DEPARTMENT OF CIVIL SENGINEERING

"Sthapathya Vaartha"

2024-25

Volume:10

Issue:1

Inside this issue

HOD MESSAGE

This news bulletin 'SthapathyaVaarta 2K24-25' 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 stake holdersvia it. On behalf of the Civil Engineering department, I would like to thank Executive Director Shri AnilA.Bagane and Principal Dr.S. A. Khot for your ongoing inspiration in bringing all operations to a single level.

Dr.V.K.Naik

H.O.D.

CIVILENGINEERING

NEWSLETTER 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.

Ms. Pooja R. Patil

AssistantProfessor

NewsLetterCoordinator

CESA TEAM

		
President MR. PIYUSH MORE TY Civil	Vice President MR.SUJAY RUGGE TY Civil	Secretary MR. SOURABH R KUMBHAR TY Civil

Name	Designation	Class	Contact
Piyush.S.More	President	T.Y	8482862796
Sujay S. Rugge	Vice-President	T.Y	9322347892
Sourabh.R.Kumbhar	Secretary	T.Y	9844107599
Sarthak.S.Vardhamane	Treasurer	T.Y	9130069769
Sannidhi.B.Patil	LadyRepresentative	B.Tech	8088234020
Priti.S.Vathare	LadyRepresentative	B.Tech	7588323672

● CAMPAIGNING TEAM

Name	Designation	Class	Contact
SiddheshKadam	Head	B.Tech	7385714276
VedikaPatil	Coordinator	T.Y	9420457692
SamruddhiShinde	Coordinator	T.Y	7796571301
ShravaniPatil	Coordinator	T.Y	9766193550
AditiUthale	Coordinator	T.Y	7028309249
AkhileshSwami	Coordinator	T.Y	7249865518
SourabhRajput	Coordinator	T.Y	8421859925
AadarshBarwade	Coordinator	S.Y	8308124448
AnjaliAkiwate	Coordinator	T.Y	7757050924
PrathameshChavan	Coordinator	T.Y	9096352096
YashMore	Coordinator	B.Tech	8080646031

● DECORATION TEAM

Name	Designation	Class	Contact
SifanaShaik	Head	T.Y	9420457692
SamruddhiShinde	Coordinator	T.Y	7796571301
ShravaniPatil	Coordinator	T.Y	9766193550
AditiUthale	Coordinator	T.Y	7028309249
AnjaliAkiwate	Coordinator	T.Y	7757050924
VedikaPatil	Coordinator	T.Y	9420457692
AkhileshSwami	Coordinator	T.Y	7249865518
SakshantMane	Coordinator	B.Tech	8805374088
OmkarKumbhar	Coordinator	T.Y	9322069790
MadhuraJugale	Coordinator	S.Y	7350111082
DhanashreePatil	Coordinator	S.Y	7066233275
TejalPanchal	Coordinator	S.Y	8766007810
SamaritySharma	Coordinator	S.Y	8899510097
RuturajMadnaik	Coordinator	S.Y	7249304108

● VIDEO & PHOTOGRAPHY TEAM

Name	Designation	Class	Contact
ShreyashZende	Head	T.Y	8177943646
SourabhKumbhar	Coordinator	T.Y	9844107599
UtkarshKesarkar	Coordinator	T.Y	9404469297
BuddhbhushanMohite	Coordinator	T.Y	8010816244
RiteshSutar	Coordinator	B.Tech	7620862396

• REFRESHMENT TEAM

Name	Designation	Class	Contact
AbhishekSatre	Head	T.Y	9096627109
RajvardhanPatil	Coordinator	T.Y	8010251950
ParasGidde	Coordinator	T.Y	9356852112
ShahabajMulla	Coordinator	T.Y	9356831508
JahidMujawar	Coordinator	T.Y	8855876756
HarshalPatil	Coordinator	S.Y	9421697260
VinayJadhav	Coordinator	S.Y	7499553255
KiranVadar	Coordinator	T.Y	9021540499

• RESISTRATION TEAM

Name	Designation	Class	Contact
PriyaTejam	Head	S.Y	8149682368
SanikaMali	Coordinator	S.Y	7248961406
OmkarKumbhar	Coordinator	T.Y	9322069790

Vision, Mission and Quality Policy and PEO of Department

The vision of the Department

To be a center 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 qualityeducationthrougheffectiveteaching-learningmethodologiesandprovidingastimulatingenvironmentforresearchandinnovation

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.

PEOII: Exhibit professional skills, ethical attitude and sensitivity towards society and environment.

PEOIII: Engage in life-long learning for successful adaptation to technological changes.

NBA NEWS:

It is a great moment to share with you that the Department of Civil Engineering has been re-accredited by the NBA for a further three years.

Re-accreditation of the NBA for the academic years 2024–2025, 2025–2026, and 2026–2027, i.e., up to June 30, 2027.

LIST OF DAAB MEMBERS

Following are the DAAB members of the department for AY-2024-25

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

• PAPERS AND BOOK PUBLICATION

Sr. No	Name of Author	Publication	Journal
1.	Dr. Pinki Deb	Utilization of Fly Ash and Rice Husk Ash in Cold Mix Asphalt as Filler	E3S Web of Conferences 455, 03009 (2023)
2.	Dr. Pinki Deb	Cold Mix Asphalt Technology, Mix Design and Performance: Sustainable Road Construction Technology	ELIVA Academic Publishing
3	Mrs.S.A.Patil	Constructional Planning and Management	SCIENTIFIC INTERNALTIONAL PUBLISHING HOUSE(SIPH)
4	Dr. Mosir Shah	Nanomaterial's in Pavement Engineering	LAMBERT Academic Publishing
5	Mr. A. B. Jadhav	Fundamentals of Geotech and Ground Engineering	SCIENTIFIC INTERNALTIONAL PUBLISHING HOUSE(SIPH)

PAPER PUBLICATION BY STUDENTS

1. Advance Slab Finishing Machine

Mr. A. B. Jadhav1 ,SannidhiPatil 2 , PrajaktaKoli , SimranKamble 4 , ShwetaKoli 5

2. Scientific Approach OfVastuShastra

Mr. A.B.jadhav1 ,Radhika Mane 2 , SakshiKoli 3 , AsmitaChavan 4 , PritiVathare 5

3. Utilization of waste egg shell modified bitumen in hot mix asphalt

Dr.Pinki Deb 1 ,ShreyashKalkutagi 2 , SiddheshKadam 3 , MandarPotdar 4 , RiteshSutar 5

4. Effect Of Nano-Silica In Performance Of Recycled Aggregate Concrete

Mrs. P.T.Powar1 ,Hrushikesh Mali 2 , RiteshPatil 3 ,

5. Smart sensor placement for thermal monitoring of Concrete

Mrs. P. O. Shirole1 ,Sakshant Mane 2 , YashKalkutagi 3 , Rohan Kalubarme 4 , Sanyam Upadhye 5

6. Improving Properties of laterite bricks by using Nano-silica

Ms. P. R. Patil1 ,AjinkyaHajare 2 , DarshanKupanhatte , BramhanandGurav 4 ,Pranav Anuse 5

7. Porous concrete with using over burnt brick

Dr. Pinki Deb [1], SarveshKoli [2], ShubhamTelave [3], OmkarKolhapure [4], Tejas Desai

8. Effect of different supplementary cementitious materials on concrete workability

Mr. Y. U. Kulkarni 1 ,SarthakNeje 2 , Onkar Joshi 3 , AkhileshKolekar 4 , JayeshPatil 5

9. Plastic waste to fuel or biofuel

Dr.V.K.Naik1 ,VinayakAlase 2 , PrathmeshShejal 3 ,SammedValivade 4 ,PrajwalPawar 5

10. Use Of Triangular Cactus Fibers And Rice Straw Fibers In Clc Bricks

Mr. A. B. Jadhav 1 Aditya Kurde2 ,YashVitthal More 3 , RushikeshVanjire 4 , KetanAurwade 5

, **11. Seepage Analysis Using Sensor In Earthen Dam**

Mr. A.A.Hosurkar1 ,GuruChigare 2 , RuturajPatil 3 , KishorYelawade 4 , SomeshPatil 5

12.. Design A Smart Kerb Stone At Road Intersection

Mrs. P. O. Shirole,PatilYash 1 , KhadeVarad 2 , Ganbavale Pranav 3 , KambleKiran 4

13. Dam operation based on water level using Sensor

Dr.R.M. Garud1 ,ShrenikLale 2 , Aditya Chougule 3 , AkhilChougule 4 , SarthakHavale 5

14. Design and construction of a filtration system for water treatment using natural materials

Mr.Y.U.Kulkarni1 ,SainathSalgar 2 , PrathmeshChougale 3 ,MarutiKumbahr 4 , Pranav Khade 5

15. Use of Photoluminescence Paint in Construction Field

Mrs. P. R. Patil1 ,AbdulhamidNasardi 2 , SahilMujawar 3 , SujitYamgar 4 , AdarshGurav 5

16. Sugarcrete

Mrs. A. D. Ware 1 ,SachinPatil 2 , Pranav Patil 3 , SumitPatil

• GUEST LECTURE SUMMARY

Sr. No.	Topic for Expert Talk	Expert Name & Designation	Date of Expert Talk	Class	No.of Beneficiaries
1	Basics of Environmental Engineering and Career Opportunities	Dr. MithilKoli Research fellow @ IIT Bombay	22-7-2024	Sy, Ty	50
2	Introduction to civil engineering software's	Neeta Kamble Consultant Engineer, IGTR, Aurangabad	26-8-2024	BTech	70
3	Introduction to design	Dr. M R Shiyekar Retired professor under Shivaji University Kolhapur	23-9-2024	Sy, BTech	105
4	Career opportunities in civil engineering	Mr. RatnakarKarav owner of Swastik Engineering Academy, Sangli	05-10-2024	Sy, BTech	80
5	Contract and Tenders	Mr. VikramJadhav PMGSY, Kolhapur	25-10-2024	TY	40

INDUSTRIAL VISITS SUMMARY

Sr. No	Name of organization	Class	Date of Visit
1	Rain gauge station at Jainapur	SY,TY	12.08.2024
2	Slab reinforcement detailing	SY,Btech	23.09.2024
3	Foundation detailing	Btech	24.09.2024
4	Water treatment plant of 54 MLD,Ichalkaranji	TY	26.09.2024
5	Water tank construction of 12 MLD ,Ichalkaranji	TY	26.09.2024
6	Solid waste treatment plant ,Ichalkaranji	TY	26.09.2024

Pictures of Visit-

Rain gauge station at Jainapur

Foundation detailing

Slab Detailing

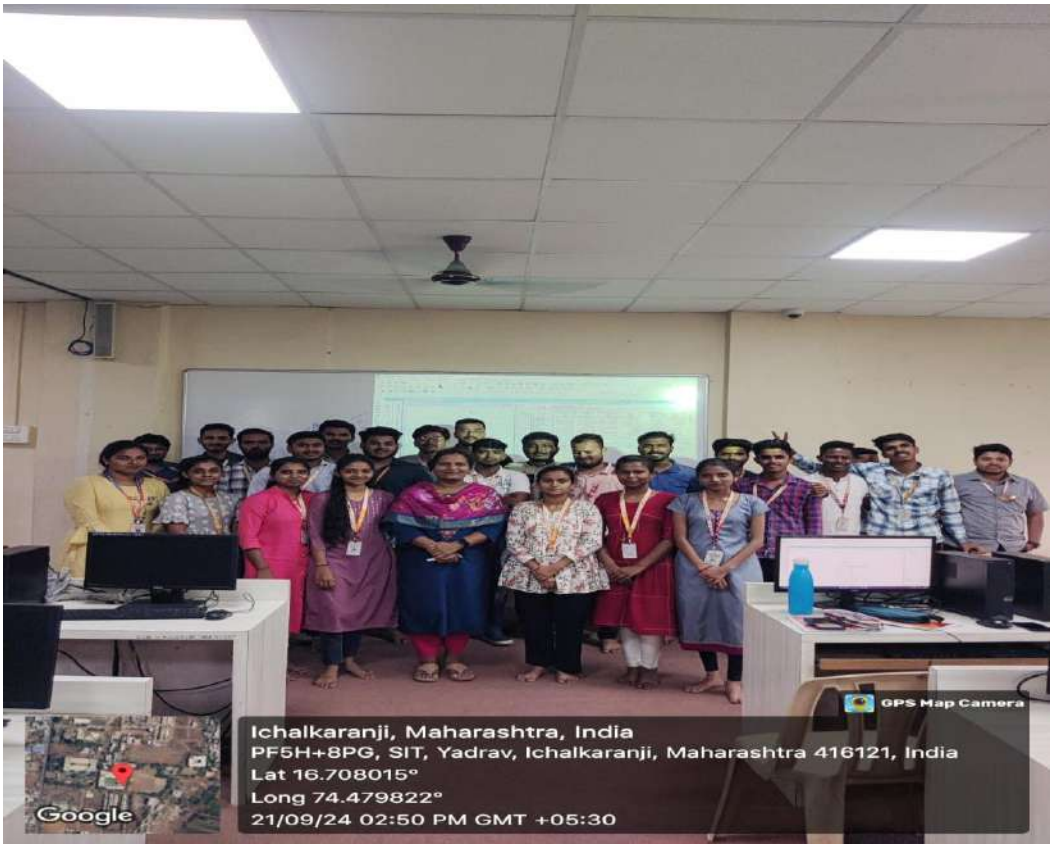
Water Treatment Plant

Water tank construction of 12 MLD ,Ichalkaranji

• VALUE ADDED PROGRAM

DEPARTMENT OF CIVIL ENGINEERING						
Value Addition Program (VAP)						
Sr. No.	**Year**	**Name of Program**	**Class**	**No of Students**	**Expert Name**	**Duration**
1	2024-25	3Ds Max	SY	40	IGTR, Aurangabad	18/9/2024 to 24/9/2024
2		Introduction to AUTOCAD 2D & 3D	TY	37	Info-grow	26/08/2024 to 31/08/2024
3		STADD Pro	Btech	46	IGTR, Aurangabad	18/09/2024 to 24/09/2024

Pictures of VAP




GPS Map Camera
Ichalkaranji, Maharashtra, India
525, Santosh Sadhale Nagar, Ichalkaranji, Maharashtra 416121, India
Lat 16.70833°
Long 74.479015°
31/08/24 04:23 PM GMT +05:30
Google


GPS Map Camera
Ichalkaranji, Maharashtra, India
PF5H+8PG, SIT, Yadrav, Ichalkaranji, Maharashtra 416121, India
Lat 16.707995°
Long 74.479856°
21/09/24 02:49 PM GMT +05:30
Google


GPS Map Camera
Ichalkaranji, Maharashtra, India
525, Santosh Sadhale Nagar, Ichalkaranji, Maharashtra 416121, India
Lat 16.708316°
Long 74.479044°
27/08/24 12:48 PM GMT +05:30
Google

- **STUDENT ACHIEVEMENT/PARTICIPATION**
  - **Student Participation in IMPETUS**

Sr.No.	Name of Event	Prize	Name of the Student	Name of College
1		First Prize	VedikaSadashivPatil	SITCOE
2		Second Prize	Rituraj R Madanaik	SITCOE
3	**Paper Presentation**	Third Prize	Krutika Mahesh Bakre	PVPIT
4		First Prize	SannidhiBabasahebPatil	SITCOE
5		Scond Price	Mandar Deepak Poddar	SITCOE
6	**Project Competetion**	Third Prize	Aditya BalasoChaugule	SITCOE
7		First Prize	VedikaSadashivPatil	SITCOE
8		Second Prize	Yash More	SITCOE
9	**Eassy Writing**	Third Prize	Sujay Sanjay Ruge	SITCOE
7		First Prize	Mohammed Taqui A Patel	SITCOE
8		Second Prize	Ruturaj Ramesh Madanaik	SITCOE
9	**Group Discussion**	Third Prize	SannidhiBabasahebPatil	SITCOE
7		First Prize	SannidhiBabasahebPatil	SITCOE
8		Second Prize	Sujay Sanjay Ruge	SITCOE
9	**Quiz Compition**	Third Prize	Yash More	SITCOE


GPS Map Camera
Ichalkaranji ,MH,India
Yadrav, Ichalkaranji , 416146, MH, India
Lat 16.708312, Long 74.478900
10/16/2024 04:18 PM GMT+05:30
Note : Captured by GPS Map Camera

• OUR PROUD TOPPERS

Department of Civil Engineering		
Top 10 Student list AY 2023-24		
Btech Semester-VIII		
Sr. No.	**Student Name**	**CGPA**
1.	**Patil Digvijay Damodar**	**8.69**
2.	**Patil Sonali Shrikant**	**8.62**
3.	**Pachore Pragat Devanand**	**8.47**
4.	**Biraje Aditi Devendra**	**8.34**
5.	**Dhekale Swaraj Sarjerao**	**8.21**
6.	**Sutar Mahesh Ashok**	**8.18**
7.	**Mali Swapnali Mohan**	**8.04**
8.	**Chavan Maithili Rangrao**	**8.03**
9.	**Alase Nisha Sunil**	**7.79**
10.	**Khot Ajinkya Arun**	**7.71**

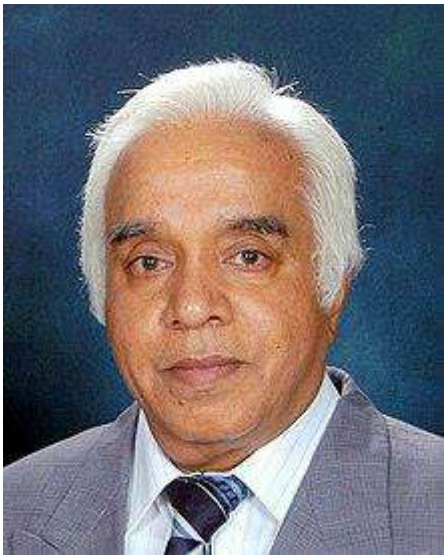
Department of Civil Engineering		
Top 10 Student list AY 2023-24		
TY		
Sr. No.	**Student Name**	**CGPA**
1.	**Kurde Aditya Chandrakant**	**9.21**
2.	**More YashVitthal**	**8.41**
3.	**Koli Sakshi Surendra**	**8.20**
4.	**Shejal Prathmesh Sanjay**	**8.20**
5.	**Shreyash Sanjay Kalkutagi**	**8.09**
6.	**Patil Sannidhi Babasaheb**	**7.96**
7.	**Kumbhar Maruti Rajendra**	**7.89**
8.	**Vinayak Dipak Alase**	**7.78**
9.	**Chigare Guru Sanjay**	**7.54**
10.	**KhadePranavPrakash**	**7.27**

Department of Civil Engineering		
Top 10 Student list AY 2023-24		
SY		
Sr. No.	**Student Name**	**CGPA**
1.	**Patil Vedika Sadashiv**	**8.91**
2.	**Vadar Kiran Rama**	**8.09**
3.	**Shinde Samrudhhi Sanjay**	**8.00**
4.	**Abhishek Mahaveer Danwade**	**7.58**
5.	**Kamble Bhuvaneshwari Satish**	**7.55**
6.	**Patil Deepak Prakash**	**7.48**
7.	**Korochikar Shreya Vinod**	**7.30**
8.	**More Piyush Sudhir**	**7.28**
9.	**Shaikh Sifana Yasin**	**6.94**
10.	**Satre Abhishek Rajendra**	**6.77**

Department of Civil Engineering		
Toppers list AY 2023-24		
FY btech Semester-II		
Sr. No.	**Student Name**	**CGPA**
1.	**Samarity Sharma**	**8.4**
2.	**Panchal Tajal Dynandev**	**8.4**
3.	**Patil Harshad Dhanaji**	**8.1**

● PERSONALITY:

Rangachar Narayana Iyengar



Rangachar Narayana Iyengar (born 2 June 1943), also known as RNI, is a civil engineer and professor from India. He was with the Indian Institute of Science, Bangalore for about four decades. He has been the director of Central Building Research Institute, Roorkee (1994–2000). He is currently a Raja Ramanna Fellow, and the Director for the Center for Ancient History and Culture (CAHC) at the Jain University, Bangalore. He also setup the Center for Disaster Mitigation (CDM) at the Jain University.

He has in the past been the editor of 'SADHANA' published by the Indian Academy of Sciences, Bangalore. Apart from his contributions to Engineering, he is also widely recognized for his work in History of Science. He is a fellow of Indian Academy of Sciences, Indian National Academy of Engineering and National Academy of Sciences, India. He was awarded the Alexander von Humboldt Fellowship (Senior 1978–80, 1992 and 1997). He is the recipient of the Sir M Visvesvaraya award (Government of Karnataka 1996) for senior scientists for lifetime contributions to science and technology. He has held visiting positions at the Purdue University, Brooklyn Polytechnic, New York and Distinguished Schimdt Visiting Chair, Florida Atlantic University (1995). He has led field investigations after the Khilari (1993), Chamoli (1999) and Kutch (2001) earthquakes. He has been a consultant to various industries and research & development organizations in India including NPC, IGCAR, DRDO, RDSO, BHEL and Kerala State Government. R N Iyengar joined the Indian Institute of Science (IISc), Bangalore as Masters student and obtained his M.Sc. (Engineering) (1966) and PhD (1970) from IISc. His PhD thesis on stochastic modeling of earthquake loads was the first doctoral thesis in the country in the area of random vibrations. He joined IISc as a faculty member in 1969 and became a professor in 1986. Until his retirement, he was the KSIIDC Chair Professor in the Department of Civil Engineering and also Professor in Center for Atmospheric and Oceanic Sciences at the Indian Institute of Science, Bangalore.After his retirement from IISc, he joined Jain

University and was instrumental in setting up the UL-Jain Fire Laboratory (UL-JFL). The UL-JFL is a state-of-art engineering laboratory devoted to fire safety education and research that will promote industry academia interaction, contributing to mitigation of fire hazard in the Indian habitat.

Since 2012, he is the Director of the Center for Ancient History and Culture (CAHC) at the university, working on research in the area of history of science in India.

Besides his distinguished contributions as a structural engineer, he has contributed immensely to the field of history of science, especially to Pre-Siddantic Indian Astronomy. Some of the problems he has studied are as follows.

- Earthquake history of India in medieval times (1999)
- Earthquakes in ancient India (1999)
- Historicity of celestial observations of Mahabharata (2003)
- Profile of a natural disaster in ancient Sanskrit literature (2004)
- Description of rainfall variability in Brhatsamhita of Varâha-mihira (2004)
- On Some Comet Observations in Ancient India (2005)
- Eclipse Period Number 3339 in the Rgveda (2005)
- Some Celestial Observations Associated with Krsna-Lore (2006)
- Archaic Astronomy of Parasara and Vrddha Garga (2008)
- Geographical location of Vedic Irina in Southern Rajasthan-Discussion (2008)

In his book *Parasharatantra*, R.N Iyengar has reconstructed the original text of Parashara, which is contained as quotations in the works of later authors. With modern astronomical techniques, Iyengar has shown that Parashara knew planets and their periods along with 26 comets and their intervals; he gave the correct observational condition for the heliacal visibility and set of star Canopus (Agastya). Parashara knew that lunar eclipses can occur at 6 months interval. He denoted total penumbral eclipse as 'Nirodha.

● 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:

The 3D printed post office in India

The 3D printed post office in India was inaugurated at Cambridge Layout in east Bengaluru on August 18 by AshwiniVaishnaw, Union Minister for Railways, Communications and Electronics & Information Technology. This is said to be the first commercial building to have used 3D printing technology.

India's and the world's first 3D printed post office opened for business last week.

The 1,021 square feet (94,9 m2) building was begun in March 2023 and executed in just 43 days, two days ahead of schedule. Using conventional methods, L&T estimates &#38 would have taken approx. 8 months.

The project received recognition and support from Indian Prime Minister NarendraModi and Union Railways &; Communication Minister AshwiniVaishnaw.

Bengaluru, India, August 18, 2023 L&T Construction, the Indian construction giant with group sales of $23 bill. and a leader in the 3D construction printing industry in India, unveils the country's first 3D printed post office, a groundbreaking project completed in just 43 days. Powered by COBOD's BOD2 3D construction printer, this achievement underscores the immense potential of 3D printing technology in revolutionizing the construction landscape.

India's Prime Minister, NarendraModi, shared the achievement on his social media, stating: "Every Indian would be proud to see India's first 3D printed Post Office at Cambridge Layout, Bengaluru. A testament to our nation's innovation and progress, it also embodies the spirit of a self-reliant India. Compliments to those who have worked hard in ensuring the Post Office's completion."

This recognition from the nation's highest authority emphasizes the project's significance in advancing India's technological expertise.

The project already had a high profile, as Union Railways & Communication Minister AshwiniVaishnaw in April sparked excitement by highlighting the project on social media. The post office was inaugurated last week by Minister AshwiniVaishnaw, underlining the Indian government's commitment to embracing cutting-edge technologies for national development.

Minister AshwiniVaishnaw captured the essence of the project, stating: "Bengaluru always presents a new picture of India. The new picture that you saw today in terms of this 3D printed post office building, that's the spirit of India today. That's the spirit with which our country is progressing today."

The post office spans a floor area of 1,021 square feet (94.9 m²), and according to L&T is estimated to have cost 2,6 mill. rupees (USD $31.200), about 40% lower than what the cost would have been if conventional construction had been used. In addition, L&T, who also 3D printed the first two-story building in India, executed the project in record time.

George Abraham, Head of Operations (South and East) at L&T, highlighted the execution speed in his inaugural speech: "It is because of the robotic intervention that involves pre-embedded designs, that we were able to complete the entire construction activity in a period of 43 days as compared to about 8 months taken by the conventional method."

Simon Klint Bergh, COBOD's Co-Founder and Head of APAC, commented on the achievement of L&T: "Utilizing the full form-freedom of 3D Construction Printing with this masterpiece project, Larsen & Toubro is perfectly showing how the technology is well implemented. We're honored to collaborate with innovators who not only envision the future but actively shape it. I cannot wait to see more great projects coming from Larsen & Toubro in the near future. Spanning an area of 1,021 square feet, the post office stands as a "testament to modern engineering," says the company. The construction process involves a methodical placement of concrete layers by a robotic 3D printer, following a pre-approved design. The incorporation of specialized concrete, which solidifies rapidly, ensures a strong bond between these layers, resulting in a cohesive structure. Notably, the 3D printed post office boasts a seamless structure with no vertical joints. The technology's flexibility allowed for curved surfaces and adaptation to various dimensions, eliminating the limitations of traditional flat walls. The method enabled continuous reinforced concrete footing and three-layer walls with inner reinforcement.

George Abraham, Head of Operations (south and east) at L&T, highlighted the project's efficiency owing to robotic intervention and pre-embedded designs. This novel approach drastically reduced the construction timeline from the usual 6-8 months to a mere 43 days,"setting a new benchmark in speed and efficiency." Additionally, the 3D printed method incurred a cost of Rs 23 lakh ($27,840), marking a 30-40% reduction in expenses compared to conventional construction.

The project's developers emphasized the potential of 3D printing to transform construction, offering customized structures, weatherproofing, and integrated utilities within walls for enhanced efficiency. Rajendra Kumar, Chief Postmaster General of Karnataka Postal Circle, revealed plans to replicate the technology across 400 vacant sites in the state, potentially triggering interest in low-cost housing solutions.

It is being implemented by Larsen & Toubro, which has experience in constructing 3D-printed buildings. It is a 1,100 sqft building which is expected to cost 30-40 per cent less than conventional buildings because of the technological intervention. It is being built at a cost. Hyderabad-based construction company ApsujaInfratech collaborated with Mumbai's Simply

forge Creations to construct the world's first 3D printed temple in Siddipet. The elaborate temple, spanning 3,800 sq. ft. and reaching a height of 30 ft., showcased a tripartite design. This novel construction approach aimed to halve the typical construction timeline, with completion projected within 2-3 months. Simpliforge's state-of-the-art robotic 3D printing facility, the largest in South Asia, as said by the company, led the 3D printing process using in-house technology, software, and materials. The temple's three sanctums, dedicated to various deities, comprised a Ganeshamodak, a Shivalay (Shrine) for Lord Shankar, and a lotus chamber for Goddess Parvati, with ongoing construction on spires and chambers. Danish 3DCP Group and humanitarian foundation Team4UA successfully constructed Europe's debut 3D printed school in Lviv, Ukraine. This project was carried out by utilizing COBOD's BOD2 3D printer. The single-floor school, covering 370 m^2, was designed to create a nurturing environment for young students, particularly those affected by the impacts of war. To showcase the 3D printed construction, the architect excluded COBOD's flaps technology, resulting in smooth walls. Notably, 90% of the construction materials were sourced locally, bolstering the community and its economy.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