



Vidya Vikas Education Trust's

Universal College of Engineering

Gujarati Linguistic Minority Institution



The Benchmark

Issue 009: April 2019 Edition



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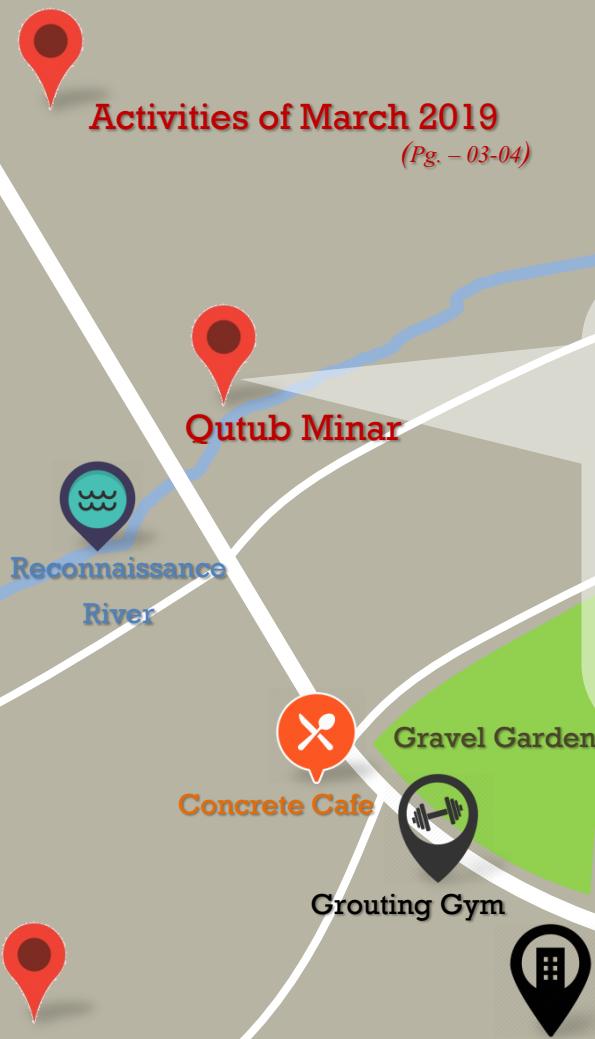
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**Volume
Village**

Editor's Desk

We are pleased to announce the April 2019 Edition of Benchmark. In this edition, you'll find an article on Qutub Minar, various activities of the Civil Department in the month of March, & various IIT competitions that our students participated in and emerged victorious, acquiring winning positions ranging from Winners to even 4th Runner-ups. All these achievements by our students accrue the glory of the Department of Civil Engineering.

Students Achievements
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Department Vision

- To excel in every area of Civil Engineering, inculcate research oriented study to explore hidden talent.
- Providing Opportunity to display creativity, out of the box thinking & innovativeness, aimed at providing cutting edge technology for sustainable development.

Department Mission

- Providing qualified, motivated faculties to deliver the content using updated teaching methodology, inviting industry experts from various areas to disseminate subject knowledge in Civil Engineering.
- Motivating students to undertake the Research Oriented studies, participate in competitions at all levels, grasping new techniques and methods which can be improved on further.
- Conducting and participating in seminars, workshops and training programs with a view to make the Students industry ready and improve their employability factor for global career ahead.
- To create quality professionals capable of planning, designing and analytical skills for better infrastructural development in the field of Civil Engineering.



Qutub Minar

OVERVIEW

Introduction:

Qutab Minar is a soaring, 73 m-high tower of victory, built in 1193 by Qutab-ud-din Aibak immediately after the defeat of Delhi's last Hindu kingdom. The tower has five distinct storeys, each marked by a projecting balcony and tapers from a 15 m diameter at the base to just 2.5 m at the top. The first three storeys are made of red sandstone; the fourth and fifth storeys are of marble and sandstone, with a 14.3 metres (47 feet) base diameter, reducing to 2.7 metres (9 feet) at the top of the peak.

Qutub Din Aibak, founder of the Delhi Sultanate, started construction of the Qutb Minar's first storey around 1192. In 1220, Aibak's successor and son-in-law Shamsuddin Iltutmish completed a further three storeys. In 1369, a lightning strike destroyed the top storey. Firoz Shah Tughlaq replaced the damaged storey, and added one more. Sher Shah Suri also added an entrance to this tower while he was ruling and Humayun was in exile.

The tower's style is patterned on Afghanistan's Minaret of Jam, and adapted to local artistic conventions by the incorporation of "looped bells and garlands and lotus borders into the carving". Numerous inscriptions in Parso-Arabic and Nagari characters in different sections of the Qutb Minar reveal the history of its construction, and the later restorations and repairs by Firoz Shah Tughluq (1351–89) and Sikandar Lodi (1489–1517).

The tower has five superposed, tapering storeys. The lowest three comprise fluted cylindrical shafts or columns of pale red sandstone, separated by flanges and by storeyed balconies, carried on Muqarnas corbels. The fourth column is of marble, and is relatively plain. The fifth is of marble and sandstone. The flanges are a darker red sandstone throughout, and are engraved with Quranic texts and decorative elements. The whole tower contains a spiral staircase of 379 steps. At the foot of the tower is the Quwat-ul-Islam Mosque. The minar tilts just over 65 cm from the vertical, which is considered to be within safe limits, although experts have stated that monitoring is needed in case rainwater seepage further weakens the foundation.

Accident:

Before 1974, the general public was allowed access to the top of the minaret, via the internal staircase. On 4 December 1981, the staircase lighting failed. Between 300 and 430 visitors stampeded towards the exit, and 47 were killed in the crush and some were injured. Most of these were school children. Since then, the tower has been closed to the public.

PHOTOS



- By Neelkumar Wala (SE Civil)



Did You Know?

The iron pillar in the Qutub Minar complex has not rusted for almost 2000 years

To know more about it,
Scan the QR Codes





Activities of March 2019

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Site Visit at Versova Sewage Treatment Plant, Andheri

TE Civil Students have visited Versova sewage treatment plant at Andheri on 6th March, 2019 under the subject Environmental Engineering-II. The plant is spread over an area of 65 acres of land. The sewage water is carried from Versova sewage pumping station at Samarth Nagar, near D.N.Nagar metro station to the treatment plant. It serves the sewage collected from area of Vile Parle, Jogeshwari, Andheri East and West. It has total capacity of 180 MLD & total sewage flow is 130 MLD.



Students got to know about the total incoming sewage flow which is divided equally and diverted to left and right lagoons. In the first lagoon sewage is aerated and dissolved oxygen content is increased to help aerobic decomposition and the detention period required for aeration is 1.8 days. Then water from first lagoon is conveyed to the second lagoon called as facultative lagoon having a depth of 5.5m where the sewage is treated aerobically up to depth of 3m and anaerobically for remaining 2.5m depth with detention time of 1.4 days. The second lagoon has 9 floating aerators. Then water is diverted to third lagoon which has 2 aerators with detention period of 1.1 days. All the impurities like total solid, suspended solid, BOD is removed from water through this treatment and finally treated water is released into Malad Creek.

Engineer-in-charge Mr. Chavan and foreman Mr. Chandrakant Gaikwad have our gratitude who showed all treatment units and the processes carried out in detail to our students. From college Mr. R.S.Dubey and Mr. Yusuf sagari accompanied the students for this visit.



Site Visit at Common Effluent Treatment Plant (CETP), Koparkairne, Navi Mumbai

55 students of BE (CIVIL) accompanied by Mr. N. S. Sontakke and Ms. Shilpa Patil visited Common Effluent Treatment plant at Koparkhairne, Navi Mumbai on 25-03 2019.

Mr. Mahesh Patil who is the engineer in charge for the plan and his assistant shared all the information regarding working operation of the plant. The total capacity of plant is 27 MLD. It has two treatment unit of 12 MLD and 15 MLD capacity and two pumping units at Rabale and Sanpada.



Students also got to know that waste water coming from Industry is given preliminary treatment by passing water through coarse screen, fine screen, grit chamber etc. Then water goes to equalization tank for stabilizing the pH between 6-8. If further pH adjustment is required, it can be sent to neutralizing tank. After this poly aluminum chloride (polymers) are added (100mg/l) in influent. Then water goes for aeration unit where it is aerated for 32 hrs for aerobic decomposition process. Sludge removed from the tank goes to sludge thickener unit where it get solidify and then send to sludge drying beds and clarified water is discharge into Thane Vashi creek.

This visit will enable our students to understand how industrial waste water is treated and enhance their knowledge of their elective subject Industrial waste treatment.



Site Visit at MCGM water tunnel project (Veravali-Powai-Ghatkopar)



Department of Civil Engineering had organized a Site Visit for BE civil students, in which 142 students visited MCGM water tunnel project site at Powai under the guidance of faculty, Mr. Shreyans Dodia, Mr. Nikhil Sontakke, Mr. Sagar Butle & Ms. Swapnali Onkar on 13th & 14th March 2019.

MCGM is already abstracting 1365 MLD of water from Bhatsa River, developed in 3 stages during last 20 years. The present project is the fourth stage of augmentation and is called Stage IIIA. Under IIIA MCGM proposes to construct number of underground tunnel in the city and connect them to existing system in order to augment and strengthen capacity of the existing transmission system.

Under this contract work includes construction of rock tunnel of 3.0m bored diameter to 2.2m finished diameter by modern full face rock TBM including communication facilities. Safety measures, lighting, ventilation, dewatering, dry mucking and its disposal. It also involves construction of 3 deep shafts located at Yari Road, Adarsh Nagar, Veravali and reinforced concrete well cofferdams at Yari Road, Adarsh Nagar and Veravali. Total length of tunnel covered in the project is 6.1 Km of Shafts ranging from 50-90 m depth.

The flow of site visit for both the days started with students to assemble at site on 10:30 am. The on-site Sub-Engineer Ms. A.M. Wankhede explained the project details with current progress on a PowerPoint Presentation. Then the students were provided PPE's (Personal Protective Equipments) in batches of 10 students and were taken down to the shaft. The current progress of the project was seen by the students from the Powai shaft. The Tunnel Boring Machine encountered soft strata and the further excavation was halted at 1.6 km distance from Powai Shaft. After completion of visit of all the students in batches, the visit was concluded with a thank you note to the present Sub-Engineers Shri. S.D. Damdo and Smt. A.M. Wankhede. On the second day the faculties felicitated the Sub-Engineers Shri. S.D. Damdo and Smt. A.M. Wankhede with a Momento.

Alumni Meet 2019 organized by ACES (Association of Civil Engineering Students) at Universal College of Engineering, Kaman (Mumbai)

“Alumni Meet” for all alumni of Department of Civil Engineering was held in ‘Universal College of Engineering’ on March 30, 2019.

Registration of all the present alumni was started on 11:00 am and the Inauguration started at 11:10 am with the Saraswati prayer. The occasion was graced by the presence of Dr. J. B. Patil, Principal of Universal College of Engineering.

Ms. Swapnali Onkar faculty of Department of Civil Engineering welcomed all alumni, principal and faculties followed by motivational speech by Principal. Further the event was handed over to students where they conducted various Fun-tech games which included Housie, Pickup and Push Ball.

In between alumni of each pass out batch shared their experiences from coming out of the college campus to where they are now. They also told the importance of college life which taught them discipline, management and many more. They showed their gratitude towards college for making understand their limitations and to overcome them in positive manner.

Students were offered with refreshments and their presence was appreciated by presenting them momentous.

Then the Alumni Meet 2019 was concluded with Vote of thanks to all who helped in conducting this successful meet.

Also a sport game, Tug of War was arranged on ground just to recollect all the memories of Alumni.





STUDENTS ACHIEVEMENTS



It gives us immense pleasure to announce the achievements of Department of Civil Engineering, BE Civil students at TECHKRITI in **IIT Kanpur**. This event was held from 7th – 10th March, 2019. They have bagged 1st & 2nd prize in an event called Bridge-It.



COMPETITION

BRIDGE IT

ABHINAY ASHARA
FORAM PANCHAL
JATIN BHUTA
SUREIL GUPTA
RAJ PATEL



CHIRAG CHAUHAN
ANIKET BHOITE
GOVINDA CHAWAN
ISHAN DOSHI
MAYUR MEHTA



Students of Civil Engineering showed their talent in CEA Fest, the annual technical festival of Department of Civil Engineering, **IIT Madras**. It is one of the most prestigious departmental fests in the country. This event was held from 8th – 10th March, 2019.

COMPETITION

MASTER BUILDER

BHAIRAVI PATIL
MITALI RAUT
RAHUL PATEL



- Amit Yadav, Surabhi Patil & Yash Shasane position of 3rd runner-up.
- Jigar Pandya, Malav Patel & Yash Shah position of 4th runner-up.

AAKAAR is the annual technical festival of Department of Civil Engineering, **IIT Bombay**. AAKAAR has been a great platform for the students across the country to showcase and enhance their skills at the highest level of competitive challenges since its inception in 2009. AAKAAR is now Asia's largest civil engineering festival. This event was held from 16th – 17th March, 2019. Our enthusiast students from Department of Civil engineering took part in various competitions at this festival.

COMPETITION

CONQUER-IT

HITESH RAWAL
MANISH THAKARE
SAHIL PAWAR
VIGNESH PANDIT



COMPETITION

SYMPOSIUM

MIRAJ THAKER
DILESH SOLANKI

COGNIZANCE 2019 at **IIT Roorkee** through its theme "Unwinding Chaos", aims to provide a platform full of opportunities to learn and experiment with the canvas of life and to paint whatever agitates the sleep of enthusiastic youth populace of India. This event was held from 15th – 18th March, 2019. Our enthusiast students from Department of Civil Engineering took part in various competitions at this festival.

COMPETITION	COMPETITION
<p>(Alternate Hydro-electric Energy Centre)</p> <p>IDEAZ-AHEC</p> <p>AMIT BHARATI</p> <p>DHARMIK AHIR</p> <p>KASTUREE KELBAIKAR</p> <p>VARAD GADGIL</p> 	<p>Revival of rivers</p> <p>BHAVIN CHAUHAN</p> <p>JAY PARMAR</p> <p>KASTUREE KELBAIKAR</p> <p>VARAD GADGIL</p> <p>(FOR KOSI RIVER)</p> 

Amit Bharati, Dharmik Ahir, Tushar Chotaliya & Yash Parikh secured 3rd runner-up position in Revival of Rivers Competition for the Ripsana river.

COMPETITION

IEI BLC INDUSTRIAL CHALLENGE

On 22nd of March 2019, IEI have conducted an industrial challenge for which the participants had to prepare solutions for the given problem statement and present it in front of the judges and the Chief Guest at the event.

The Chief Guest at the event was Dr. T. Eldho, who is the head of the Department of Civil Engineering of the IIT BOMBAY, gave an Expert Talk on WORLD WATER DAY-"LEAVING ONE BEHIND". Then the winner participants had awarded the respective prices. There were 148 participants in Environmental Department and out of which our college teams were winner and the first runner-up.



RAVI KANOJIYA
DARSHAN MANGE
NAYAN CHAVDA
NIRAJ KHOLAKIA

⁶
(Based on given characteristics, design a waste water treatment plant)



PRAFUL RAHATE
KANEKAR SANKET
VICHARE RIDDHI

(Based on the selected area, design water treatment plant)