

CIVIL'IVE

MADE BY - ASHWANI KUMAR, ASHISH RANJAN,
MUSKAAN KUSHWAHA



DEPARTMENT OF CIVIL ENGINEERING

WE SHAPE OUR BUILDINGS
THEREAFTER THEY SHAPE US.
- WINSTON CHURCHILL

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ABOUT SYMBIOSIS

Symbiosis Institute of Technology, a constituent of Symbiosis International University was established in the year, 2008 and currently offers B. Tech programmes in Civil Engineering, Computer Science and Engineering, Electronics & Telecommunication Engineering, Mechanical Engineering, Artificial Intelligence & Machine Learning and Robotics & Automation and M.Tech programmes in Artificial Intelligence & Machine Learning, Robotics & Automation and Embedded Systems. Research programmes leading to Ph. D. Degree were introduced in Faculty of Engineering of Symbiosis International University in 2010 and many more.

The Institute endeavors to provide quality technical education in line with the requirements of today's competitive industry and fast paced technological developments. The curriculum developed by the Institute lays a stress both on basics and latest developments. Realizing the fact that faculty is the most important resource, special efforts have been made to find, recruit and retain highly qualified and competent faculty. .

Infrastructure created and acquired by the Institute, like all other Symbiosis Institutes, is of a very high quality and includes multimedia classrooms, well equipped labs including software for CAD/CAM, simulations and other applications, well stocked modern library with digital media, auditorium, seminar halls, separate hostels for boys & girls and playgrounds

The Institute provides an environment conducive for harnessing the potential of both faculty and students through systematic and effective planning and control of the teaching learning process, both within and outside the classroom.



VISION

To contribute to the society by imparting quality education, professionalism, and entrepreneurial skills in the field of Civil Engineering to produce globally competent engineers.

MISSION OF THE DEPARTMENT

- To impart the latest state of art research-led technical education and skills in a congenial learning environment to meet the global societal needs.
- To inculcate professional ethics and lifelong learning through curricular and co-curricular activities.
- To nurture innovation and encourage entrepreneurship in Civil Engineering.

PEO'S

PEO1 – To apply fundamental skills, knowledge of analysis and design to all the applications in civil engineering.

PEO2 – To contribute towards the development of society by providing solutions with sensitivity towards built environment.

PEO3 –To demonstrate professional and leadership ability for becoming successful entrepreneurs.

INTERNATIONAL COLLABORATIONS & TECH-FESTS

The basic teaching learning process is supplemented by organizing techfests, cultural programmes, sports competitions, industry-institute meets, guest lectures by renowned personalities and student exchange programmes with foreign universities.

The Institute has international collaborations for student and faculty exchange with Nanyang Technological University Singapore, Ingolstadt University Germany, Purdue School of Engineering,IUPUI Indianapolis USA and Leibniz University Hannover.

Engineering is the closest thing to magic that exists in our world

Elon Musk

Clubs in Civil Engineering Department

1. **CESS** (CIVIL ENGINEERING SOCIETY OF SYMBIOSIS)
2. **ASCE** (THE AMERICAN SOCIETY OF CIVIL ENGINEERING)
3. **TTC** (TALK THE CLOCK ANCHORAGE)





CIVIL ENGINEERING SOCIETY OF SYMBIOSIS

Civil Engineering Society of Symbiosis [CESS] represents current students as well as faculty as its members within the Civil Engineering Department at SIT. Civil Engineering Society of Symbiosis [CESS] was formed on **11/01/2012**.

OBJECTIVE

Civil Engineering Society of Symbiosis [CESS] was formed with key objectives as

- To showcase and sharpen student's talents through a variety of events and activities planned throughout the year.
- To develop insight for responsible attitudes, skill sets, values, teamwork while establishing quality consciousness and demand-driven, the self-relevant centre of excellence.
- To showcase their potential and help those to face the real-time challenges related to the profession.
- To give our students practical insight into civil engineering by organizing field or industrial visits throughout the year thus giving them a chance to interact with key personnel of the industry and augment their classroom learning.
- Apart from the technical aspects, it also undertakes the responsibility of proper nurturing of students by organizing some social and awareness events as a part of CESS.

POST	ROLE
PRESIDENT	To manage the overall plan of action and coordination between the team and faculty.
SECRETARY	Taking care of everything under the umbrella of president.
VICE PRESIDENT	To manage the overall plan of action and coordination between the team and faculty along with the president and take up the work load in his absence.
ANNUAL EVENT HEAD	Thinking and planning the events throughout the year.
SPONSORSHIP HEAD	Holding the responsibility to get in touch with companies for sponsorship for events throughout the year, including CAPOMAESTRO.
S-R HEAD	Holding the responsibility to get in touch with colleges for participation for events throughout the year, including CAPOMAESTRO.
DESIGN HEAD	Holding the responsibility to prepare all the creatives for events throughout the year, including CAPOMAESTRO.
DOCUMENTATION HEAD	Holding the responsibility to prepare document and reports for events throughout the year, including CAPOMAESTRO.
SOCIAL MEDIA HEAD	Holding the responsibility to post all the creatives for events throughout the year, including CAPOMAESTRO.
LITERATURE HEAD	Holding the responsibility to prepare writeups for content including e-mails, captions, MoU, blog writings, proof checking etc. for all the creatives for events throughout the year, including CAPOMAESTRO.
ACCOLADES HEAD	Holding the responsibility to maintain list of all the winners for events throughout the year, including CAPOMAESTRO.
TECHNICAL HEAD	Holding the responsibility of all the technicalities for events throughout the year, including CAPOMAESTRO.
FINANCE HEAD	Maintaining all the expenditure.

ASHISH RANJAN	CAPOMAESTRO HEAD	19070121503	2018-22
ISHIKA KOCHHAR	CAPOMAESTRO CO-HEAD	19070121019	2019-23
ASHWANI KUMAR	PRESIDENT	18070121007	2018-22
DIKSHA SHARMA	VICE PRESIDENT	19070121012	2019-23
MEET RABADIA	SECRETARY	18070121022	2018-22
MUSKAAN	EVENT HEAD(Tech-Startup)	19070121022	2019-23
BHAVYA	EVENT CO-HEAD(Tech-StartUp)	19070121007	2019-23
KOMAL	EVENT HEAD(co-rail)	18070121021	2018-22
SAKETH	EVENT CO-HEAD(corail)	19070121028	2019-23
INDHARESHWARAN GOPALAN	EVENT HEAD(Open mic)	18070121027	2018-22
DEIMA	EVENT HEAD(Open mic)	19070121010	2019-23
SARA	EVENT HEAD(poster)	19070121505	2018-22
ATHER	EVENT CO-HEAD(poster)	20070121510	2019-23
ANMOL	EVENT HEAD(games)	19070121005	2019-23
SHUJA	EVENT HEAD(games)	20070121509	2019-23
VEDANGI SHINDE	DOCUMENTATION HEAD	18070121032	2018-22
ALEFIA ASAD	DOCUMENTATION CO-HEAD	19070121004	2019-23
KUSHAGRA GUPTA	CREATIVE HEAD	18070121016	2018-22
AMIT KUMAR	DESIGN HEAD	18070121004	2018-22
DANIEL KUANY	DESIGN CO-HEAD	19070121008	2019-23
NAIR	DESIGN CO-HEAD	19070121002	2019-23
UTKARSH KUWARBI	LITERATURE HEAD	18070121031	2018-22
INDHARESHWARAN GOPALAN	LITERATURE HEAD	18070121027	2018-22
JAY HARYANI	SR HEAD	19070121512	2018-22
JAINAM	SR CO-HEAD	19070121016	2019-23
SACHIN KUMAR JHA	MEDIA HEAD	18070121023	2018-22
YASHASHWI RAI	TECHNICAL HEAD	18070121034	2018-22
ROHIT KASAR	SPONSORSHIP HEAD	19070121518	2018-22
SARA	SPONSORSHIP CO-HEAD	19070121505	2018-22

Hello readers,

I feel obliged to receive this opportunity of sharing my experience as a CESS President with all my beloved juniors and fellow students.

The whole journey started back in October 2019, when we had elections for the new CESS team and prominently, for the "new face of CESS", that's how a president's role is defined. So yes, after the elections, a new president with his team was ready with all the energy and enthusiasm to break all records and give a new look to the only official club for civil engineering students at SIT.

With all this zeal, the team started immediately to work upon the planning of various events, but as we always say, God has his own plans, COVID-19 had already entered the lives of the humans on earth. This led to a small break for everyone on the planet, nothing we knew about the fact that this break will be a constant member of our family and hence will urge us to change the way of leading our lives and performing our duties and responsibilities in a completely different manner.

But there's another famous saying, "one should always try to proceed when people think we can't proceed", this one is written by an upcoming famous personality, Ashwani Kumar, yes, I am talking about myself :)

And the whole team learnt how to keep working irrespective of the challenges which comes in our way as it is only there to make us more strong and skillful. Slowly and gradually, all of us got a hang of it and hence learnt how to handle various situations and also learnt to work on various technologies.



President of CESS 2020-2021
Ashwani Kumar (Batch of 2018)

On the whole journey as a CESS President, I've been fortunate to have such a supportive team which not only made my task easy but also took a lot of stress off my head. The blessing in disguise was to have amazing guide in the face of Vaishnavi Dabir ma'am who not only cared about the event, but also about the rules, participations and most importantly, the CESS family. I won't be wrong if I say that she took the responsibility of being the right head of the family.

Moving on, it was a good experience to work along with our current faculty head, Dr. Sayali Sandbhor. Best part throughout my experience was to have kind and motivating words from our HoD and faculties which we use to get after every event. Our team brought this trend of receiving feedbacks from our teachers after every event and hence this helped us in our constant improvement. We introduced many events in the Civil department for example, online paper presentation competition, annual prize distribution (with a new look), engineer's day celebration and many more. We were also fortunate to organize an online version of our famous techfest, CAPOMAESTRO, I was fortunate to work in this team along with some really special members.

I was also fortunate to have the team in the top 60 ranking for a national level competition organized by IIT-Delhi and their alumni. Overall, it was a great journey with a lot of lessons which I've learnt and I am sure that this will help all our members to mold themselves in a better version of themselves. Lastly, I would like to thank all the people who have been with me and even the one who were against me as they have made me a stronger human inside out.

Thank you! Jai Hind!

American Society of Civil Engineering



ASCE or The American Society of Civil Engineering is a professional body founded in 1852 to represent the members of the civil engineering profession world wide .

Objective. To enhance the welfare of humanity by advancing the science and profession of civil engineering.

Student Chapters may be established at institutions that have a baccalaureate degree program in civil engineering or civil engineering technology

SPECIAL PROJECTS

A *special project* is a constructive undertaking requiring planning and implementation that go beyond routine organizational activity. Opportunities for leadership experience and participation in a team effort are made available by these projects.



Hosting a National Concrete Canoe Competition

National Steel Bridge Competition





Benefits of Student Chapter

- ✓ Lifetime student access for free
- ✓ Chance to participate in exclusive conferences
- ✓ Exposure to national and international competition
- ✓ Webinars, Workshops, site visits
- ✓ Interaction with many new people
- ✓ Learning new technology in civil engineering

Capomaestro 2021

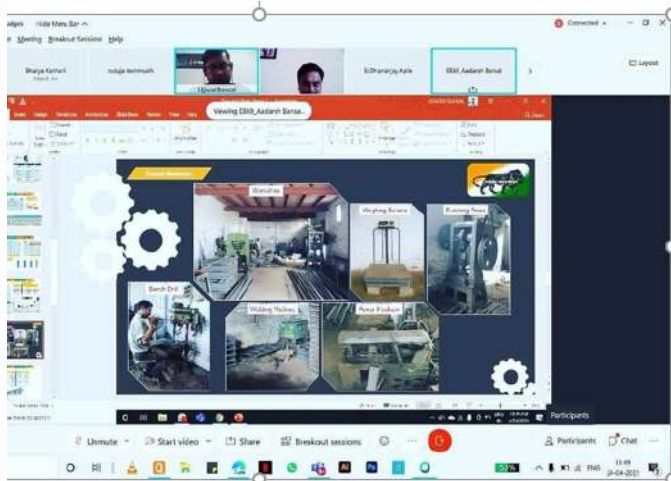
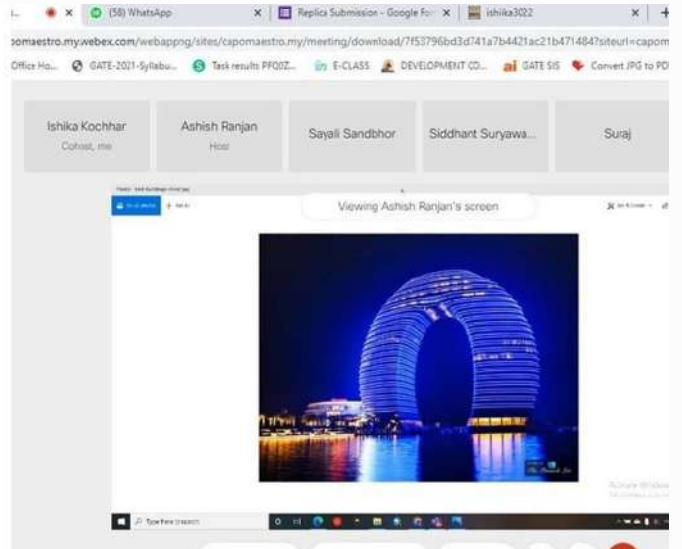
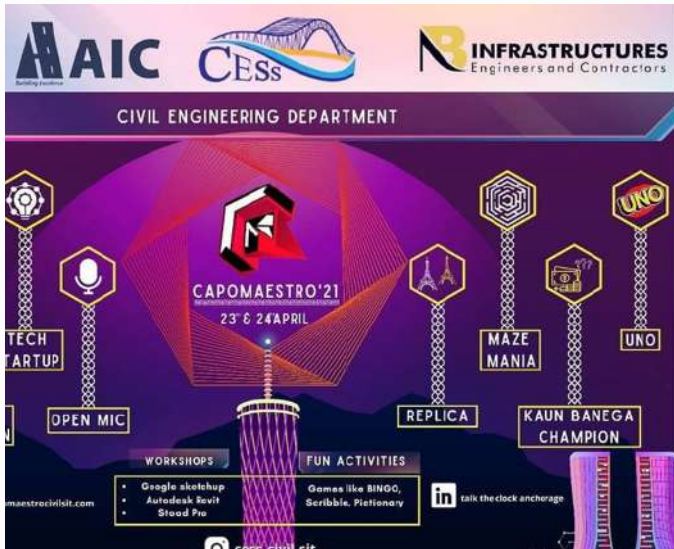
We, Capomaestro 21, Civil Department are so proud of what we have done that we would love to share it with you. For the first time we planned a virtual technicalfest Capomaestro. Whole team was skeptical about how to make it a successful one, we were doubtful about even if it is going to be nearly good as a physical tech-fest. But we being the CESS who wish to take Capomaestro higher every year didn't give up. And outcome of it was something that made us believe in teamwork even more now.

To sum it up we would like to say that we managed to organize a very successful techfest and to celebrate its grand success, we hosted a Capomaestro night where we had line of amazing comedians which made CAPOMAESTRO'21 a beautiful memory!

With everything being online this time, we created the Capomaestro website by ourselves. We also created our own gaming app, and reached out to a large number of colleges in India and other countries too. We hosted around 3000 participants on a virtual platform. We had some amazing technical events and some super fun events for the participants. We successfully engaged everyone in the civil department, from students to faculty to other staff with some refreshing and fun activities.

Lastly, We would like to thank all who participated and most importantly the team who made this all possible.

“When the circumstances are against you, it is the biggest and only opportunity to rise up against all odds”



1st and 2nd Prize at National Level Paper Presentation Competition

MoU of Civil Engineering Department, SIT with Ecosan Services Foundation, working in the water, wastewater and sanitation sector, is renewed.

While renewing the MOU, we have extended the scope of the MOU and Symbiosis Community Outreach Programme and Extension (SCOPE) is also now part of this MOU. The lead team from SIT, Prof. Kanchan Khare, Head Civil Engineering along with Prof. Sagar Kolekar, Dr. Shirin from SCOPE visited ESF office and MoU was signed by Dr. Dayanand Panse, Director, Ecosan Services Foundation and Ms. Radhika Borgaonkar, Project Manager, Ecosan Services Foundation.



Lakemorpho: a Morphological Analysis Tool for Lakes and Reservoirs

Lake morphometry metrics are important for any limnological study, as they provide valuable information about the shape and size of a lake. However, in many cases, these data are either not available or are difficult to access. This can make it challenging to model lake ecology on a broad scale, as some key information about in-lake processes is missing.

To address this problem, the R package lakemorpho has been developed to estimate lake morphometry metrics using digital elevation models and hydrography data. This software tool allows users to estimate important morphometry metrics such as surface area, shoreline length, volume, and maximum depth. One of the advantages of lakemorpho is that it allows for streamlined analysis workflows, as it provides a consistent framework for calculating a suite of common morphometry metrics. This can be particularly useful for researchers and resource managers who are working with large datasets and need to quickly and accurately estimate morphometry metrics.

In addition to providing a foundation for calculating common morphometry metrics, lakemorpho can also be used as a starting point for developing additional metrics. For instance, it might be possible to combine hydrological methods for estimating stream flow into and out of lakes with lake volume data to calculate residence time.

While lakemorpho is currently built on top of the sp package, which is the current spatial data standard for R, it is likely that the sf package will eventually replace sp as the standard. In the future, it may be beneficial to rewrite lakemorpho using the sf tool chain and the "tidy data" framework to take advantage of the latest advances in spatial data analysis. Overall, lakemorpho is an essential tool for limnologists and aquatic ecologists who need to quickly and accurately estimate lake morphometry metrics in R. Its functions provide a consistent framework for calculating a suite of common morphometry metrics, and it can serve as a starting point for developing additional metrics as well.

One of the key motivations behind the development of lakemorpho would be to provide a tool for researchers and resource managers to estimate lake morphometry metrics in cases where in situ data are not available. This can be particularly useful for studies of lakes that have not been the subject of previous research, or for which data are not easily accessible.

To use lakemorpho, users simply need to input digital elevation models and hydrography data for a particular lake. The R package will then generate estimates of various morphometry metrics, which can be used to better understand the characteristics and behavior of the lake or reservoir.

As an example of a typical use case, let's say that a researcher is studying the impacts of nutrient loading on lake ecology. In order to model the ecological impacts of nutrient loading, the researcher needs to know the surface area, volume, and maximum depth of the lake.

However, these data are not available for the lake in question. By using lakemorpho, the researcher can estimate these morphometry metrics using digital elevation models and hydrography data, and use these estimates to inform their study. One of the advantages of lakemorpho is that it allows for streamlined analysis workflows, as it provides a consistent framework for calculating a suite of common morphometry metrics. This can be particularly useful for researchers and resource managers who are working with large datasets and need to quickly and accurately estimate morphometry metrics.

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Overall, lakemorpho is an essential tool for limnologists and aquatic ecologists who need to quickly and accurately estimate lake morphometry metrics in R. Its functions provide a consistent framework for calculating a suite of common morphometry metrics, and it can serve as a starting point for developing additional metrics as well.

Installation

- Install from CRAN
- If you're using RStudio, open a new tab and type "install.packages("Lakemorpho")". This will install the latest version of Lakemorpho into your local package repository. You can also install it from GitHub or source code directly by downloading the package in R:

```
`library(Lakemorpho)`
```

If you're not using RStudio, open your terminal and type:

```
`install.packages("Lakemorpho")`
```

Using Lakemorpho

To use Lakemorpho, you'll need to import the package and load it:

```
library(lakemorpho)
```

To know more:

Hollister, J.W. (2021). elevatr: Access Elevation Data from Various APIs. R package version 0.4.1.

<https://CRAN.R-project.org/package=elevatr/>

Hollister J, Stachelek J. lakemorpho: Calculating lake morphometry metrics in R. F1000Res. 2017 Sep 21;6:1718. doi: 10.12688/f1000research.12512.1. PMID: 29188019; PMCID: PMC5698920.

Written By
Prof. Rushikesh Kulkarni
([December 30, 2022](#))

BIM WEEK!

Civil Department, Symbiosis Institute of Technology presents "BIM WEEK", a week-long Lecture Series of Industry Experts! From 17th May to 21st May 2021, 11am to 1 pm!

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

BIM WEEK

A Lecture Series delivered by Industry Experts
Organised by: Civil Department

- Day 1 BIM in Mega infrastructure projects
- Day 2 BIM services & practices in Indian AEC sector
- Day 3 Benefits of BIM for AECO project stakeholders
- Day 4 Claims, disputes & litigations in BIM projects
- Day 5 The need of common data environment in BIM projects
- Day 6 Intergrated project delivery in BIM projects

Lets celebrate technology and digital advancement through
Building Information Modeling (BIM)

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

BIM WEEK

A Lecture Series delivered by Industry experts
Organised by: Civil Department

BIM in Mega infrastructure projects



Dr. Amarnath C.B.
Head BIM Strategies, Larsen & Tubro,
President, India BIM Association

17th
May, 2021 11:00 AM

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

BIM WEEK

A Lecture Series delivered by Industry experts
Organised by: Civil Department

BIM Services and practices in Indian AEC Sector



Ar. Ankit Kansara
CEO, Virtual Building Studio

18th
May, 2021 11:00 AM

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

BIM WEEK

A Lecture Series delivered by Industry experts
Organised by: Civil Department

Benefits of BIM for AECO Project stakeholders



Mr. Chetan Mali
Manager - BIM Strategy at L&T Construction,
Volunteer for India BIM Association.

19th
May, 2021 11:00 AM

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

BIM WEEK

A Lecture Series delivered by Industry experts
Organised by: Civil Department

Claims, Disputes and Litigation in BIM Projects.



Ar. Mosami Sayare
BIM and Project Management Consultant.
Volunteer member at India BIM Association

20th
May, 2021 11:00 AM

SYMBIOSIS INSTITUTE OF TECHNOLOGY, PUNE

BIM WEEK

A Lecture Series delivered by Industry experts
Organised by: Civil Department

The need of Common data environment in BIM Projects



Mr. Pavan Kumar
Assistant Professor, Dept. Of Civil Engineering
Active Member at India BIM Association

21st
May, 2021 11:00 AM

Tech Talk Series



TECH TALK on "INNOVATION IN CONSTRUCTION - NEED OF THE HOUR" by Mr. Prashant Nagalapur, Estimation Manager, Turner Technical Services, Bangalore organized by Civil Engineering Department

Time for making our cities SMART. From AI, Robotics, Sensor Technology application to design and development, understand role of urban planning in Smart Cities!

Webinar on Road safety



The team participated in the road safety event by i-Safe, IIT Delhi. Many activities such as poster making, webinar and spreading awareness were successfully completed. We secured in Top 50 category in India.

2000 - Watt Smart Cities Association, Switzerland

The Civil Engineering Department has collaborated with 2000-Watt Smart Cities Association, Switzerland with an aim to make the SIU campus sustainable and energy efficient. The project is one of its kind and SIU is the first University Campus in India being selected by the 2000 Watt Association for Sustainable Campus Project. Swiss government has selected SIU to execute the first pilot in India. SIU has selected SIT for pilot before the entire SIU goes for it!!!

A dedicated team from Civil Engineering Department, SIT would be working on "Smart Building criteria". With its multidisciplinary and unique nature, this project offers a lot of learning opportunities for the faculty members as well as for the students involved in it. This is a great social initiative taken up by SIU for slowly moving towards sustainability and would definitely be a model to follow for other University campuses in India!



CONGRATULATIONS

Civil Engineering Department, SIT has
collaborated with

2000-Watt Smart Cities Association, Switzerland
for Sustainable Campus Project!

PAVITR Project Pilot plant funded by European Union

Bhoomi Poojan of the selected site for the construction work of “Anaerobic System and Constructed Wetland for WasteWater treatment” was done on 8th July 2021 as a tradition to mark the start of the construction activity.

The ritual was held in the presence of Deputy Director Academics Prof. Arundhati Warke along with the entire PAVITR team from Civil Engineering Department and other faculty members of the department.



Renewal of MoU with Ecosan Services Foundation

MoU of Civil Engineering Department, SIT with Ecosan Services Foundation, working in the water, wastewater and sanitation sector, is renewed.

While renewing the MOU, we have extended the scope of the MOU and Symbiosis Community Outreach Programme and Extension (SCOPE) is also now part of this MOU. The lead team from SIT, Prof. Kanchan Khare, Head Civil Engineering along with Prof. Sagar Kolekar, Dr. Shirin from SCOPE visited ESF office and MoU was signed by Dr. Dayanand Panse, Director, Ecosan Services Foundation and Ms. Radhika Borgaonkar, Project Manager, Ecosan Services Foundation.



Mother's Day 2020

WRITTEN BY ASHWANIKUMAR
(MAY 10, 2020)



A very Happy Mother's day to all the students of SIT. For those who are spending time with their mother, please consider yourself fortunate as there are students who are miles away from their mother and hence, we, the students of Civil engineering department have brought some messages from all those who are not there with their mother due to this uncertain situation.

Life till Death a Mother will never remember your mistakes as regret.

She of all 7.6 Billion people in this Earth knows your true Worth.

मैने सोचा, इंटरनेट का भी मदद ली, विभिन्न कार के तोड़ में भी देखा, ले कन दल से केवल एक ही आवाज़ निकली, "मा तुम सबसे यारी हो ।"

There's so much to you,
That words couldn't amount to anything. It's cliché but true,
If I could be half of a person as you. Unlike these words,
I hope I do justice to your upbringing. To me, I thank you for nurturing.

वके तो चांद जैसे है, चले तो हवा जैसे है, वो मा ही है जो धुप में भी चले तो छाओ जैसे है !

For those who are away from their mom, this year might be difficult to see your mom in person, but you should take time to let her know she's in your thoughts.

Mothers day celebration

Message from the team was sent to mothers and all . This was made by collaborations from students .



Independence Day 15, August, 2020

**INDEPENDENCE DAY
AT OUR HOMES**



The President of CESS celebrated this day by hoisting the flag along with his mother showing women empowerment and the importance of women in society. The live broadcast of the event was shared among all the team members and students.