

Department of Civil Engineering, SITCOE, Yadrav

# DEPARTMENT OF CIVIL ENGINEERING

**“Sthapathya Vaartha”**

***(2023-2024)***

**Volume: 9 Issue: 1 Inside this issue**

## HOD Message

* **News Letter Coordinator Message**

## Vision, Mission and PEO of the Department

* **List of DAAB Members**
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* **Visits Arranged by Department**

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* **Student Achievement/Participation**
* **Our Proud Toppers**

## Personality

* **Incredible Modern Marvels of Civil Engineering**



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## HOD MESSAGE

This news bulletin 'Sthapathya Vaarta' is an outcome of the CIVIL ENGINEERING department's activities throughout the previous semester. The editing staff has worked hard to gather information and display it in an attractive manner in the News bulletin. I am delighted to interact with all stakeholders via it. On behalf of the Civil Engineering department, I would like to thank Executive Director Shri Anil A. Bagane and Principal Dr. S. A. Khot for your ongoing inspiration in bringing all operations to a single level.

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| **Dr. V. K. Naik** |
| **H.O.D.** |
| **CIVIL ENGINEERING** |

 Department of Civil Engineering, SITCOE, Yadrav

### NEWS LETTER COORDINATOR MESSAGE

I am happy to share the Civil Engineering Department's news release with you. It is a representation of the department's various activities as well as the contributions of the civil engineering department's professionals and students.

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| --- |
| **Mr. V. R. Nejkar** |
| **Assistant Professor** |
| **News Letter Coordinator** |

## News Letter Committee Members

|  |  |  |
| --- | --- | --- |
| C:\Users\sitcivil\Downloads\DSC_7772 copy.jpg | C:\Users\sitcivil\Downloads\Photo.jpeg | C:\Users\sitcivil\Downloads\WhatsApp Image 2024-02-24 at 4.54.15 PM.jpeg |
| MR. SHREYASH SHINDE  B. Tech Civil | MR. PRAGAT PACHORE  B. Tech Civil | MR. SHREYASH KALKUTAGI  TY Civil |

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## Vision, Mission and Quality Policy and PEO of Department

**The vision of the Department**

To be a centre of excellence in various sub-branches of Civil Engineering to prepare professionally competent engineers with a lifelong learning attitude for the accomplishment of ever-growing needs of society.

## The Mission of the Department

* + To prepare technically and professionally competent engineers by imparting quality education through effective teaching-learning methodologies and providing a stimulating environment for research and innovation
  + To develop professional skills and the right attitude in students that will help them to succeed and progress in their personal and professional career
  + To imbibe moral and ethical values in students with concern to society and the environment

## The Program Educational Objectives (PEOs)

**PEO I**: Demonstrate capabilities to develop an optimal solution to the real-world engineering problems by applying the theory-based practical approach of civil engineering and related interdisciplinary fields.

**PEO II**: Exhibit professional skills, ethical attitude and sensitivity towards society and environment.

**PEO III**: Engage in life-long learning for successful adaptation to technological changes.

 Department of Civil Engineering, SITCOE, Yadrav

* **LIST OF DAAB MEMBERS**

Following are the DAAB members of the department for AY-2023-24

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Name of person** | **Designation** |
| 1 | Dr. V. K. Naik | Head of Department, and Chairman DAAB |
| 2 | Prof. Dr. S. N. Tande | Other Academic Institute Faculty-Member |
| 3 | Prof. Dr. R. V. Raikar | Other Academic Institute Faculty-Member |
| 4 | Mr. S. S. Deshpande | Industry Person-Civil Engg.-Member |
| ~~5~~ | Mr. Nitin K. Patil | Industry Person-Civil Engg.-Member |
| 6 | Mrs. KalyaniAsmita | Parent-Member |
| 7 | Er. AmardeepA.Patil | Alumni- Member |
| 8 | Er. KapilGirange | Alumni- Member |
| 9 | Mr. Kunal D. Shikalgar | Current student B. Tech- Member |
| 10 | Mr. SiddeshKadam | Current student T.Y- Member |
| 11 | Mr. Y. S. Patil | Programme Co-ordinator, and NBA Coordinator |
| 12 | Ms. Pranoti O. Shirole | Academic Co-ordinator. |
| 13 | Mr. A. B. Jadhav | Senior faculty- Member |
| 14 | Mr. Y.U. Kulkarni | Senior faculty- Member |
| 15 | Dr. R. M. Garud | S.Y. Class Teacher, and Secretary DAAB, |
| 16 | Mrs. S. M. Patil | T.Y. Class Teacher- Member |
| 17 | Mr. V. R. Nejkar | B. Tech. Class Teacher – A Div-Member |
| 18 | Ms. Amuta Ware | B. Tech. Class Teacher- B Div- Member |

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* **PAPER PUBLICATION BY FACULTIES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr.**  **No.** | **Name of Author** | **Publication** | **Journal** |
| 1. | 1. Ms. P. T. Powar 2. Mr.Vinod Nejkar 3. Mrs.Pooja Patil 4. Dr.V.K.Naik | Dairy Wastewater Treatment with Rotating Biological Contactor as Secondary unit and use of Treated Effluent for Agriculture | E3S Web of conference |
| 2. | 1. Dr. V. K. Naik 2. Mr. V. R. Nejkar 3. Mr. S. B. Chougule 4. Mr. A. B. Jadhav | Ground Water Suitability Assessment for Agricultural Purpose in Selected Region for Ichalkaranji Area, Maharashtra,  India. | i-MACE 2023 |
| 3. | Dr. Pinki Deb | Utilization of fly ash and rice husk ash in cold mix asphalt as filler | ICGEST 2023 |
| 4. | Dr. R. M. Garud | Investigation on the efficacy of local vegetation  in Sludge treatment constructed wetland | A National Conference on Emerging Trends in Civil Engineering  (ETCE-23) |
| 5. | 1. Mr. Vinod Nejkar 2. Mr. Y. S. PAtil 3. Mrs. S. M. Patil 4. Mr. A. B. Jadhav | Air Quality Index for the selected locations of Ichalkaranji city, Maharashtra | A National Conference on Emerging Trends in Civil Engineering  (ETCE-23) |

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* **PATENT PUBLICATION**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sr. No.** | **Application number** | **Applicant Name** | **Title of the patent** | **Type of Patent** | **Date of Publication** |
| 01 | 202321018654 | 1. Mr.A.B.Jadhav 2. Mr.Y.B.Patil 3. Mr.S.S.Mulik 4. Mr.S.M.Mujawar 5. Mr.P.S.Patil 6. Mr.Y.S.Patil 7. Mrs.S.A.Patil 8. Mrs.M.V.Sabale | Sisal fiber Reinforced Cellular Lightweight Concrete(CLC) Bricks | National | 14/04/2023 |
| 02 | 202321034733 | 1. Mr.A.B.Jadhav 2. Mr.Y.S.Patil 3. Mrs.M.V.Sabale 4. Mrs.S.A.Patil 5. Mrs.S.M.Patil 6. Ms.P.T.Pawar 7. Dr.R.M.Garud 8. Mrs.P.O.Shirole 9. Mr.V.R.Nejkar | Structural and Non-structural behavior analysis of structures (brick, concrete, stone, wood, steel structures, etc.) | National | 16/06/2023 |
| 03 | 202321034728 | 1. Mr.V.R.Nejkar 2. Mr.Y.U.Kulkarni 3. Mr.S.A.Dopare 4. Mr.A.B.Jadhav 5. Mrs.P.O.Shirole | Wood and Steel in Concrete/ Brick Building Method and Processes | National | 16/06/2023 |
| 04 | 202321074756 | 1. Mr. A.A.Hosurkar 2. Aditi B Magdum 3. Susmita D Chougule 4. Rushabh R Patil 5. Imrannajir k Malgave 6. Awej M Naikwade | IOT BASED SMART BRIDGE HEALTH MONITORING SYSTEM. | National | 15/12/2023 |

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* **STTP/ WORKSHOP ORGANIZED BY CIVIL DEPARTMENT**

**ISTE Approved one-week Faculty Development Program on “Advanced Software in Civil Engineering” organized by department of Civil Engineering, SITCOE.**

‘Sharad Institute of Technology College Of Engineering, Yadrav' & Department Of Civil Engineering’, organized one week faculty development program on **“Advanced Software’s in** **Civil Engineering”** on the date 26/12/ 2023 to 30/12/2023. Event was conducted in offline mode.

**Content**

* Introduction to software related to civil engineering
* Need of advanced software’s in Civil engineering
* Applications of software’s in civil engineering field
* Hands on training on software’s

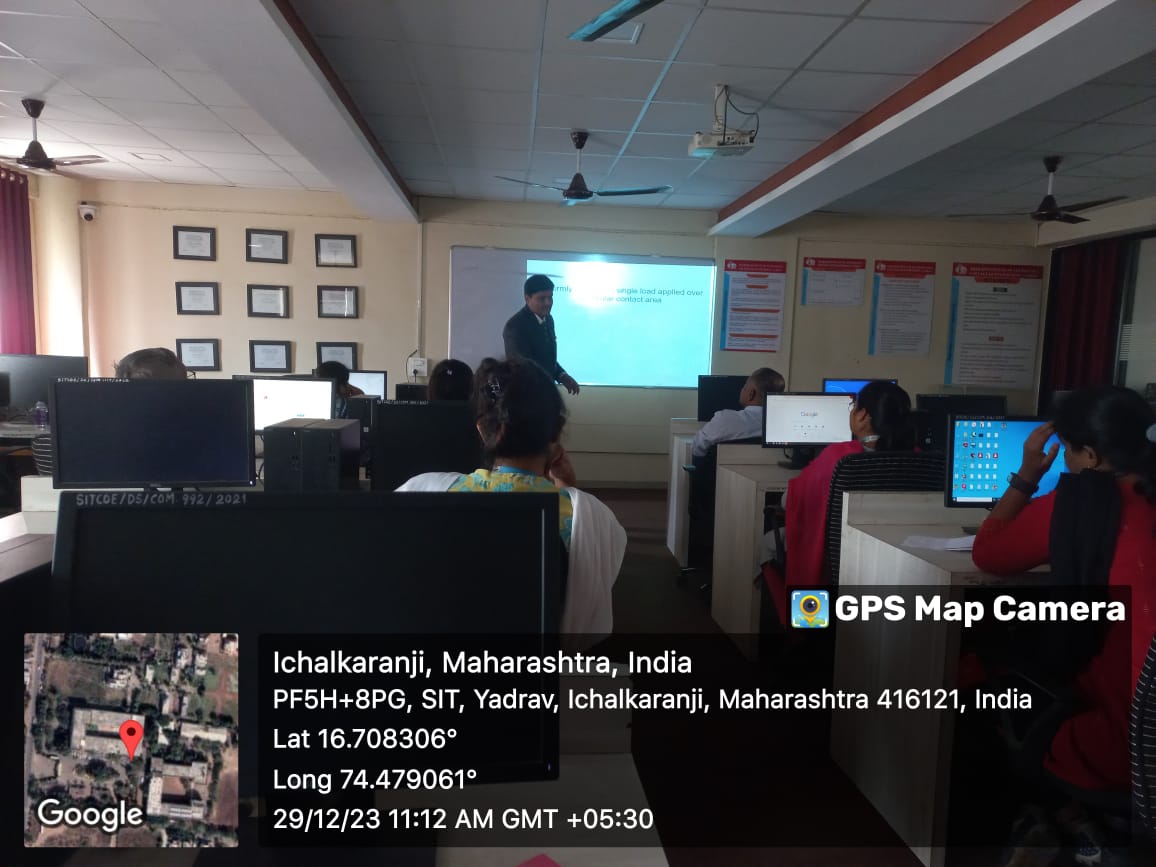
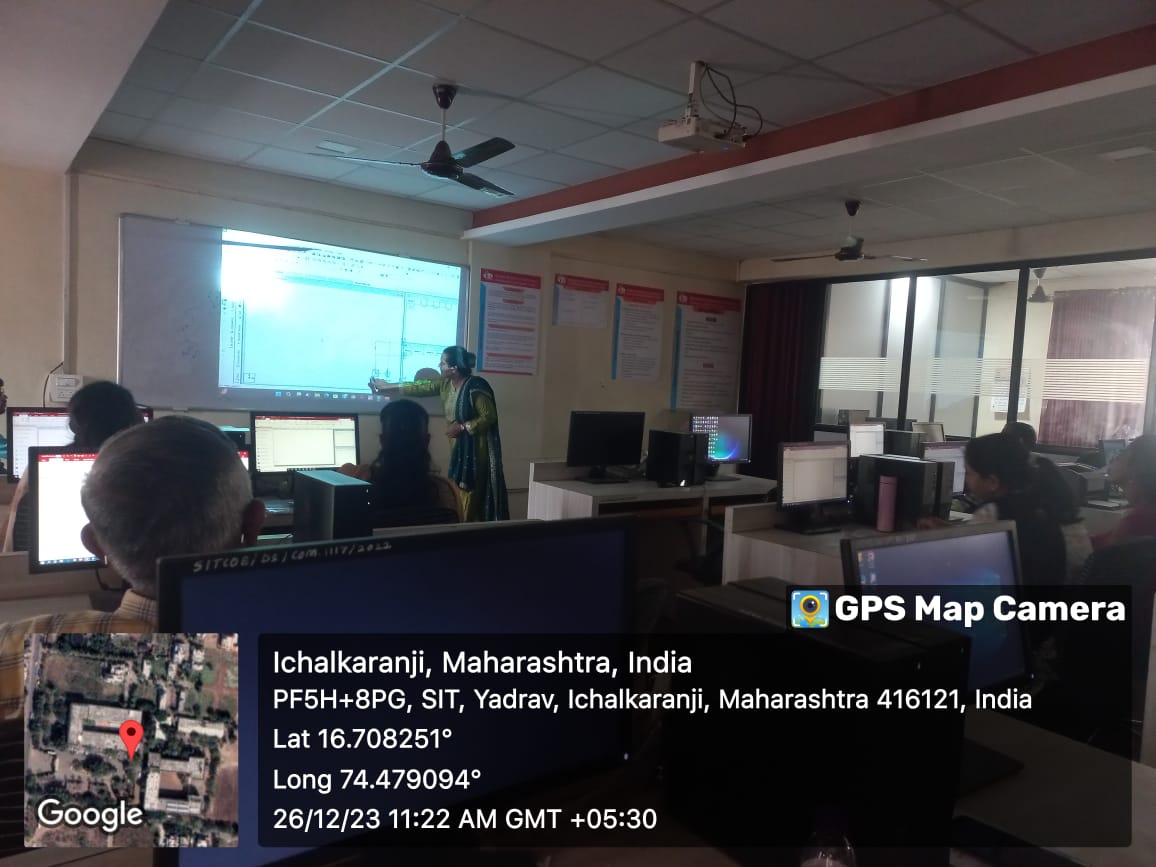
**FDP Schedule**

|  |  |  |
| --- | --- | --- |
| **Sr. No.** | **Expert/ Speaker Name** | **Topic** |
| 1 | Ms. Neeta Kamble Mr. Shubham Kamble | Introduction to STAAD Pro |
| 2 | Ms. Neeta Kamble | Hands-on training on Total Station software |
| 3 | Mr. Girish Arekar | Road active software |
| 4 | Dr. Rasmi Jadhav | Introduction to ANSYS |
| 5 | Dr. Anand Tapase | Introduction to pavement design |
| 6 | Applications of IIT PAVE software |
| 7 | Er. Sheetal S. Varur | QGIS |

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**Pictures from Faculty Development Program:**







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## FDP attended by Faculties

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Name of Faculty who attended** | **Title of the program** | **Duration** |
| 1 | Dr. R.M.Garud | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| Remote Sensing and GIS | (Jul-Sep 2023) |
| 2 | Dr. Pinki Deb | Highways in Hilly Region (HHR-2024) | 17/01/2024-21/01/2024 |
| 3 | Mr. A.B.Jadhav | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| 4 | Mr.Y.S.Patil | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| 5 | Mr.V.R.Nejkar | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| Integrated Waste Management for a Smart City | Jul-Oct 2023 |
| Flood Modelling | 26/12/2023-31/12/2023 |
| 6 | Mrs.A.D.Ware | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| Integrated Waste Management for a Smart City | Jul-Oct 2023 |
| 7 | Mrs.P.O.Shirole | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| 8 | Mrs.S.A.Patil | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| Integrated Waste Management for a Smart City | Jul-Oct 2023 |
| 9 | Ms.P.T.Powar | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| 10 | Mr.A.H.Hosurkar | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| 11 | Ms.P.R.Patil | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| QGIS in Civil Engineering: Best Practices and Case Studies | 07/12/2023-13/12/2023 |
| 12 | Mrs.S.M.Patil | Design of Ballasted Railway Track: Current Practices and New Development | 03/07/2023-07/07/2023 |
| Design of Steel Structures | Jul-Oct 2023 |
| 13 | Mr.Y.U.Kulkarni | Admixtures and Special Concretes | Jul-Oct 2023 |

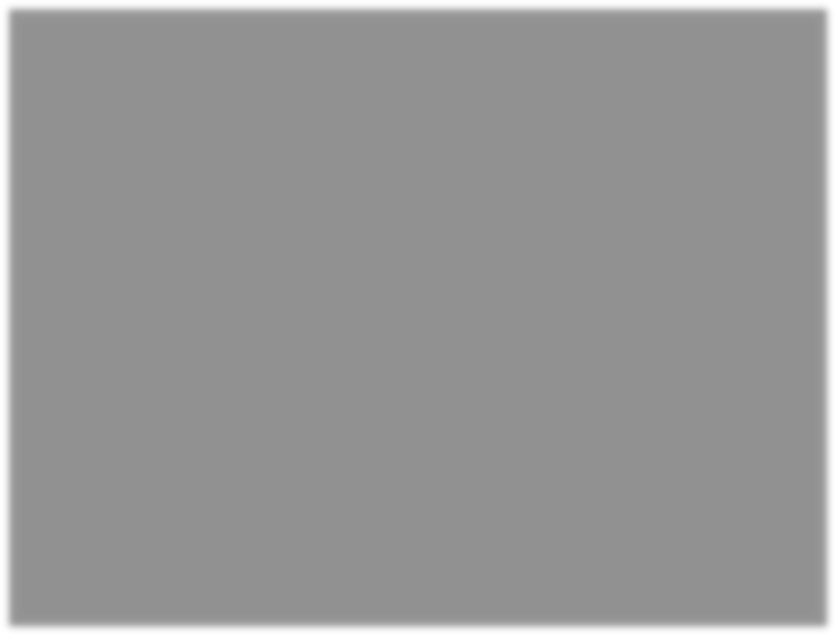
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## GUEST LECTURE SUMMARY

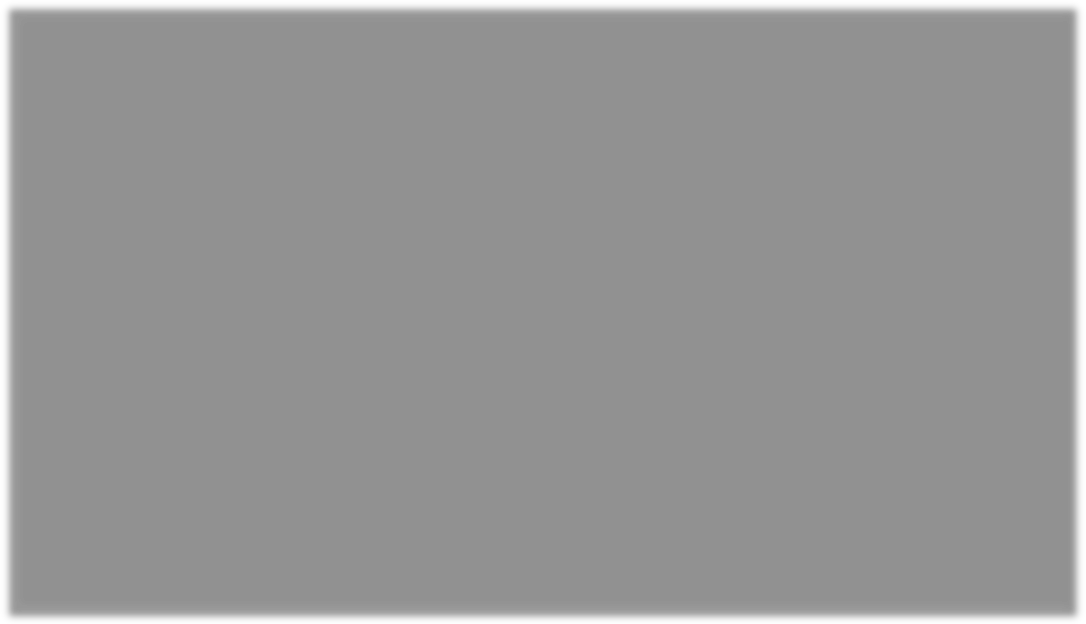
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| --- | --- | --- | --- | --- |
| **Sr.**  **No.** | **Topic for Expert Talk** | **Expert Name &**  **Designation** | **Date of**  **Expert Talk** | **Class** |
| 1 | Introduction to GIS and RS | Mr. Rahul Bhosale, Sr. GIS Engineer, Seermaps Technologies, Pune | 4-8-2023 | B. Tech |
| 2 | Machine Learning in Civil Engineernig | Dr. R. V. Raikar, Professor, KLE Technology, University, Belagavi. | 11-8-2023 | B. Tech |
| 3 | Stress Management | Mr. Ajinkya Nitin Godase, psychotherapist, Ichalkaranji | 5-9-2023 | B. Tech, TY and SY |
| 4 | Misile Coating | Mr. Sandeep Sole, Mumbai | 15-09-2023 | B. Tech, TY and SY |
| 5 | Environmental Science | Mr. B. R. Bagane | 29-09-2023 | TY and SY |
| 6 | GIS | Dr. Purandara B. K. Retired Seintist G, National Hydrology Department, India | 13-10-2023 | B. Tech |

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**Guest Lecture Pictures**

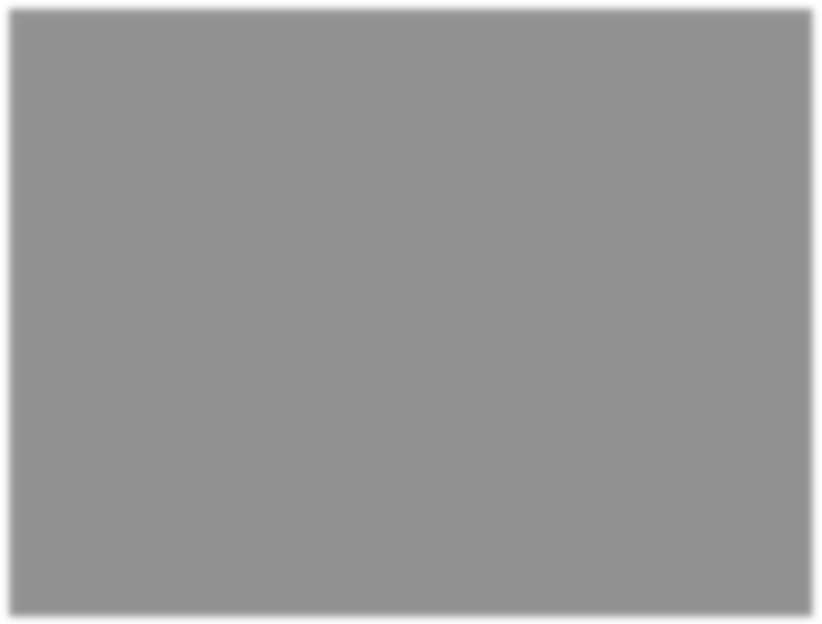


### Guest Lecture on “Introduction to GIS and RS” by Mr. Rahul Bhosale



**Guest Lecture on “Machine Learning in Civil Engineernig” by Dr. R. V. Raikar**

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**Guest Lecture on “STRESS MANAGEMENT” by Mr. Ajinkya Nitin Godase**

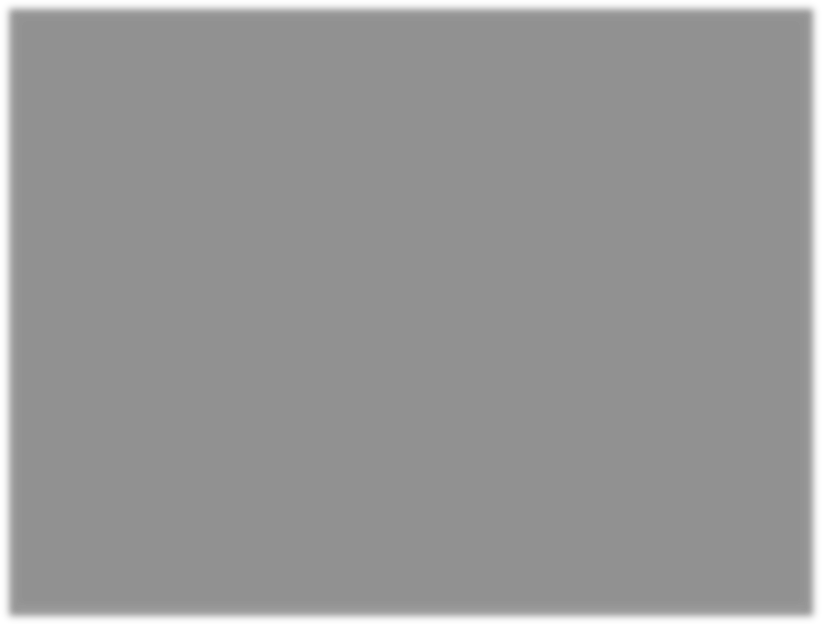
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## INDUSTRIAL VISITS SUMMARY

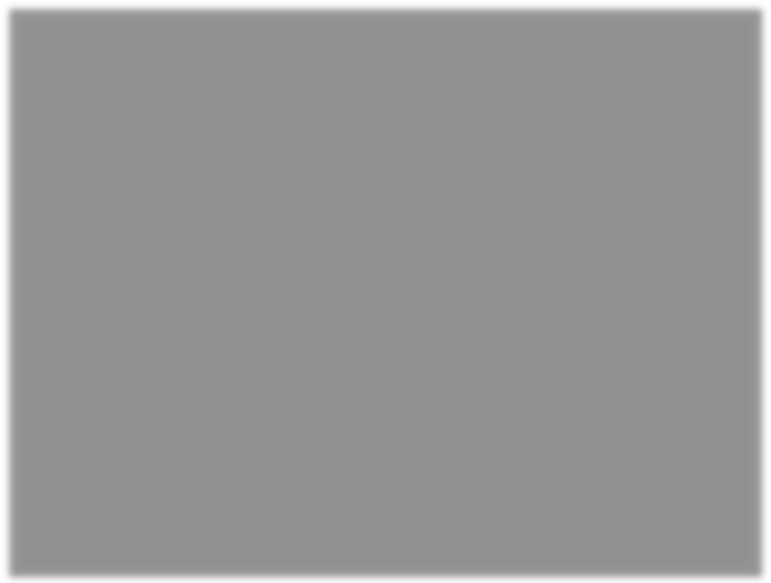
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr.**  **No.** | **Subject** | **Visit Location** | **Class** | **Date** |
| 1 | SIT new building | Ichalkaranji | B. Tech All, TY | 28thAug2023 |
| 2 | Water treatment plant | Ichalkaranji Municipal Corporation,Ichalkaranji | TY All | 7th Oct 2023 |
| 3 | Common Effluent Treatment plant | Ichalkaranji Municipal Corporation,Ichalkaranji | TY All | 7th Oct 2023 |
| 4 | Solid Waste Treatment plant | Ichalkaranji Municipal Corporation,Ichalkaranji | TY All | 7th Oct 2023 |
| 5 | Elavated Storage Reservoir | Ichalkaranji Municipal Corporation,Ichalkaranji | TY All | 7th Oct 2023 |
| 6 | Elixa park Kolhapur | Shahupuri,Kolhapur | B. Tech All, SY | 9th Oct 2023 |
| 7 | SIT new building | Ichalkaranji | B. Tech All, TY | 28thAug2023 |

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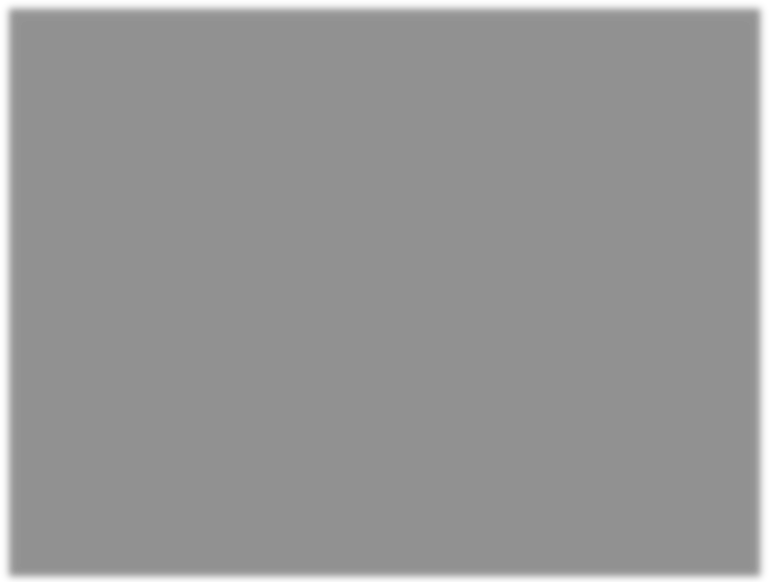
**Visit Pictures**



### Visit at ‘WTP, Ichalkaranji’ on the date 28/08/2023



**Visit at ‘Water treatment plant, Ichalkaranji’ on the date 07/10/2023**

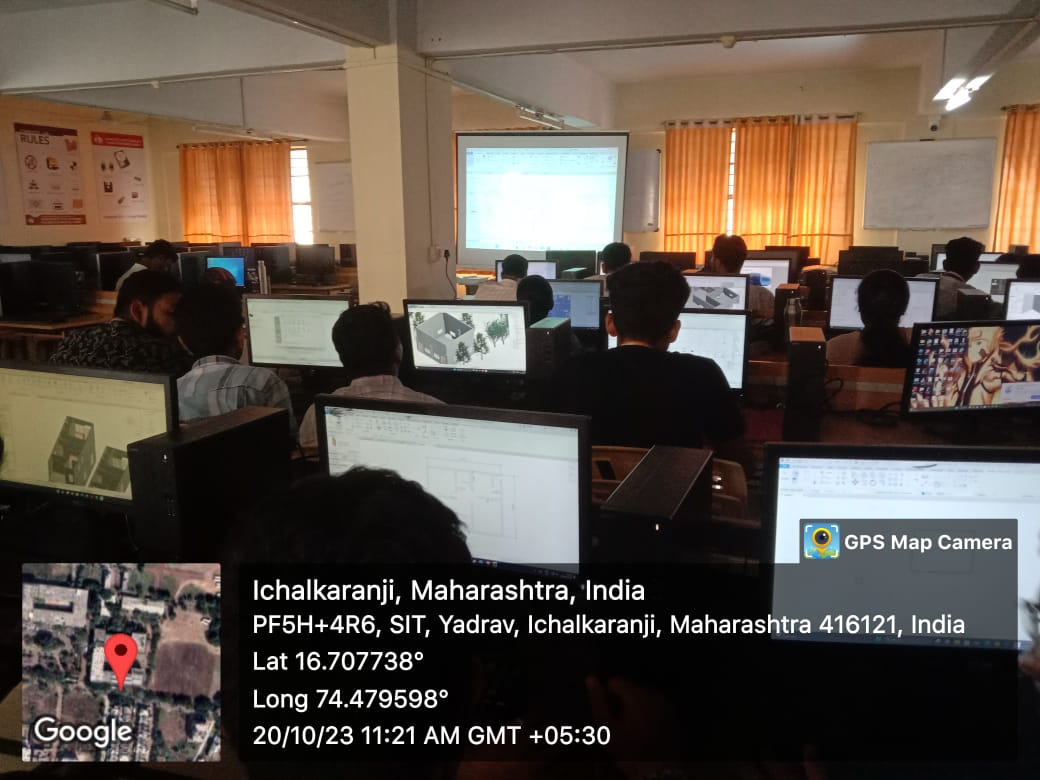
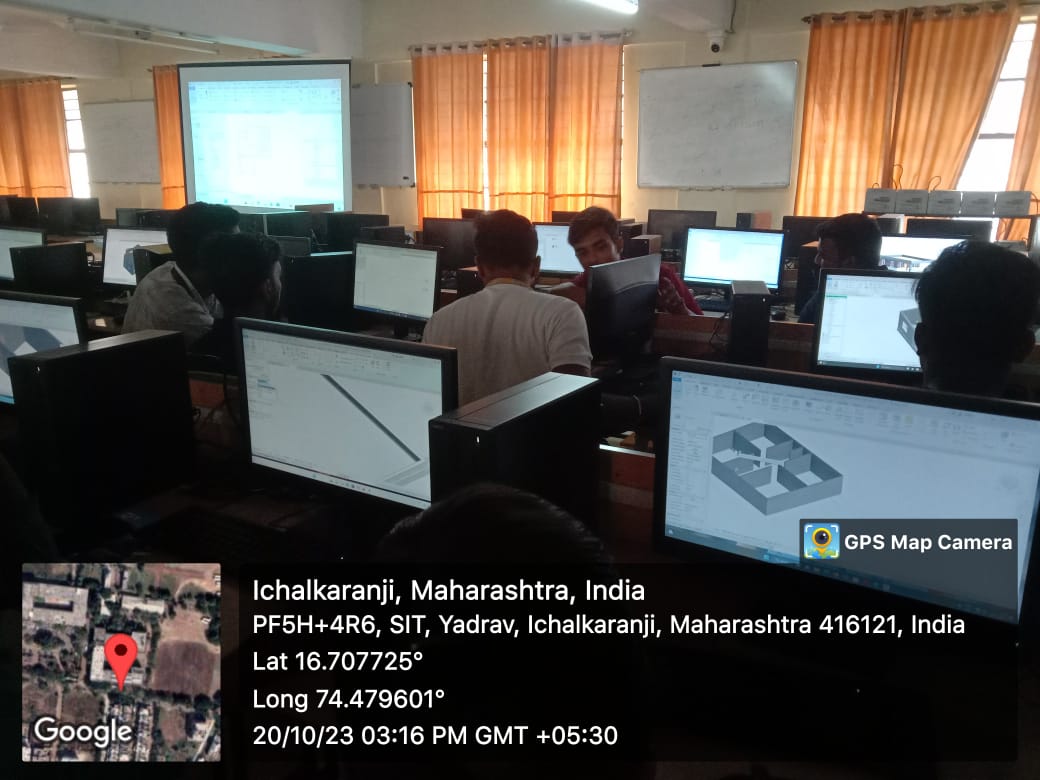


### Visit at ‘Elixa park Kolhapur’ on the date 09/10/2023

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## VALUE ADDED PROGRAM

VAP is conducted for TY students on ‘Building Information Modeling Tool’ from October 19, 2023, to October 25, 2023, at 9:30 a.m. to 4:30 a.m. A total of 59 students attended this VAP organized by the Civil Department. The VAP is conducted by Mr. Dhaval Bagawade of Info Grow Institute, Kolhapur.

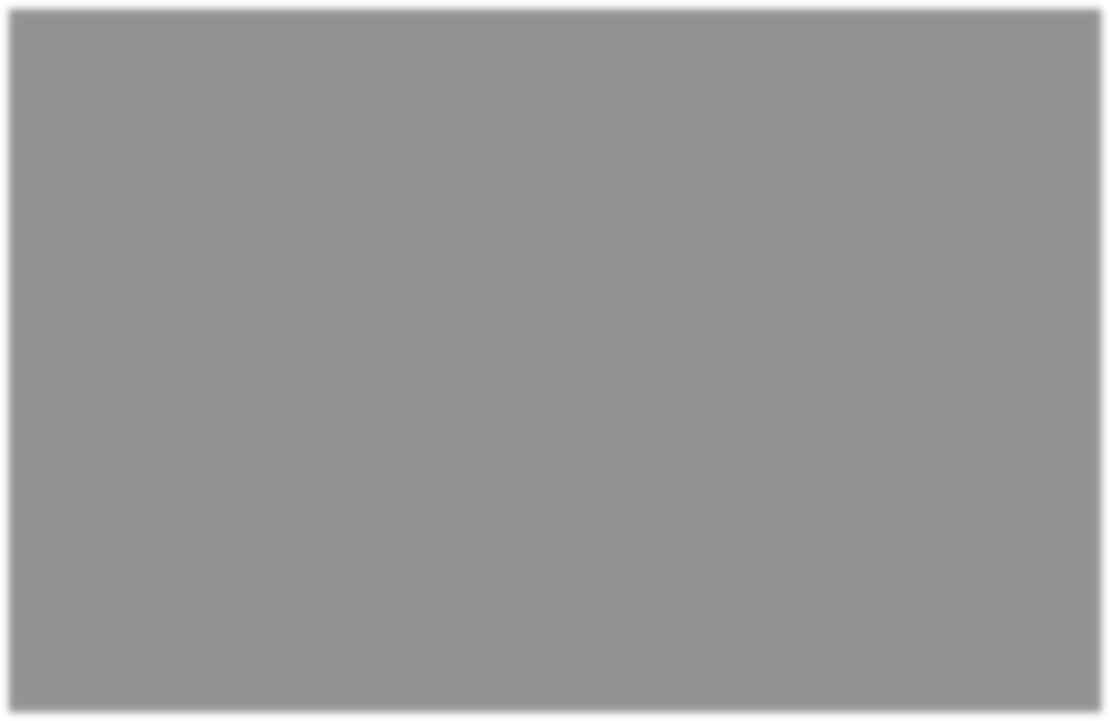
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* + **SUMMARY OF ACTIVITIES CARRIED OUT BY CESA- A.Y. 2023-24**

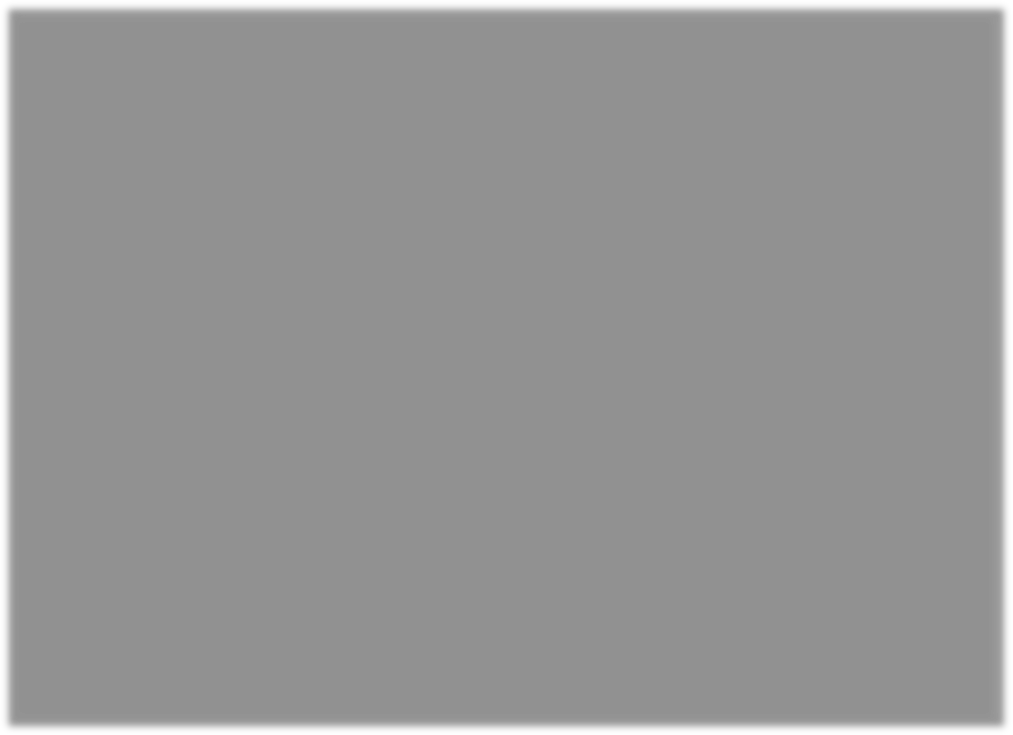
|  |  |  |
| --- | --- | --- |
| **SR. NO.** | **NAME OF ACTIVITY** | **DATE** |
| 1 | TEACHER’S DAY | 05/09/2023 |
| 2 | GUEST LECTURE-STRESS MANAGEMENT | 05/09/2023 |
| 3 | STHAPATYA 2K23  Name of events:   * Paper Presentation * Ad-Mad Show * General Quiz * Sharad Shorts | 05/10/2023 |
| 4 | IMPETUS 2K23  Name of events:   * Paper Presentation * Project Competition * Vasturang | 12/10/2023 |

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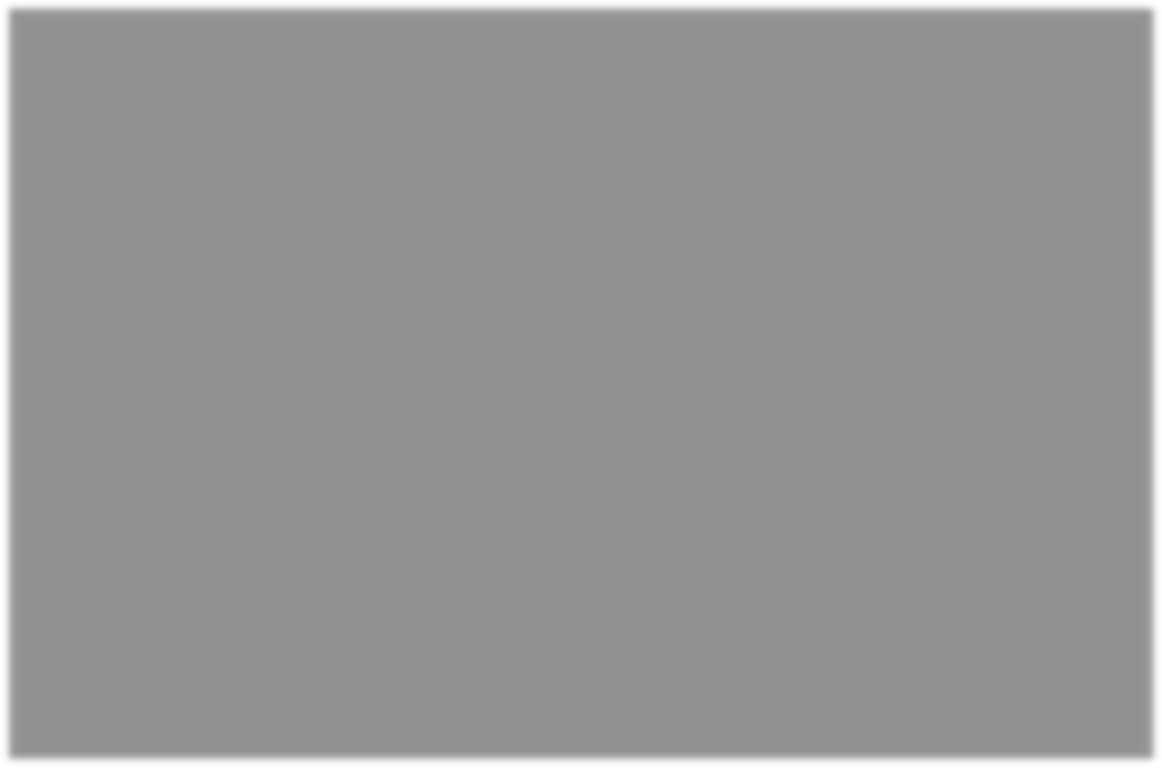
**Photos of CESA activities:**



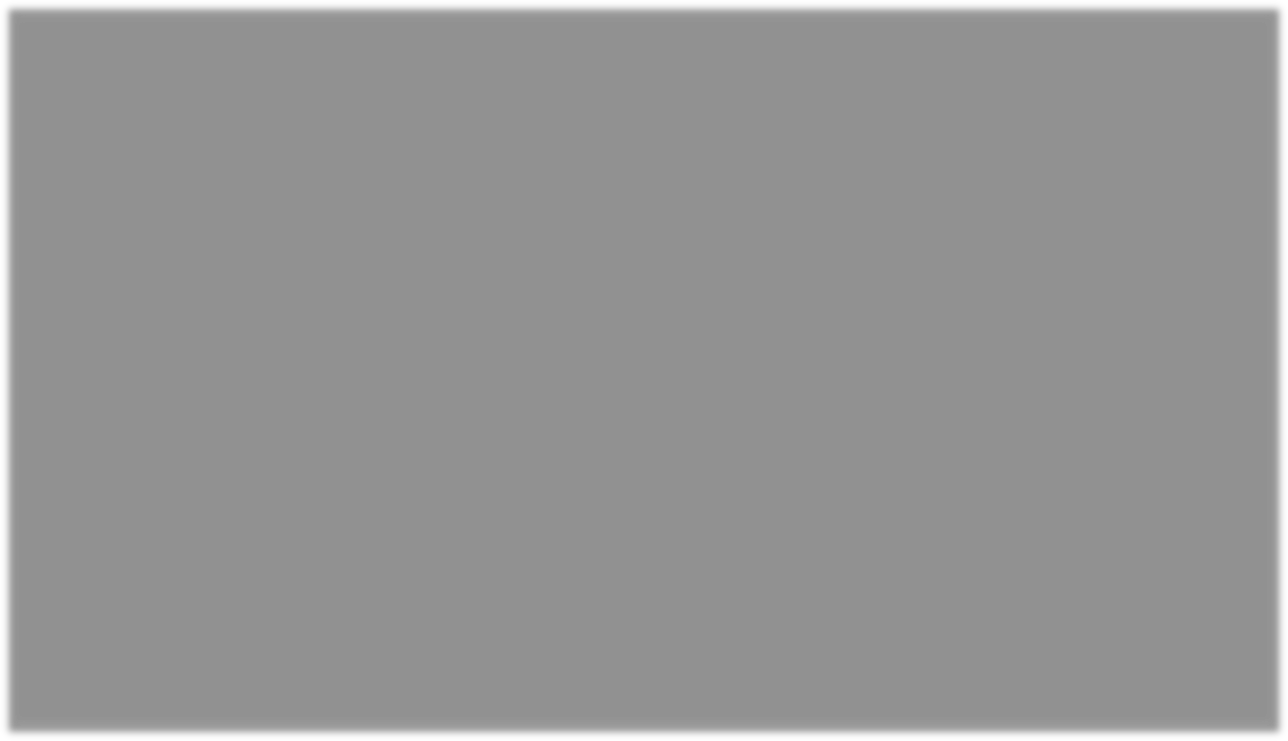
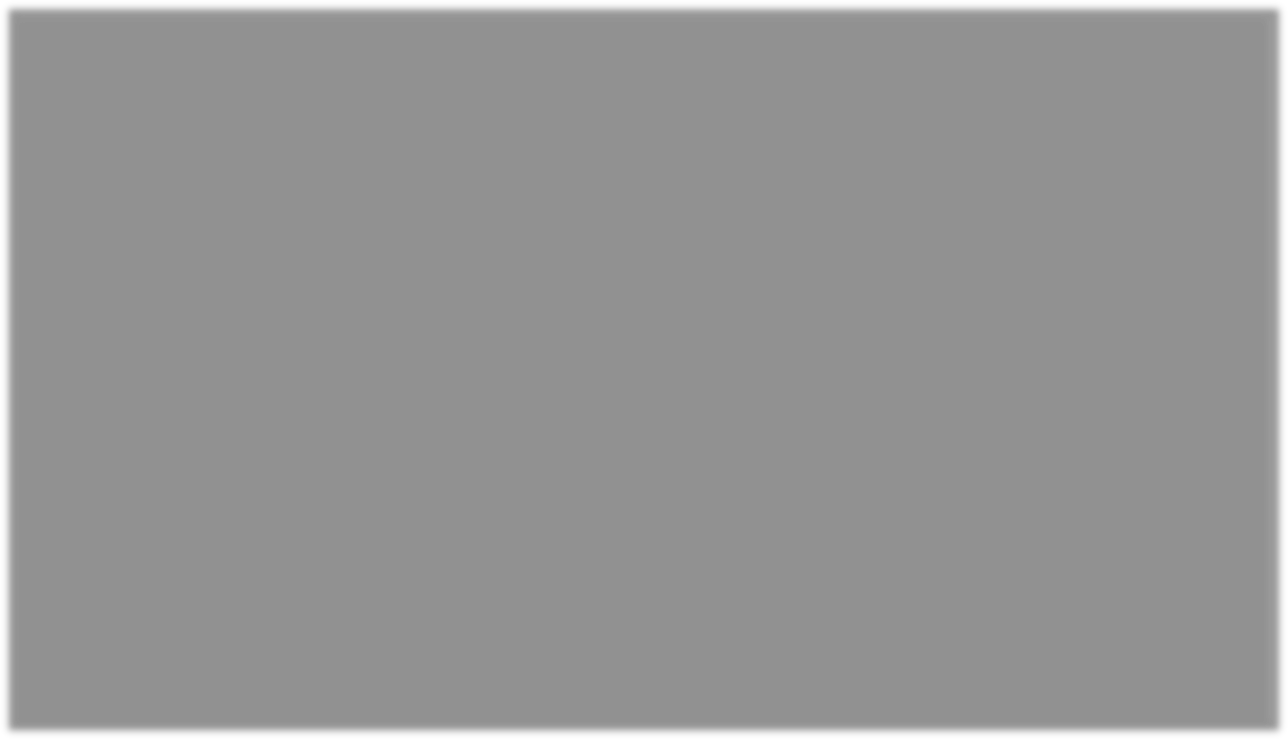
**GUEST LECTURE ON STRESS MANAGEMENT BY MR. AJINKYA GODASE**



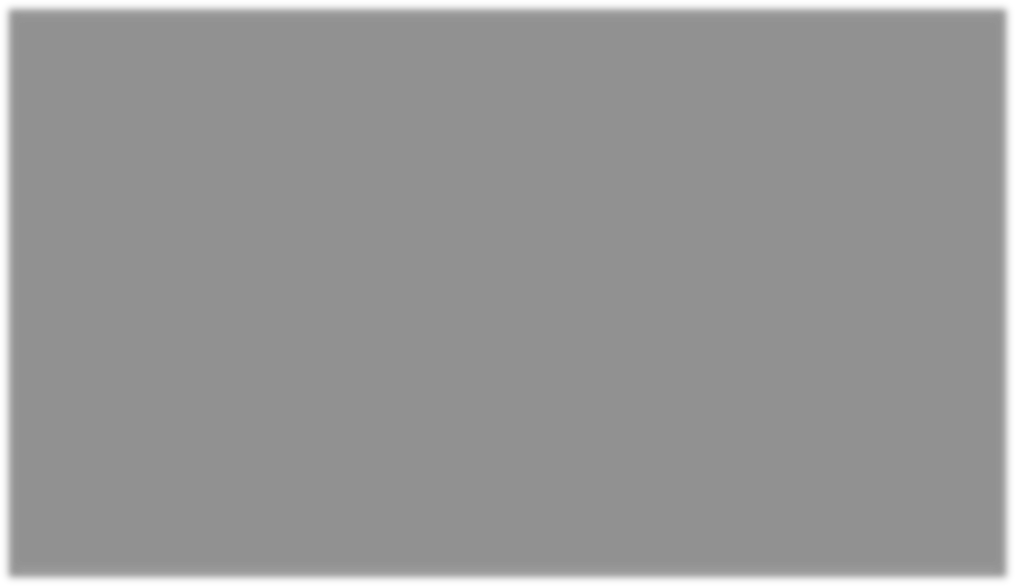
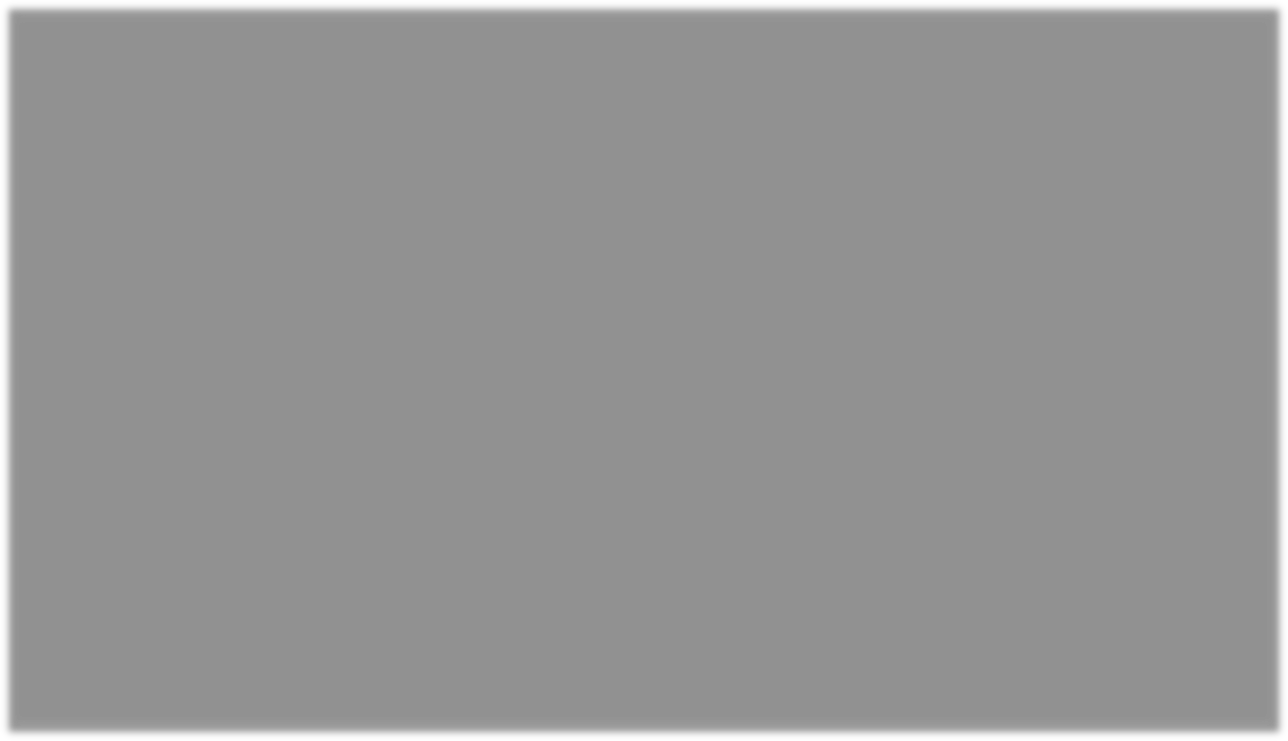
### TEACHERS DAY EVENT ORGANISED BY CESA



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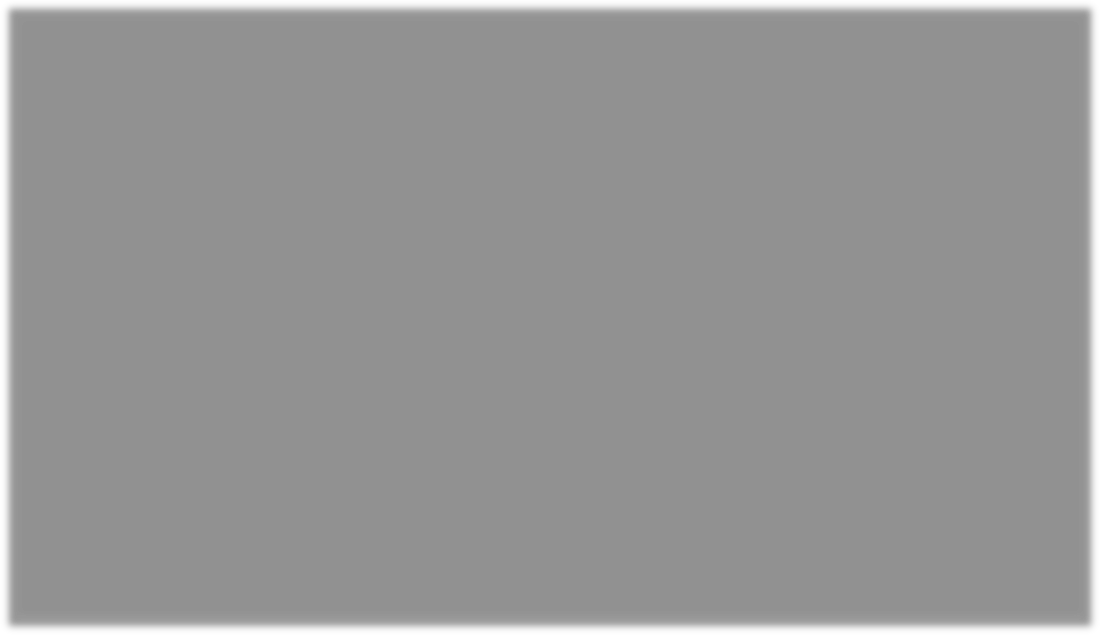
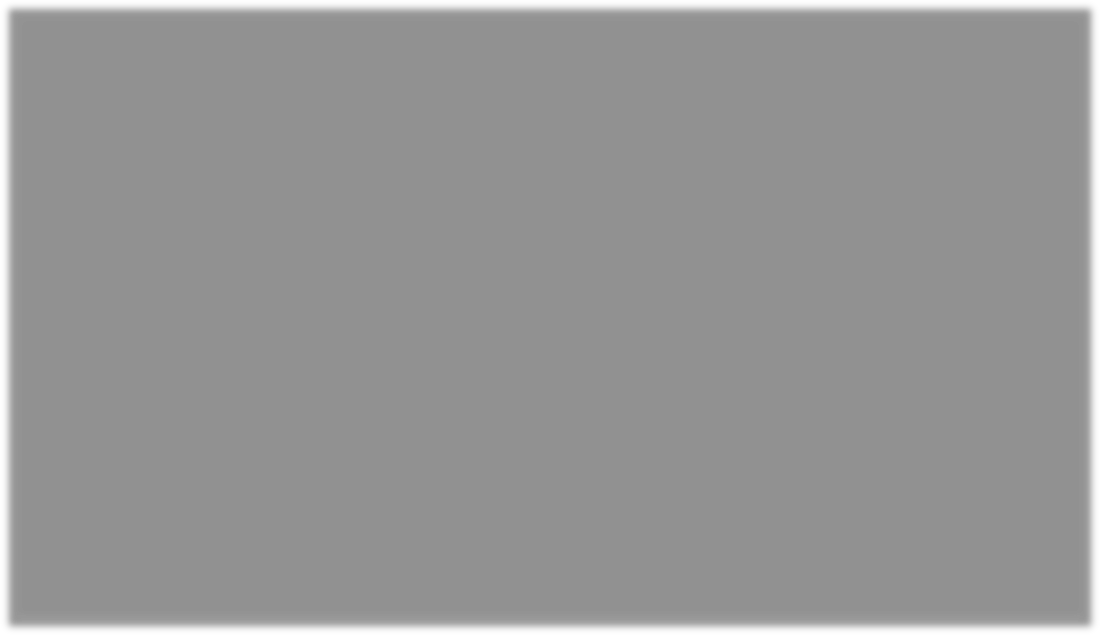
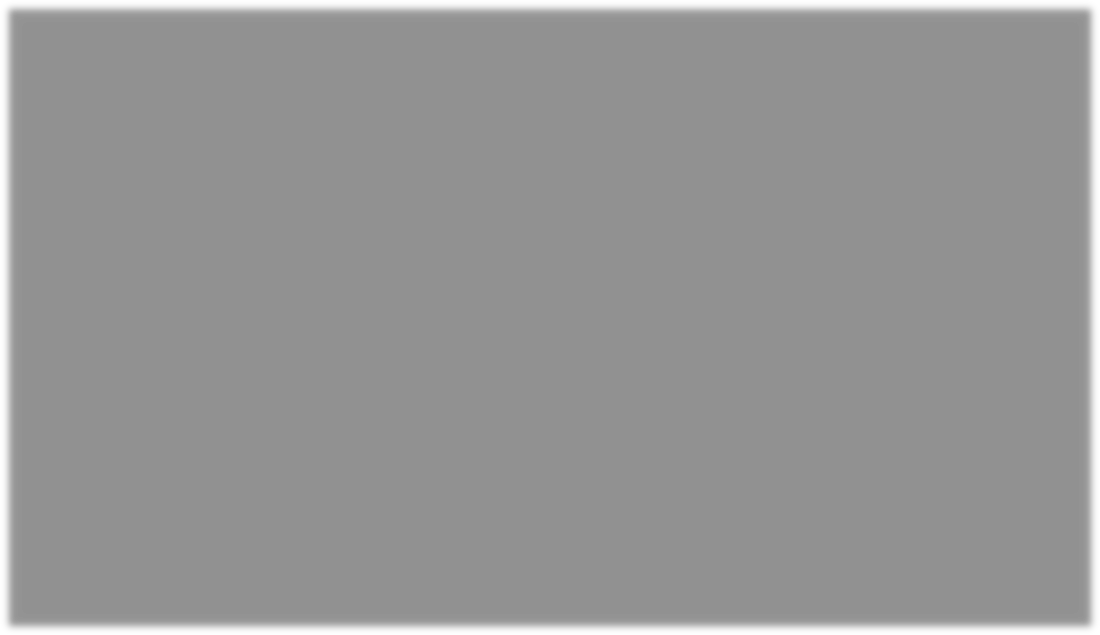


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### STHAPATYA 2K23 EVENT ARRANGED ON 05/10/2023

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### IMPETUS 2K23 EVENT ARRANGED ON 12/10/2023

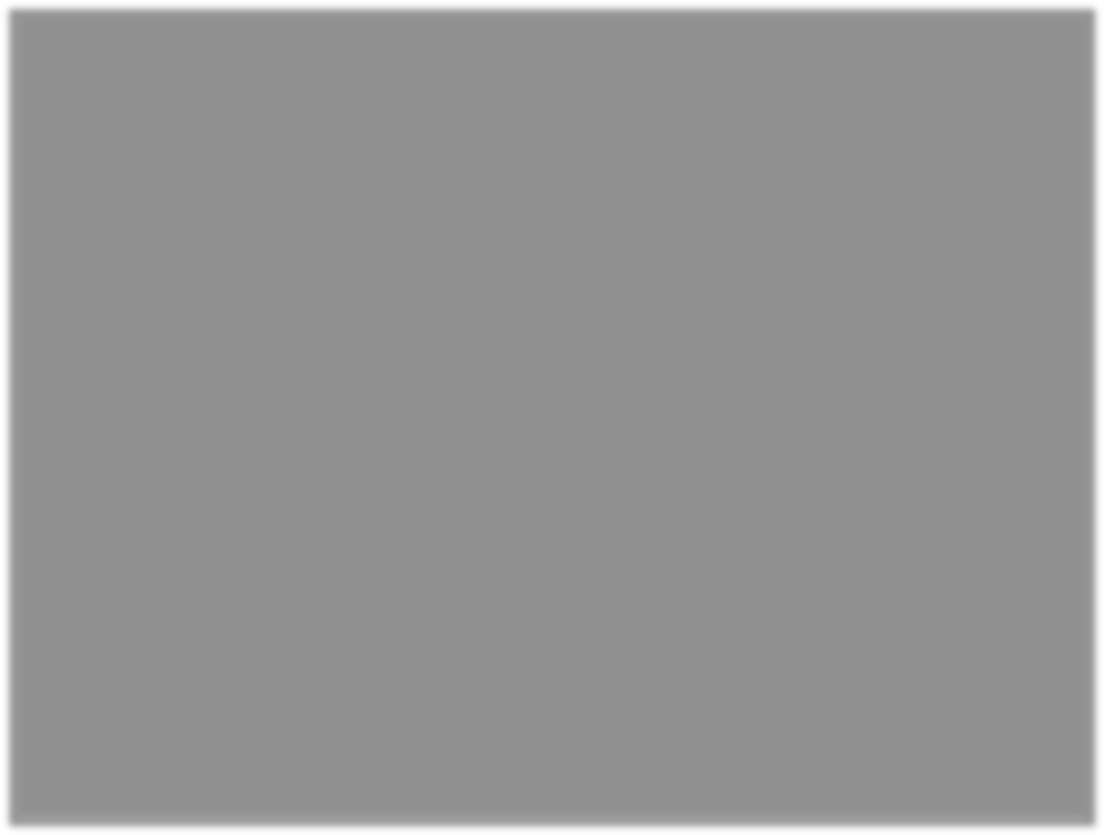
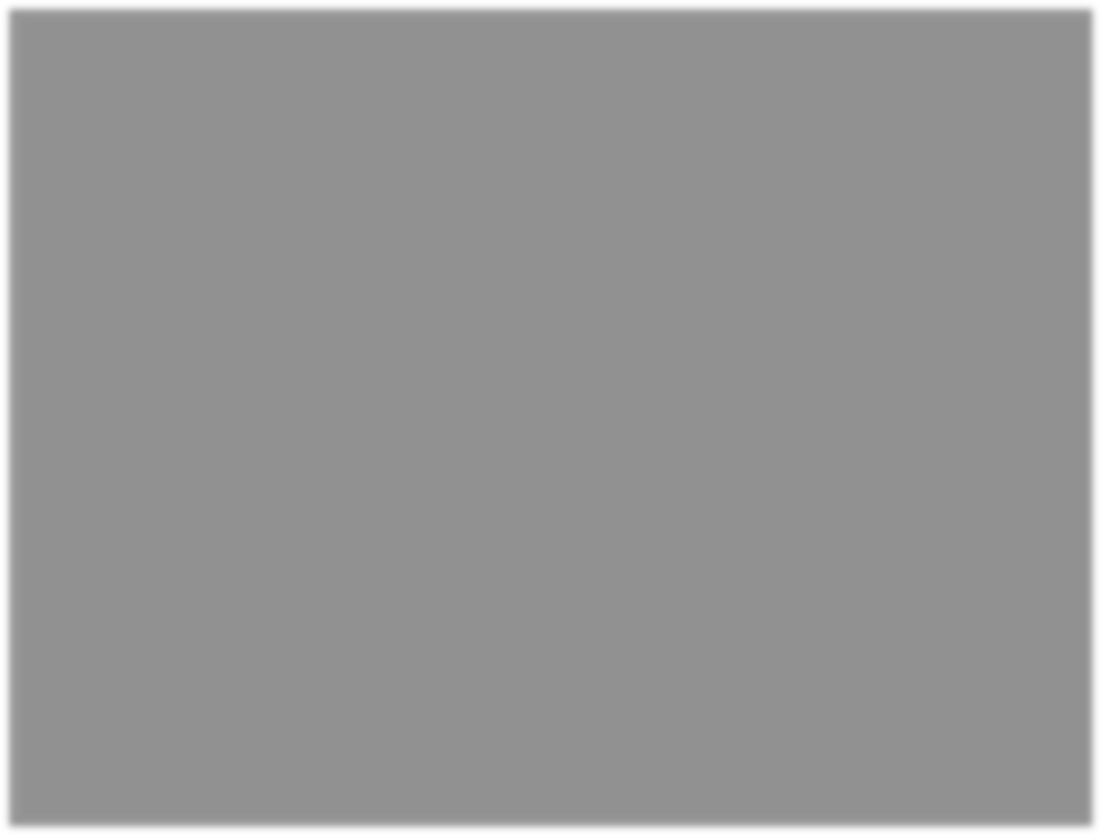
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## STUDENT ACHIEVEMENT/PARTICIPATION

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SR. NO.** | **STUDENT NAME** | **EVENT NAME** | **COLLEGE NAME** | **DATE** | **REMARK** |
| 1 | Atharva Maddawanna | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 1st Prize |
| 2 | Gavandi Abdusajid | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 3rd Prize |
| 3 | Harish Dhanaji Khilari | Project Competiton | SITCOE , YADRAV | 12-10-2023 | 1st Rank |
| 4 | Koli Vivek | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 3rd Prize |
| 5 | Mayuresh Patil | Quiz & Search For Servive | KLE institute of technology hubballi | 11-12th dece.2023 | 3rd Rank Quiz |
| 6 | Patil Sonali Shrikant | Quiz Compitition | SITCOE , YADRAV | 05-10-2023 | Runner Up |
| 7 | Patil Sonali Shrikant | Paper Presentation | SITCOE , YADRAV | 12-10-2023 | First Prize |
| 8 | Pragat Pachore | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 1st Prize |
| 9 | Prajakta Dhondiram Chavan | Paper Presentation | SITCOE , YADRAV | 12-10-2023 | Volunteer |
| 10 | Pranav Prakash Alatekar | Project Competiton | SITCOE , YADRAV | 12-10-2023 | Volunteer |
| 11 | Rohan Pachore | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 1st Prize |
| 12 | Sarthak Vardhamane | Quiz | KLE institute of technology hubballi | 11-12th december 2023 | 3rd Rank Quiz |
| 13 | Shinde Shreyash | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 3rd Prize |
| 14 | Shivtej Khichade | Quiz, Technical Treasure Hunt,Truss Building | KLE institute of technology hubballi | 11-12th december 2023 | 3rd Rank Search For Service |
| 15 | Shreyash Sachin Shinde | Paper Presentation | SITCOE , YADRAV | 12-10-2023 | Third Prize |
| 16 | Shreyash Sachin Shinde | Ad-Mad Show | D.Y.PATIL TECHNICAL CAMPUS | 18-07-2023 | Second Prize |
| 17 | Shreyash Sachin Shinde | Intellivsiovi | SANJAY GHODAWAT UNIVERSITY | 15-09-2023 | Runner Up |
| 18 | Shubham Vitthal Pujari | Project Competiton | SITCOE , YADRAV | 12-10-2023 | Participated |
| 19 | Snehal Santosh Babar | Paper Presentation | SITCOE , YADRAV | 12-10-2023 | Volunteer |
| 20 | Swapnali Mali& Sonali Patil | Quiz Compitition | SITCOE , YADRAV | 05-10-2023 | Runner Up |
| 21 | Tejas Kamble | Project Compitition | SITCOE , YADRAV | 12-10-2023 | 3 Rd Prize |
| 22 | Vinayak Mane | Technical Treasure Hunt | KLE institute of technology hubballi | 11-12th december 2023 | 3rd rank search for service |

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**STUDENTS ACHIEVEMENT:**



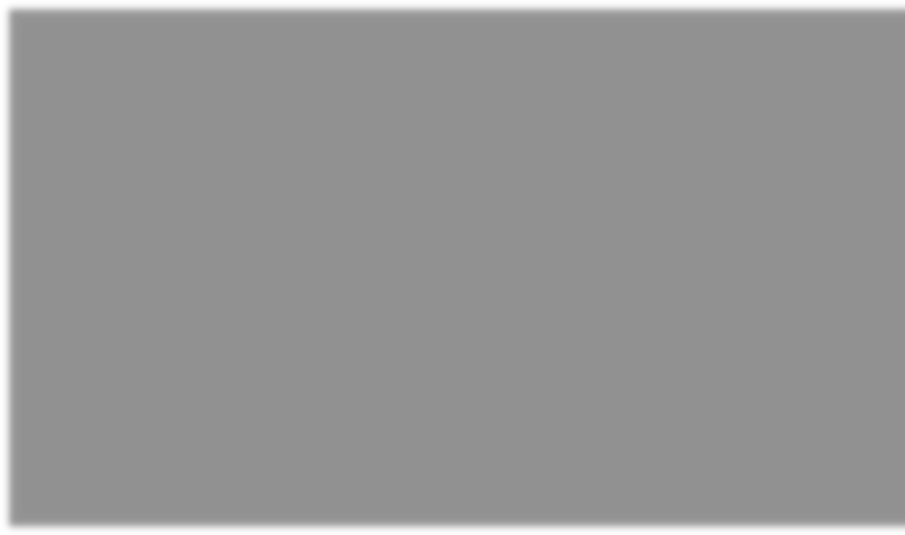
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## OUR PROUD TOPPERS- 2023-24 (SEM-I)

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Class** | **Name of student** | **Marks (CGPA)** |
| 1 | B. Tech Civil | PATIL DIGVIJAY DAMODAR | 8.69 |
| 2 | PATIL SONALI SHRIKANT | 8.64 |
| 3 | PACHORE PRAGAT DEVANAND | 8.44 |
| 1 | TY Civil | KURDE ADITYA CHANDRAKANT | 9.29 |
| 2 | SHEJAL PRATHAMESH SANJAY | 8.29 |
| 3 | MORE YASH VITTHAL | 8.2 |
| 1 | SY Civil | PATIL VEDIKA SADASHIV | 8.93 |
| 2 | VADAR KIRAN RAMA | 8 |
| 3 | AKIWATE ANJALI RAJENDRA | 7.93 |

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* + **PERSONALITY**



# E. SREEDHARAN:

***THE METRO MAN WHO TRANSFORMED INDIA'S TRANSPORTATION***

Elattuvalapil Sreedharan (born 12 June 1932) is an Indian engineer and politician from the Indian state of [Kerala.](https://en.wikipedia.org/wiki/Kerala) He is credited with changing the face of public transport in [India](https://en.wikipedia.org/wiki/India) with his leadership in building the [Konkan Railway](https://en.wikipedia.org/wiki/Konkan_Railway) and the [Delhi Metro](https://en.wikipedia.org/wiki/Delhi_Metro) while he served as the managing director of [Delhi Metro Rail Corporation](https://en.wikipedia.org/wiki/Delhi_Metro_Rail_Corporation) (DMRC) between 1995 and 2012. Known as the Metro Man, he was awarded the [Padma Shri](https://en.wikipedia.org/wiki/Padma_Shri) by the Government of India in 2001, the [Padma Vibhushan](https://en.wikipedia.org/wiki/Padma_Vibhushan) in 2008, the [Chevalier de la Legion of Honour](https://en.wikipedia.org/wiki/Legion_of_Honour) in 2005 by the [Government of France](https://en.wikipedia.org/wiki/Government_of_France) and was named one of Asia's Heroes by [Time](https://en.wikipedia.org/wiki/Time_(magazine)) magazine in 2003. Sreedharan was appointed by the former UN Secretary General [Ban Ki-moon](https://en.wikipedia.org/wiki/Ban_Ki-moon) to serve on the United Nations's High Level Advisory Group on Sustainable Transport (HLAG-ST) for a period of three years in 2015. He is a member of [Mata](https://en.wikipedia.org/wiki/Vaishno_Devi_Temple) [Vaishno Devi Shrine Board](https://en.wikipedia.org/wiki/Vaishno_Devi_Temple).

### EARLY LIFE AND EDUCATION

E. Sreedharan was born on 12 June 1932 in present-day [Karukaputhur](https://en.wikipedia.org/wiki/Karukaputhur), [Palakkad](https://en.wikipedia.org/wiki/Palakkad_District) [District,](https://en.wikipedia.org/wiki/Palakkad_District) [Kerala,](https://en.wikipedia.org/wiki/Kerala) [India](https://en.wikipedia.org/wiki/India) into a [Hindu](https://en.wikipedia.org/wiki/Hindu) [Malayali](https://en.wikipedia.org/wiki/Malayali) family to Keezhveettil Neelakandan Moosath and Ammaluamma.

Sreedharan's primary education was from Government Lower Primary School Chathannur near Pattambi in Palakkad district. He completed his education at the [Basel Evangelical Mission Higher](https://en.wikipedia.org/wiki/Basel_Evangelical_Mission_Higher_Secondary_School) [Secondary School](https://en.wikipedia.org/wiki/Basel_Evangelical_Mission_Higher_Secondary_School) and then went to the [Victoria College](https://en.wikipedia.org/wiki/Government_Victoria_College%2C_Palakkad) in [Palghat.](https://en.wikipedia.org/wiki/Palghat) He later-on completed his Civil Engineering degree from the [Government Engineering College,](https://en.wikipedia.org/wiki/Jawaharlal_Nehru_Technological_University%2C_Kakinada) [Kakinada,](https://en.wikipedia.org/wiki/Kakinada) Andhra Pradesh, presently known as [Jawaharlal Nehru Technological University.](https://en.wikipedia.org/wiki/Jawaharlal_Nehru_Technological_University%2C_Kakinada)

E. Sreedharan and [T. N. Seshan](https://en.wikipedia.org/wiki/T._N._Seshan) were classmates at BEM High School and Victoria College in Palakkad. Both of them were selected for Engineering in JNTU Kakinada, a university in a port town in Andhra Pradesh, however, E. Sreedharan decided to pursue it, while T. N. Seshan decided to join [Madras Christian College](https://en.wikipedia.org/wiki/Madras_Christian_College) (MCC).

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| Department of Civil Engineering, SITCOE, Yadrav  **CAREER AS A PROFESSOR**  For a short period, Sreedharan worked as a lecturer in Civil engineering at the Government Polytechnic, [Kozhikode](https://en.wikipedia.org/wiki/Kozhikode) and a year at the [Bombay Port Trust](https://en.wikipedia.org/wiki/Bombay_Port_Trust) as an apprentice. He subsequently joined the [Indian Railway Service of Engineers](https://en.wikipedia.org/wiki/Indian_Railway_Service_of_Engineers) (IRSE), after clearing the [Indian Engineering Services](https://en.wikipedia.org/wiki/Indian_Engineering_Services) Exam in 1953 conducted by the UPSC. His first assignment was in the Southern Railway as a Probationary Assistant Engineer in December 1954.  **GOVERNMENT CAREER** | | |
|  | **PAMBAN BRIDGE** | [In December 1964](https://en.wikipedia.org/wiki/1964_Rameswaram_cyclone), a cyclone washed away |
|  | parts of [Pamban Bridge](https://en.wikipedia.org/wiki/Pamban_Bridge) that connected [Rameswaram](https://en.wikipedia.org/wiki/Rameswaram) to mainland [Tamil Nadu](https://en.wikipedia.org/wiki/Tamil_Nadu). The Railways set a target of six months for the bridge to be repaired while Sreedharan's boss, under whose jurisdiction the bridge came, reduced it to three months. Sreedharan was put in-charge of the execution and he restored the bridge in just  46 days. The *Railway minister's Award* was |
|  | given to him in recognition of this |
|  | achievement. |
| **KOLKATA METRO**  In 1970, as the deputy chief engineer, he was put in charge of the implementation, planning and | |
| design of the [Calcutta](https://en.wikipedia.org/wiki/Calcutta) [metro](https://en.wikipedia.org/wiki/Kolkata_Metro), the first ever [metro](https://en.wikipedia.org/wiki/Rapid_transit) in India. Sreedharan not only completed this much | |
| heralded project but also laid down the foundation of modern infrastructure engineering in India. He | |
| was taken off this post in 1975. | |
| **COCHIN SHIPYARD LIMITED**  When Sreedharan joined the [Cochin Shipyard](https://en.wikipedia.org/wiki/Cochin_Shipyard) in October 1979, it was undergoing a phase of | |
| unproductivity. The production of its first ship MV Rani Padmini had been delayed for a long | |
| period. When Sreedharan took over, he turned the fortunes of the shipyard around and made sure its | |
| first ship was built while he was its chairman and managing director (CMD). In 1981, under | |
| Sreedharan's leadership, the shipyard launched its first ship, the MV Rani Padmini. | |
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| Department of Civil Engineering, SITCOE, Yadrav  **FINISHED PROJECTS** | | |
|  | **KONKAN RAILWAY**    **The 1,319 m (4,327 ft) long** [**Konkan Railway bridge**](https://en.wikipedia.org/wiki/Zuari_Bridge) **across the** [**Zuari**](https://en.wikipedia.org/wiki/Zuari) **river in Goa**.  He was promoted as general manager, Western Railway in July 1987, and in July 1989 elevated to the post of Member Engineering, Railway Board and ex-officio Secretary to the Government of India. On his retirement in June 1990, the Government made it clear it still needed his services and he was appointed the CMD of [Konkan Railway](https://en.wikipedia.org/wiki/Konkan_Railway) on contract in 1990 by the then railway minister, [George Fernandes.](https://en.wikipedia.org/wiki/George_Fernandes) Under his stewardship, the company executed its mandate in seven years. The project was unique in many respects. It was the first major project in India to be undertaken on a BOT (Build-Operate-Transfer) basis; the organisation structure was different from that of a typical Indian Railway set-up; the project had 93 tunnels along a length of 82 km and involved tunnelling through soft soil. The total project covered 760 km and had over 150 bridges. That a public sector project could be completed without significant cost and time overruns was considered an achievement by many. Konkan Railway has been covered in the Extreme Railways program by Chris Tarrant as one of the most difficult railway project to have been constructed in the world. |  |
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**DELHI METRO**

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| He was made the managing director of [Delhi Metro Rail Corporation](https://en.wikipedia.org/wiki/Delhi_Metro) by then Delhi Chief Minister [Sahib Singh Verma](https://en.wikipedia.org/wiki/Sahib_Singh_Verma) and by mid-1997 all the scheduled sections were completed by their target date or before, and within their respective budgets. Sreedharan was given the [sobriquet](https://en.wikipedia.org/wiki/Sobriquet) of Metro Man by the media for his grand success in executing the completion of the Delhi Metro. His stint in the Delhi Metro has been considered so successful and crucial to India that in 2005, he was awarded the [Chevalier de la Légion d'honneur](https://en.wikipedia.org/wiki/L%C3%A9gion_d%27honneur) (Knight of the Legion of Honour) by the government of France, and the [Padma Vibhushan](https://en.wikipedia.org/wiki/Padma_Vibhushan) by the government of India in 2008. There were also demands by prominent political figures that Sreedharan be awarded the [Bharat Ratna,](https://en.wikipedia.org/wiki/Bharat_Ratna) the most prestigious civilian award in India. He was particularly known for isolating his projects from political pressures and influences and winning political commitments for fast execution of projects. He had announced that he would retire by the end of 2005, but his tenure was further extended to oversee the completion of the second phase of Delhi Metro. After 16 years of service with the Delhi Metro, Sreedharan retired from service on 31 December 2011. |
| **KOCHI METRO**    **Model of Kochi Metro rail station**  After his retirement from DMRC, Sreedharan has been appointed as Principal Advisor of the [Kochi](https://en.wikipedia.org/wiki/Kochi_Metro_Rail) [Metro Rail](https://en.wikipedia.org/wiki/Kochi_Metro_Rail) Project. Initially, the project faced hurdles when a controversy broke out with the |

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| government announcing a global tender process for Kochi Metro, rather than letting DMRC handle the consultancy and project execution as Sreedharan and DMRC had initially asked for. Vested interests in the government have been alleged in this decision. However, several political parties came out in opposition of the move, and backed Sreedharan's decision in enforcing DMRC's role in the Kochi Metro, after which the government reversed its stance. Kochi metro was finally unveiled on 17 June 2017 amidst much celebrations. The unveiling of the metro was considered a landmark event in India in terms of completion time, control systems used and initiatives such as employing transgender people, vertical gardening, respecting migrant labourers, and use of solar power. |
| **LUCKNOW METRO**    **Lucknow metro logo**  Sreedharan has also been appointed as Chief Advisor for the [Lucknow Metro](https://en.wikipedia.org/wiki/Lucknow_Metro) As per E. Sreedharan, Kochi metro was built in four years whereas Lucknow Metro will be completed in a period of two years and nine months, and that would be the fastest in India and the world till now. |
| **OTHER METROS**  He has been advising for the [Jaipur Metro](https://en.wikipedia.org/wiki/Jaipur_Metro) as well as DMRC has undertaken its implementation. He has also been appointed as advisor for a proposed Metro rail system in [Andhra Pradesh](https://en.wikipedia.org/wiki/Andhra_Pradesh) in the [Visakhapatnam](https://en.wikipedia.org/wiki/Visakhapatnam) and [Vijayawada](https://en.wikipedia.org/wiki/Vijayawada) (VGTM) areas, under the leadership of the Chief Minister [Chandrababu Naidu.](https://en.wikipedia.org/wiki/N._Chandrababu_Naidu) He has also been advisor for [Coimbatore Metro](https://en.wikipedia.org/wiki/Coimbatore_Metro). |

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* **INCREDIBLE MODERN MARVELS OF CIVIL ENGINEERING**

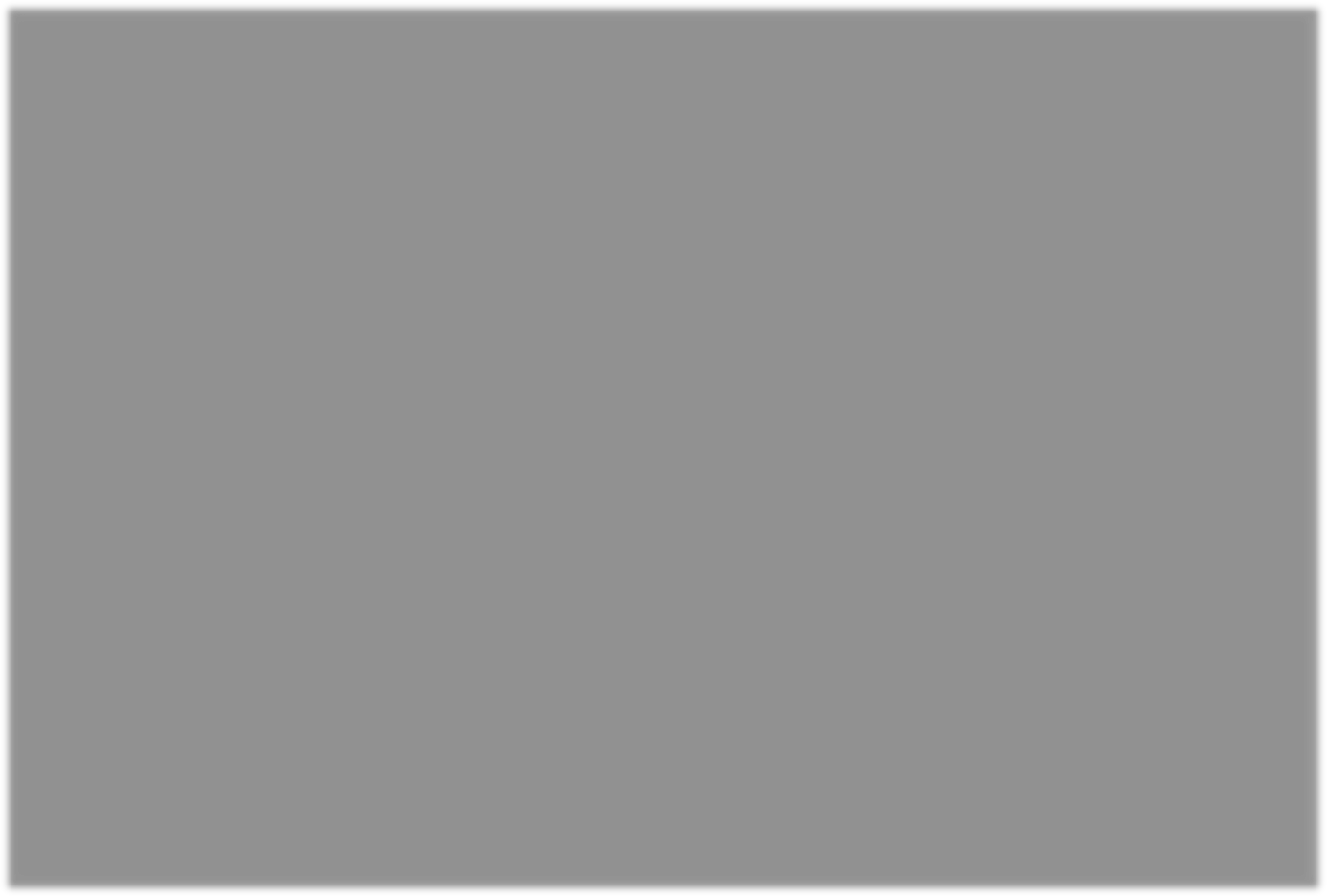
Civil engineering tends to be massive in scale by its very nature, but some civil engineering projects are so impressive that they stretch the imagination of what is possible.

Here are a few of the world's most inventive, astounding, and crazy feats of civil engineering that should serve as an example to all civil engineers:

## [ATAL TUNNEL (Rohtang, India)](https://en.wikipedia.org/wiki/Channel_Tunnel)

[**Atal Tunnel** (also known as **Rohtang Tunnel**), named after former Prime Minister of India, Atal](https://en.wikipedia.org/wiki/Channel_Tunnel) [Bihari Vajpayee](https://en.wikipedia.org/wiki/Channel_Tunnel) is a highway tunnel built under the [Rohtang Pass](https://en.wikipedia.org/wiki/Rohtang_Pass) in the eastern [Pir Panjal](https://en.wikipedia.org/wiki/Pir_Panjal) range of [the Himalayas on the National Highway 3 in Himachal Pradesh, India. At a length of 9.02 km, it is the](https://en.wikipedia.org/wiki/Channel_Tunnel) [highest highway single-tube tunnel above 10,000 feet (3,048 m) in the world With the existing Atal](https://en.wikipedia.org/wiki/Channel_Tunnel) [Tunnel and after the completion of under-construction Shinku La Tunnel,](https://en.wikipedia.org/wiki/Channel_Tunnel) [which is targeted to be](https://en.wikipedia.org/wiki/Channel_Tunnel) [completed by 2025, the new Leh-Manali Highway via](https://en.wikipedia.org/wiki/Channel_Tunnel) [Nimmu–Padum–Darcha road](https://en.wikipedia.org/wiki/Nimmu%E2%80%93Padum%E2%80%93Darcha_road) [will become all-](https://en.wikipedia.org/wiki/Channel_Tunnel) [weather road. The tunnel reduces the travel time and overall distance between Manali and Keylong on](https://en.wikipedia.org/wiki/Channel_Tunnel) [the way to](https://en.wikipedia.org/wiki/Channel_Tunnel) [Leh.](https://en.wikipedia.org/wiki/Leh) [The route, which previously went through Gramphu, was 116 km (72.1 mi) long and](https://en.wikipedia.org/wiki/Channel_Tunnel) [took 5 to 6 hours in good conditions. A traveller now reaches the South Portal of the tunnel](https://en.wikipedia.org/wiki/Channel_Tunnel) [from](https://en.wikipedia.org/wiki/Channel_Tunnel) [Manali,](https://en.wikipedia.org/wiki/Manali%2C_Himachal_Pradesh) [a distance of 24.4 km (15.2 mi) in about 45 minutes, goes through the 9.02 km (5.6 mi)](https://en.wikipedia.org/wiki/Channel_Tunnel) [long tunnel in about 15 minutes, and reaches Keylong which is 37 km (23.0 mi) away in about 60](https://en.wikipedia.org/wiki/Channel_Tunnel) [minutes. The new route via the tunnel brings down the total distance travelled to 71 km (44.1 mi)](https://en.wikipedia.org/wiki/Channel_Tunnel) [which can be covered in about 2 hours, a reduction of around 3 to 4 hours when compared to the](https://en.wikipedia.org/wiki/Channel_Tunnel) [earlier route. Moreover, the tunnel bypasses most of the sites that were prone to road blockades,](https://en.wikipedia.org/wiki/Channel_Tunnel) [avalanches, and traffic snarls. The tunnel is at an elevation of 3,100 metres (10,171 ft) whereas the](https://en.wikipedia.org/wiki/Channel_Tunnel) [Rohtang Pass is at an elevation of 3,978 metres (13,051 ft). It was inaugurated by](https://en.wikipedia.org/wiki/Channel_Tunnel) [Prime](https://en.wikipedia.org/wiki/Prime_Minister_of_India) [Minister](https://en.wikipedia.org/wiki/Prime_Minister_of_India) [Narendra Modi](https://en.wikipedia.org/wiki/Narendra_Modi) on 3 October 2020. The cost of the entire project is ₹3,200 [crore](https://en.wikipedia.org/wiki/Crore) (US$438 [million). The tunnel was completed by the Border Roads Organisation (BRO) under Ministry of](https://en.wikipedia.org/wiki/Channel_Tunnel) [Defence. The tunnel can be visited by citizens and students of the nation. It will also boost](https://en.wikipedia.org/wiki/Channel_Tunnel) [tourism in](https://en.wikipedia.org/wiki/Tourism_in_Himachal_Pradesh) [Himachal.](https://en.wikipedia.org/wiki/Tourism_in_Himachal_Pradesh)

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## [CHANNEL TUNNEL](https://en.wikipedia.org/wiki/Channel_Tunnel) ([Kent](https://en.wikipedia.org/wiki/Kent), [England](https://en.wikipedia.org/wiki/England))

The **Channel Tunnel** ([French](https://en.wikipedia.org/wiki/French_language): *Tunnel sous la Manche*), also known as the **Chunnel**, is a 50.46- kilometre (31.35 mi) underwater railway [tunnel](https://en.wikipedia.org/wiki/Tunnel) that connects [Folkestone](https://en.wikipedia.org/wiki/Folkestone) ([Kent](https://en.wikipedia.org/wiki/Kent), [England](https://en.wikipedia.org/wiki/England)) with [Coquelles](https://en.wikipedia.org/wiki/Coquelles) ([Pas-de-Calais,](https://en.wikipedia.org/wiki/Pas-de-Calais) [France](https://en.wikipedia.org/wiki/France)) beneath the [English Channel](https://en.wikipedia.org/wiki/English_Channel) at the [Strait of Dover.](https://en.wikipedia.org/wiki/Strait_of_Dover) It is the only fixed link between the island of [Great Britain](https://en.wikipedia.org/wiki/Great_Britain) and the European mainland. At its lowest point, it is 75 metres (246 ft) below the sea bed and 115 metres (377 ft) below sea level. At 37.9 kilometres (23.5 mi), it has the longest underwater section of any tunnel in the world and is the [third longest](https://en.wikipedia.org/wiki/List_of_longest_railway_tunnels) [railway tunnel in the world.](https://en.wikipedia.org/wiki/List_of_longest_railway_tunnels) The speed limit for trains through the tunnel is 160 kilometres per hour (99 mph). The tunnel is owned and operated by the company [Getlink](https://en.wikipedia.org/wiki/Getlink), formerly "Groupe Eurotunnel". The tunnel carries high-speed [Eurostar](https://en.wikipedia.org/wiki/Eurostar) passenger trains, [LeShuttle](https://en.wikipedia.org/wiki/LeShuttle) services for road vehicles and [freight trains.](https://en.wikipedia.org/wiki/Rail_freight_transport) It connects end-to-end with [high-speed railway](https://en.wikipedia.org/wiki/High-speed_rail) lines: the [LGV Nord](https://en.wikipedia.org/wiki/LGV_Nord) in France and [High Speed 1](https://en.wikipedia.org/wiki/High_Speed_1) in England. In 2017, rail services carried 10.3 million passengers and 1.22 million tonnes of freight, and the Shuttle carried 10.4 million passengers, 2.6 million cars, 51,000 coaches, and 1.6 million lorries (equivalent to 21.3 million tonnes of freight), compared with 11.7 million passengers, 2.6 million lorries and 2.2 million cars by sea through the [Port of Dover](https://en.wikipedia.org/wiki/Port_of_Dover). Plans to build a cross-Channel fixed link appeared as early as 1802, but British political and media pressure motivated by fears of compromising national security had disrupted attempts to build one. An early unsuccessful attempt was made in the late 19th century, on the English side, "in the hope of forcing

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the hand of the English Government". The eventual successful project, organised by [Eurotunnel,](https://en.wikipedia.org/wiki/Getlink) began construction in 1988 and opened in 1994. Estimated to cost £5.5 billion in 1985, it was at the time the most expensive construction project ever proposed. The cost finally amounted to £9 billion (equivalent to £21.8 billion in 2021), well over budget. Since its opening, the tunnel has experienced mechanical problems. Both fires and cold weather have temporarily disrupted its operation. Since at least 1997, aggregations of [migrants around Calais](https://en.wikipedia.org/wiki/Migrants_around_Calais) seeking entry to the [United Kingdom,](https://en.wikipedia.org/wiki/United_Kingdom) such as through the tunnel, have prompted deterrence and countermeasures.

