Sipna College of Engineering and Technology, Amravati

Department of Civil Engineering

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Vision of the Department

To provide quality professional education for creating reputed civil technocrats and entrepreneurs for the sustainable infrastructure development and cater the need of the society.

Newsletter 2020

Volume I | Issue I

About Department

Civil engineering is a professional engineering discipline that deals with the design, construction and maintenance of the physical and naturally built environment, including works like roads, bridges, canals, dams, and buildings. Civil engineering is the oldest engineering discipline after military engineering, and it was defined to distinguish non-military engineering from military engineering. It is traditionally broken into several sub-disciplines. Civil engineering takes place on all levels: public sector from municipal to international companies.

To cater the needs of the society, Sipna College of Engineering & Technology, Amravati is obliged to impart quality civil engineering education by making available all requisite contemporary infrastructures, books, equipments and facilities along with well qualified faculty members.

Vision of the Department

To provide quality professional education for creating reputed civil technocrats and entrepreneurs for the sustainable infrastructure development and cater the need of the society.

Mission of the Department

- To provide state of the art resources that contributes to a competitional learning environment.
- To contribute to advancement of knowledge through regular interaction with industries and offer solution to their problems.
- To remains updated with contemporary technology and develop managerial skills.
- To inculcate moral and ethical values among the students to fulfill society's needs.

Program Educational Objectives

Engineering Graduates will be able to :

PEO1 Acquire the fundamental knowledge in basic sciences and civil engineering to solve real life problems.

PEO2 Succeed in getting engineering positions in government, public and private construction sector.

PEO3 Succeed in the pursuit of higher studies and continue with life-long learning.

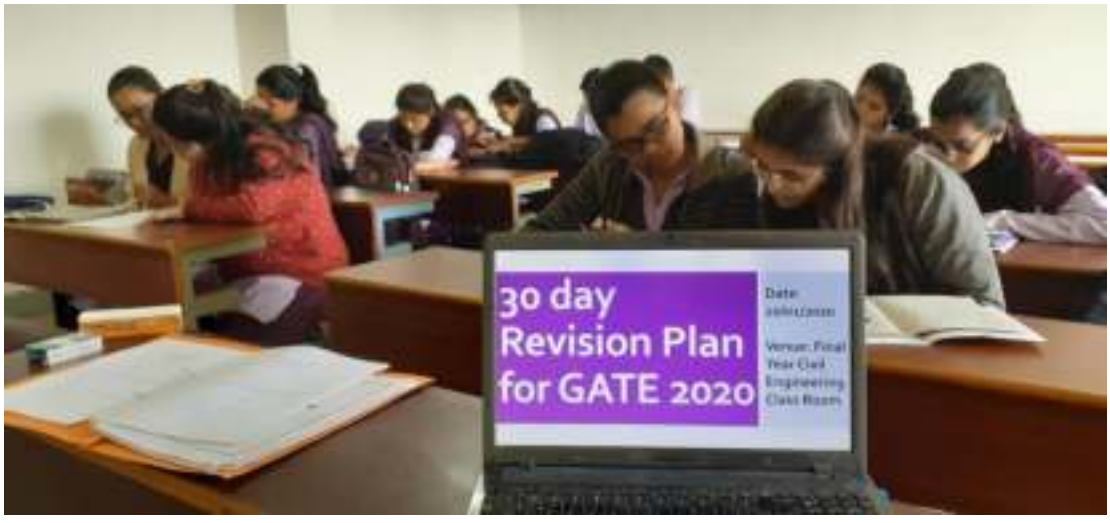
PEO4 Get aware of social responsibility, ethical standards and environmental issues to serve the society.

Students' Activities

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
1	26-08-2019	One Day Skill Improvement Program by Ultratech Cement	(Mr. Harish Deshpande, Mr. Rahul Darne)	2nd, 3rd and Final year	107

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
2	27-09-2019	Water Resources Engineering in theory and in field	By- Mr. Devendra Madankar Asst Engineer, Water Resources Department, Amravati Division	3rd	29

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
3	10-01-2020	30 Day revision plan for GATE 2020 with General Aptitude Test Module	By- Prof. A. S. Pand	Final year	15



Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
4	16-01-2020	CAD, STAAD-Pro and recent trends in Civil Engieering software industry	By- Mr. Suraj Gaikwad, ME (Structures), Sr. Engineer at Civil Engineering Software Academy [Official Academic Training Partner of Bentley Systems, India]	3rd	34

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
5	18-01-2020	Preparation of GATE, IES and MPSC (Engineering Services Exams) from early years of Engineering	By- Mr. Nikesh Rathore, ME (Structures, Gold Medalist)	3rd	51

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
6	25-01-2020	Technical Lecture on "Static Determinacy - Theory of Structures"	By - Mr. Ankit Jain, M.Tech Structures [IIT Bombay]	3rd	34

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
8	30-01-2020	Site Visit to Tapadia City Center Construction Site	By- Prof. S. M. Patil	3rd	41

Sr. No.	Date	Activity Name	Name of Guest / Resource Person / Activity Conducted by	Year	Number of Students attended / participated
9	12-03-2020	Site Visit to Railway Station Badnera	By - Prof. R. B. Wath	3rd	36

Teacher - Guardian Scheme

The Teacher- Guardian Scheme allocation for the academic year 2020-21 is as follow:

Sr. No	Student ID	Name Of Student	Year of Admission	Status	Name of TG
				FY/DSY	
1	19BE0006	ADE AKASH PRAKASH	2019	FY	Prof. R.V. Rothkar
2	19BE0047	AJINKYA KALE	2019	FY	
3	19BE0052	ASHAY MAHENDRA DHAMANKAR	2019	FY	
4	19BE0074	AWASARMOL SEJAL BHAIYYASAHEB	2019	FY	
5	19BE0105	CHAVHAN MAHESHWARI ANIL	2019	FY	
6	19BE0420	CHIKHALKAR SAMRUDDHI PRAVIN	2019	DSY	
7	19BE0111	CHAWANDE SHREYA DAYANAND	2019	FY	Prof. Y.S. Khandekar
8	19BE0119	DHERE KALYANI MANOJ	2019	FY	
9	19BE0199	HOLEY PARAG MANOJ	2019	FY	
10	19BE0204	IKHAR SHREYAL DASHRATH	2019	FY	
11	19BE0214	INGOLE ARJUN VILAS	2019	FY	
12	19BE0232	JAISWAL SANIKA RAGHUNANDAN	2019	FY	
13	19BE0059	AUGAD SHREYASH NARENDRA	2019	FY	Prof. S.P. Mahajan
14	19BE0083	BAKALE AYUSH RAVINDRA	2019	FY	
15	19BE0084	BASERIYA ADITYA MAHESH	2019	FY	
16	19BE0257	KATRE AISHWARYA SANTOSH	2019	FY	
17	19BE0262	KHANDARE DEVYANI REVIKANT	2019	FY	
18	19BE0269	KHANDEKAR SAMIKSHA RAMESH	2019	FY	
19	19BE0095	BIJWADE SHYAM SUDESH	2019	FY	Prof. A.S. Attal
20	19BE0100	BONE PRABAL MANOJ	2019	FY	
21	19BE0117	CHINCHAMALATPURE ATHARVA RAJU	2019	FY	
22	19BE0281	KHODANKAR RAJASHRI LAXMANRAO	2019	FY	
23	19BE0319	PATEKAR PRATIKSHA BALASAHEB	2019	FY	
24	19BE0333	PATIL KAVYASHREE RAJESH	2019	FY	
25	19BE0145	GOSAVI GAURAV LILADHAR	2019	FY	Prof. R.B. Wath
26	19BE0164	GULHANE TEJAS RAVINDRA	2019	FY	
27	19BE0198	HARLE TUSHAR YUVRAJ	2019	FY	
28	19BE0337	PATKAR APURWA SHANKARRAO	2019	FY	
29	19BE0346	RADHA NARESH GOGAL	2019	FY	
30	19BE0379	RAUT VEDIKA NARENDRA	2019	FY	
31	19BE0132	DONGARE ANAND ONKARRAO	2019	FY	Prof. A.V. Tiwari
32	19BE0134	GAYAKWAD KSHITIJ ANIL	2019	FY	
33	19BE0139	GHUGE DNYANESHWAR RAMKISAN	2019	FY	
34	19BE0390	SHRIVAS SALONI YOGESH	2019	FY	
35	19BE0393	VANSHITA LONSANE	2019	FY	
36	19BE0465	WANKHADE MRUNAL SURESHRAO	2019	FY	
37	19BE0224	JADHAO SHANTANU VIJAY	2019	FY	Prof. S.M. Patil
38	19BE0234	KAKAD SAURABH VINOD	2019	FY	
39	19BE0250	KARAN JANRAO INGLE	2019	FY	
40	19BE0466	TEMBHARE SALONI VINOD	2019	FY	
41	19BE0468	YEOLE SNEHAL RAVI	2019	FY	
42	17BE0418	RATHOR MS. AISHWARYA PRAMOD	2017	FY	

43	19BE0251	KATAKTALWARE PIYUSH AMBADASRAO	2019	FY	Prof. M.D. Tare
44	19BE0289	MAHALLEY MIHIR DINESH	2019	FY	
45	19BE0304	MESHRAM PRAJWAL ASHOK	2019	FY	
46	19BE0310	MUKADE SWAPNIL BAPURAO	2019	FY	
47	19BE0316	MUZAMMIN KHAN NAEEM KHAN	2019	FY	
48	19BE0345	PULLAJWAR SIDDHANT ARVIND	2019	FY	
49	19BE0380	SASANE RITESH GANESH	2019	FY	Prof. S.N. Kalbende
50	19BE0381	SHINDE OM VILASRAO	2019	FY	
51	19BE0382	SHIRBHATE UDDESH VILASRAO	2019	FY	
52	19BE0467	THAKARE AMIT DILIPRAO	2019	FY	
53	17BE0407	RAUT MR. TANMAY SANJAY	2017	FY	
54	18BE0222	KALANTRI MR. KAUSHIK AJAY	2018	FY	
55	19BE0284	MAHALLE ARPITA GANESH	2019	FY	Prof. A.S. Pand
56	17BE0291	WASNIK MR. ANKIT SHAMRAO	2017	FY	
57	17BE0405	SHARMA MR. TANMAY MANISH	2017	FY	
58	19BE0416	INGALE ASHISH PRAMOD	2019	DSY	
59	19BE0419	CHOUDHARI SATVIK NANDU	2019	DSY	
60	19BE0424	PARALIKAR VIBHAS ANANT	2019	DSY	
61	19BE0439	WANKHADE AADAR RAJENDRA	2019	DSY	Prof. A.A. Pande
62	19BE0443	SADABAL YASH VASANTRAO	2019	DSY	
63	19BE0444	DHEMRE RITVIK SIDDHARTHA	2019	DSY	
64	19BE0456	KAWARE DIPESH HIMMATRAO	2019	DSY	
65	19BE0541	DHAGE PRASHANT SHANKARRAO	2019	DSY	
66	19BE0549	ADHAU PRATHAMESH SHARADRAO	2019	DSY	
67	19BE0550	INGALE DHIRAJ ARUNRAO	2019	DSY	Prof. D.R. Deshmukh
68	19BE0551	THORAT AKASH SUNIL	2019	DSY	
69	19BE0568	MOHAMMAD SOHEL MOHAMMAD SABIR	2019	DSY	
70	19BE0584	KADAM AVANTI AVINASH	2019	DSY	
71	19BE0587	JAWARKAR RAJEEV CHOTELAL	2019	DSY	
72	19BE0593	ATHAWALE DIVYA MOHANRAO	2019	DSY	
73	19BE0598	GAWANDE SHWETA VASUDEO	2019	DSY	
74	19BE0600	KEVAT ANIKET DIPAK	2019	DSY	
75	19BE0623	PRANAJALI BABURAO AMBHORE	2019	DSY	
76	19BE0634	KHANDEZOD AMIT SANJAY	2019	DSY	
77	19BE0635	KADAM KIRAN RAJABHAU	2019	DSY	

Black Cotton Soil – A challenge to Civil Engineer

Black cotton soil, also known as expansive soil or vertisol, is a type of soil found in many parts of the world, including India, Africa, and Australia. This soil has a unique property of expanding and contracting significantly depending on the moisture content. Due to its expansive nature, black cotton soil poses several challenges to civil engineers when constructing buildings, roads, and other infrastructure.

One of the primary challenges posed by black cotton soil is its instability. When the soil absorbs water, it expands, causing any structures built on it to shift and crack. Conversely, when the soil dries out, it contracts, which can lead to structural settlement and cracking. Therefore, buildings and infrastructure constructed on black cotton soil must be designed to account for these changes in soil volume.

Another issue that engineers face when building on black cotton soil is its low bearing capacity. The soil's expansive nature leads to lower strength and stability, making it difficult to support heavy structures. Therefore, special foundation designs, such as reinforced concrete or deep foundations, must be used to ensure that the structure's weight is adequately supported.

In addition to its structural challenges, black cotton soil can also pose significant environmental issues. The soil's high clay content makes it difficult for water to infiltrate, leading to poor drainage and flooding in the rainy season. Moreover, the soil's erodibility can lead to soil erosion, which can damage nearby ecosystems and waterways.

In conclusion, black cotton soil is a unique soil type that poses several challenges to civil engineers when constructing buildings and infrastructure. However, with proper design and construction techniques, it is possible to build safe and stable structures on this soil type. As the world's population continues to grow and urbanize, the need for innovative and sustainable engineering solutions to address the challenges posed by black cotton soil will only increase.

Manjiri S. Dhakulkar
17BE0570

Mass Concreting in Dams

Mass concreting is a process used in the construction of dams and other large infrastructure projects that require the use of massive amounts of concrete. The construction of a dam involves pouring thousands of cubic meters of concrete over an extended period, which is referred to as mass concreting.

The process of mass concreting in dams is a challenging task due to several factors. First and foremost, the sheer volume of concrete required for the construction of the dam can be staggering. The large volume of concrete required demands that the mixing and transportation of the material be well-organized to prevent delays.

Another significant factor that makes mass concreting in dams a challenging task is the temperature differential between the exterior and the interior of the concrete. During the setting process, the heat generated by the hydration of the cement in the concrete increases the internal temperature of the mass. However, the heat dissipates rapidly, causing a temperature gradient between the external and internal portions of the concrete. This gradient results in thermal cracking, which can weaken the concrete structure.

Another important aspect of mass concreting in dams is the use of formwork. Formwork is a temporary structure used to support the wet concrete until it sets and hardens. The formwork must be strong enough to support the weight of the concrete without collapsing or bending under the pressure. To achieve this, formwork is usually made of steel or timber and designed to withstand the weight of the wet concrete.

Mass concreting in dams is a complex and challenging task that requires careful planning and execution. The sheer volume of concrete required, the temperature differential between the interior and exterior of the mass, and the use of formwork all pose significant challenges to engineers and construction workers. However, with proper planning, monitoring, and execution, mass concreting in dams can be successfully accomplished, resulting in the construction of durable and reliable infrastructure.

Amar D. Shah
16BE0339

Application of Artificial Intelligence in Civil Engineering

Artificial intelligence (AI) is transforming the field of civil engineering. By leveraging machine learning and other AI-based technologies, civil engineers can now analyze large datasets, predict project outcomes, and automate complex tasks. AI is being used in various aspects of civil engineering, from design to construction and maintenance.

One application of AI in civil engineering is in building design. With AI, engineers can create more efficient and optimized building designs by analyzing data and identifying patterns. AI algorithms can analyze environmental factors, building materials, and other variables to create a more sustainable and cost-effective design.

AI is also being used in construction management. By using AI-based technologies, project managers can monitor construction progress in real-time and identify potential issues before they become major problems. AI algorithms can predict the likelihood of delays and cost overruns, allowing project managers to take proactive measures to keep projects on track.

In addition to design and construction, AI is also being used in infrastructure maintenance. By analyzing data from sensors and other sources, engineers can identify potential problems and perform predictive maintenance. This approach helps reduce downtime and maintenance costs while ensuring that infrastructure remains in good working order.

In conclusion, AI is revolutionizing the field of civil engineering, offering new opportunities for optimization, automation, and predictive analysis. By leveraging these technologies, engineers can design and construct more efficient and sustainable buildings and infrastructure while reducing costs and improving safety. As AI continues to evolve, it will play an increasingly critical role in the future of civil engineering.

Sonam K. Nawghare
16BE0347