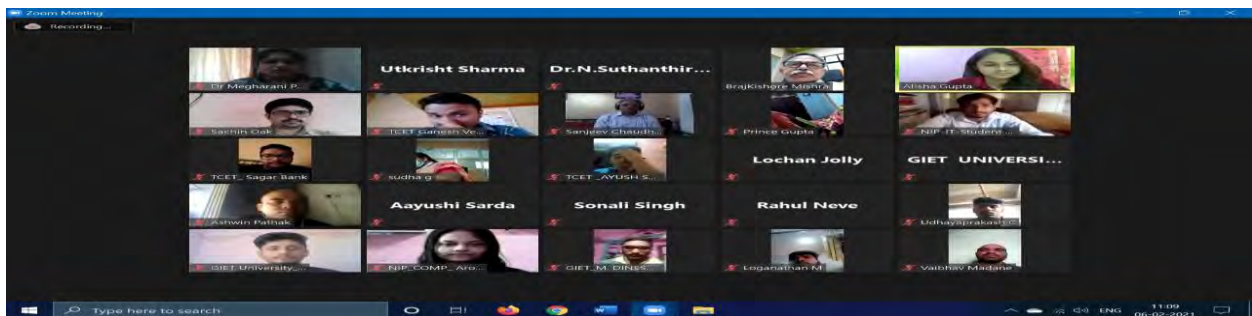
Good as it is

Yes

Great

Glimpse of Program:

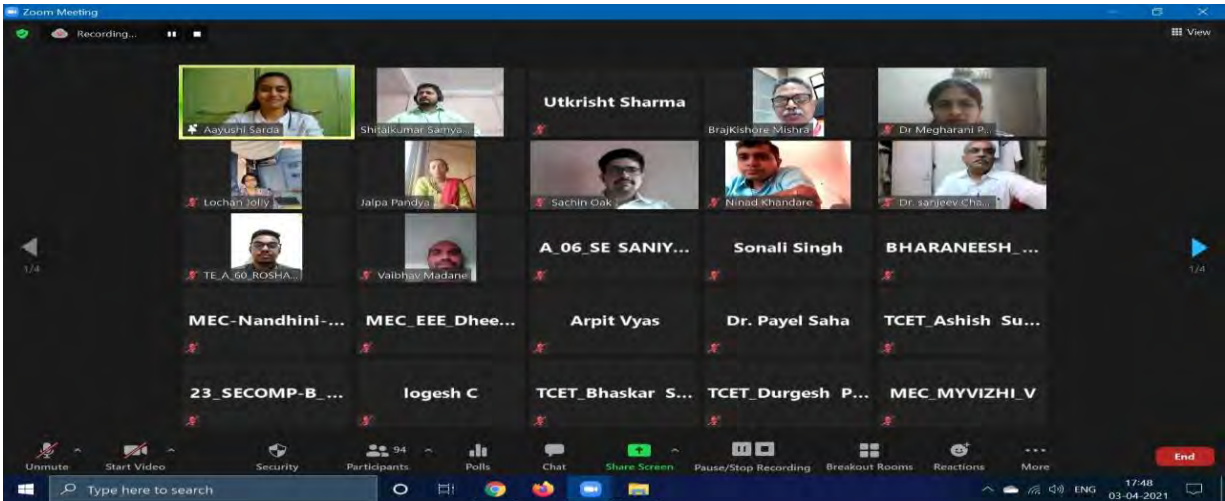
Inauguration Session



Web Development



Valedictory Session



Outcome: This program was based on EBSB theme. In this partner college students were able to adopt styles, customs and other aspects of the interdisciplinary learning approach, social culture of each other's institute which is the aim of the EBSB program along with learning technical skills regarding a latest technology from industry persons with the help of 3I (Institute-Institute-Industry) model. Hands-on training sessions helped students to learn collaboratively about the respective student exchange programs. Weekly assignments helped to develop students' work experience as per industry norms. The student exchange program gave students an exposure to new skills like domain knowledge, design and development, leadership, managerial, interpersonal relationship building skills and developed competency to work on real-time industry problem statements. 167 students successfully completed the student exchange program with minimum attendance and assignment submission requirements of the program.

Dr. B.K. Mishra
Principal, TCET

