

Constructo

Academic 2018-2019

Volume -1
December 2018



Department of Civil Engineering
St John College of Engineering and Management, Palghar



Institute Vision

"Excellence in Engineering Education & Creating Next-Gen Leaders / Managers in the Service of Society"

Department Vision

"To create high quality Civil Engineers with global perspective and to inculcate in them professionalism and work ethics for building a stronger society"

Institute Mission

- To impart quality engineering education for holistic development
- To provide conducive environment for joyful learning, innovation and research
- To promote innovative technology enabled teaching and learning process
- To nurture socially responsible engineers, entrepreneurs and leaders
- To enhance employability skills to meet the changing industrial trends.

Department Mission

- To nurture Civil Engineers with competent technical skills, professional and ethical values to serve the Nation.
- To transform the department into a centre of excellence in the field of Civil Engineers and allied research.
- To provide knowledge base through consultancy services to the community in all areas of Civil Engineers.
- To inculcate innovation and eco sustainable construction in the minds of budding Civil Engineers to face ever evolving challenges.

Quality Policy

To impart quality professional education with conducive environment for technology enabled teaching-learning and to nurture socially responsible professionals with enhanced employability skills

Programme Educational Outcome

- To provide outgoing graduates with sound basics in mathematics, science and engineering
- To imbibe technical skills, analysis and design, to solve civil engineering problems.
- To enable them to deal construction related issues in a responsible, professional and ethical manner for implementing eco friendly, sustainable technologies.
- To make them realise the need of higher education, research and development in civil engineering.

Programme Outcomes (POs)

- PO 1. Graduate will be able to Apply the knowledge of mathematics, applied sciences to civil engineering for the solution of complex engineering problems.
- PO 2. Graduate will be able to Identify, formulate, research literature, and solve problems in structural, construction management, hydraulic, transportation, and geotechnical stream of civil engineering.
- PO 3. Graduate will be able to Design solutions for complex civil engineering problems with appropriate consideration to safety, economy, health and environmental considerations.

- PO 4. Graduate will be able to use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO 5. Graduate will be able to Create, select, and apply appropriate upgraded civil engineering tools, techniques and resources, and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
- PO 6. Graduate will be able to serve the society with engineering knowledge and onus on societal health, safety, legal and cultural issues.
- PO 7. Graduate will be able to understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the need for sustainable development.
- PO 8. Graduate will be able to Apply and Demonstrate ethical principles, commit to professional ethics, responsibilities and norms of the engineering practice.
- PO 9. Graduate will be able to deliver as a leader and good team player in diverse team and in multidisciplinary settings
- PO 10. Graduate will be able to have spoken and written skills of communication by being able to comprehend and effective reports, design documentation, make effective presentation, give and receive clear instructions.
- PO 11. Graduate will be able to coordinate as team member or the leader at the site projects, finance, and consultancy with ease in multidisciplinary environments.
- PO 12. Graduate will be able to recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs)

- PSO1. Graduates will be able to apply engineering knowledge to plan and design structures creating townships in the region with best transport systems
- PSO2. Graduates will be able to understand the impact of geotechnical investigation and environmental pollution, societal health, legal and cultural issues so as to serve society with professional ethics.
- PSO3. Graduates will be able to understand complex problems and design solutions in structural constructions, water resource, hydrological systems, sewerage, industrial effluent conveyor and treatment systems.
- PSO4. Graduate will be able to lead and engage in team work to understand modern construction technology and management with advanced research and development in the field of Civil Engineering.

Message from Head of Civil Engineering Department



Dr. Susan Rego

The department is being run by well qualified and experienced faculty members with several years of exposure in field as well as in teaching in Civil Engineering. The department activities are well supported qualified non teaching staff. We at the department of Civil Engineering believe that learning is a continuous process and does not end with the acquisition of a degree, especially because steady and rapid advances going on in the construction field increase the life of tools and techniques prevalent today. Students are given a strong foundation in Civil field and problem-solving techniques, and are made adaptable to changes. We aim at offering the best quality education. Civil Department in our college offers undergraduate programs that owe their emergence to the relentlessly growing demand of professionals with expertise in various fields of Civil Engineering. These programs have been planned to offer a blend of theoretical and practical technologies and other information retrieving/processing techniques so as to provide the student with the requisite know how for solving real life problems, thereby enabling them to enter the world of opportunities in the field.

“My Building Will Be My Legacy, They Will Speak Loud For me Even After I’m Gone”

- Civil Engineer



Departmental Teaching & Non-Teaching Staff



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Mr. Balram Tandell
Lab Assistant



Mr. Vivek Patil
Lab Attendant



Mr. Darshan Bhonge
Lab Attendant



Mr. Yogesh Janathe
Lab Attendant

Student's strength

Year	No of Students
First Year	23
Second Year	68
Third Year	73
Final Year	73
Total	237

Result Analysis 2018-19

Semester	Passing (%)
III	64.71
V	73.97
VII	93.33

Expert lecture on “QUANTITY SURVEYING”



A 2 days workshop was conducted from 19th and 20th October, 2018 and it was conducted by Civil Engineering Dept. at SJCEM Palghar, in which students of BE Civil were registered and they were taught the basics of Quantity Surveying subject.

An expert from **SKYFI LABS, Bengaluru** named **CHAKRADHAR REDDY** was invited for the same, in which after theoretical explanation he gave hands on practice to our students.

Cost overrun is not an uncommon phenomenon in projects, more particularly with the construction projects where the budget involved is very high. That is the reason why quantity surveying activity is considered as the most important activity among all in a construction project.

As part of this training program, learning about how to take off various quantities from the CAD design, estimation of resources, budget finalization techniques and cost analysis of project were studied. Apart from knowing the theoretical concepts, students were also taught to do quantity estimation and costing of resources by working on industrial grade software. In short, with this training program it will be easy to understand the various steps involved in the quantity surveying and budgeting techniques that involves within a construction project.

The course highlights for the two days were

- Design of a building using CAD based software
- Quantity take-off and measurement
- Estimation of resource
- Cost analysis from the price list
- Cost estimation of resources
- Budget finalization and analysis of project

After the workshop the student were issued a digital certificate with a unique ID and a barcode indicating that it is a authenticated one.

Three Days Workshop on “Advance construction design tools”

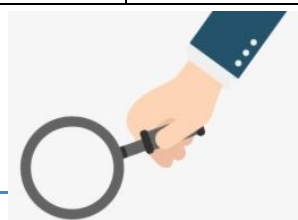


The three days work shop was conducted from 3rd to 7th July of 2018 in the department of civil engineering at SJCEM, Palghar. The workshop was conducted by Mr. Naresh Mistry and Mr. Omkar Saulankhe. The experts were having vast knowledge in current generation construction design tools. The students of TE and BE civil and faculty were made to participate for the same.

Research Proposal Submitted to Various Agencies

Sr No.	Academic Year	Topic	University	Amount Sanctioned	Faculty Name
	2018-19	Study on Properties (Fresh State & Hardened State) of Concrete Using Waste Sand from Foundry	University Of Mumbai	40,000/-	Mr. Swapnil Maliaptil
	2018-19	Effect of Nano material on properties of Concrete.	University Of Mumbai	20,000/-	Mr. Shrees hailHeggond
	2018-19	Prediction of 28 days Compressive strength of concrete blended with Basalt fibre using ANN and excel tool	University Of Mumbai	20,000/-	Mrs.Swati Dhurve
	2018-19	Estimation of Bearing capacity of Shallow foundations in soils of Palghar using Empirical methods and software tools	University Of Mumbai	20,000/-	Dr. Susan Rego

RESEARCH



Research Papers By Faculties

Name of the author	Title of the paper	Title of the journal	Year of publication
Dr.Susan Rego & Mr. Ashok Meti	Compressive Strength of cube and pavement block of same concrete mix design	IJSRR	Volume 7, Issue 6, 2018 (ISSN No: 2279-543X)
Mrs. Swati Dhurve	Design of Sewage Treatment Plant units for St. John Campus Palghar	IJSRET	Vol 7 March 2018. ISSN: 2278-0882
Mrs. Swati Dhurve	Structural Assessment of an old building	JECT	Vol 6 Sep 2017. ISSN: 466-478
Mr. Ashok Meti, Mr. Swapnil Malipatil & Mr. Naveen Hanchinal	Study on Properties of Concrete containing copper slag as fine Aggregate	IJEDR	Volume 6 Issue 2 April 2018. ISSN: 2321-9939

Student Achievements and awards

S.No	Year	Name of Student	Awards/Recognitions
1	Oct 2018	Mr. Anoop Mujagle Mr. Shivam Shirke	Shortlisted for final round in Indian International Sciencefest 2018 organized by Ministry of Earth Sciences, Lucknow.

Internships Attended by Students in Even Semester at Various Industry

Sl. No.	Name of the Student	Organization
1	DevvratvedanandKamlendrakumarMaltidevi	Buildwise, Thane
2	Lopes Brijesh Pascal	BARC, Mumbai
3	Mhatre Kunal Rajendra	BARC, Mumbai
4	Nair Vishnu Rajagopalan	Shivam Construction Lts. Palghar
5	Save Vedang Santosh	Awhad Consulting Engineering, Palghar
6	Gawad BhuvaneshBaban	Adhikari Projects Ltd.
7	Thakur Suraj Nandkumar	Adhikari Projects Ltd.
8	Rumao Garrison Augustin	Divekar Construction Ltd. Boisar
9	Moraes Lloyd Alban	Adhikari Ready Mix Concrete, Boisar



Celebration of Teachers Day

5th September 2018
Department of Civil Engineering



Association of Civil Engineering, Student Chapter [Committee Members]

Mr. Yash Pethe
President

Mr. Viraj Patil
Secretary

Mr. Akshay Salvi
Treasurer

Mr. Abhiram G
Event Co-ordinator

Ms. Darshana Shinde
Document Co-ordinator

Mr. Kanish Ganchi
Core Member

Mr. Darshan Verma
Core Member

Mr. Harikrishan G
Core Member

Ms. Swati Tikone
Core Member

Ms. Aashi Upadhyaya
Core Member



Department Advisory Board Meeting

Sr. No.	Member Name	Affiliation	Designation
1	Mr. Shrees hail B.H.	Assistant Professor, SJCEM, Palghar	Member, Coordinator
	Mr. Prakash Naragund	Assistant Professor, SJCEM, Palghar	Member
	Mrs. Swati Dhurve	Assistant Professor, SJCEM, Palghar	Member
2	Mr. Akhilesh Nair	Ph.D. Scholar IIT Bombay	Member
3	Arc. Mahendra Kale	Architect, Palghar	Member
	Dr. T. N. Ghorude	Vice Principal N.B Metha Science College, Bordi	Member
4	Dr. Vilas Karjinni	Principal & Professor KIT Kohlapur	Member
	Dr. R. A. Hegde	Professor & HOD, Civil Engineering, NMIMS	Member
	Mr. Dada S. Patil	Professor, Anjuman-i-Islam's Kalsekar College of Engineering	Member
5	Mr. Ganesh Awhad	Structural Consultant, Awhad Consulting Engineer, Palghar	Member
	Mr. Satish Deshpande	Executive Engineer, CIDCO Palghar.	Industry expert
6	Mr. Dilip Sharma	Assistant Executive Engineer, CIDCO Palghar.	Industry expert
7	1. Dr. Susan Rego	Professor & HOD, Civil Engineering, SJCEM Palghar	Member, Chairperson





Student's Gallery



Sustainability architecture shifts into a high gear- overlooking Bloomberg's miracle

The Bloomberg office building which breathes in heart of London's historic financial district has broken the mould of sustainable design challenge and set new standards for future workplaces. This building was designed for employees so they can be productive and happy in their workspace environment. It was a once in lifetime opportunity that had to literally go around the world to find finest materials. It represents a glimpse into the future. It's a wonderful journey of 4 years of construction diary and explores innovation collaboration and vision.

It's a site with 2000 years of history surrounded by iconic architectural buildings with enormous significance. The first stage of project was doing roman archaeological dig and simultaneously doing the pile driving. On this project underground work was complicated as it included constructing the biggest foundations and piles in London, the deepest one being 70m deep. The project also witnessed the biggest single concrete pouring of nearly 2000 cu m of concrete in one day. Steel framework was fabricated off site and offloaded by tower cranes. The façade was made from two components namely stone structure and bronze films which provided solar shading to the inner spaces. For this Corydon sandstone was selected from Yorkshire at Grant's. 10,000 tonnes of stones was cut to size and mounted on enormous precast beams and columns made up of steel and concrete. The beams as long as 18 m, clad in stones were something that has never been achieved before. Stones on all 318 beams and columns were matched by eye to ensure a graceful continuity of colour. It also consists of complex doubled curved stones made of Carrara marble in Italy. Craftsmanship was done in Japan with highly specialised process known only to Kikukawa factory. Over 800 bronze fins weighting 600 tons were coloured, welded to give the curved shape by complex machines and the finishing was done by hand. 160 thousand Sq. feet of glass weighing up to 900 Kg per unit for building's facades was made in China. Test samples of this serrated glass panels then shipped to Germany for impact test. First obstacle to civil engineers and architects was to create a million Sq. foot building with as few internal walls as possible. To make the heart of building sociable, opening of building has double vortex ramp of 1.8 m wide positioned in double-height reception area. Total runs comprises over 450 tonnes of steel in each of six lengths of ramp which connects seven bridges. To make pantry area beautiful and spacious, they have constructed double height column by providing series of trusses of 28 m long and 3 m deep which removes 4 key columns. Lifts were like forklifts made of glass with assurance of a comfortable ride. This building consists of temperature control unit with natural ventilation with reduction in 73% of water consumption by vacuum flushing, recycled grey water, rain water harvesting and 35% in light energy by implanting integrated leafed shaped ceilings with cooling, LED lighting functions. They have improved intermediate surroundings through art, culture using metallic threads, wool and recycled rubber.

Future is wide open and Bloomberg sets the right example that sustainability and comfort can go hand in hand. Usually construction of a project is very much synonymous to destruction of the environment but Bloomberg London headquarters proudly says that it is not necessarily true and has paved a way into a greener future.



sustainability

-by Darshana Shinde SE Civil



देवातुङ्गीचतरनाहीनाहीलीला



मच्छ, कच्छ,
वराहइत्यादीअवतारानंतरकोरोणाच्या
अवताराततुचतरनाहीनाआला।
खरचयाधरतीवरखुपपापाचावपापीजनां
चाभारअतीझाला।
माणूसस्वतःलाचसर्वश्रेष्ठ, सार्वभौम,
लागलासमजायला।
विज्ञानाचीटिमटीमीलागलासर्वत्रमिरवा
यला।
तुङ्ग्यासामर्थ्याचाविसरत्यालारेपडला।

म्हणूनदेवातुचतरकेलीनाहीनाहीलीला।
कोरोनाचेअवताराततुचतरनाहीनाआ
ला।।

अधर्माचेओङ्ग्याखालीधर्मपारनाहीसा
झाला।
सर्वतुङ्गीचसंतानपणओळखिनाएकमे
काला।
तुङ्गासर्वपरिवारजातीच्यावैमनश्यातवि
भागलागेलाला।

म्हणूनदेवातुचतरकेलीनाहीनाहीलीला।
कोरोनाच्याअवताराततुचतरनाहीनाआ
ला।।

पैशाच्यामोहातमाणूसदुष्टझाला।
विसरतचाललास्वतःच्याजन्मदात्या
ला।
बॉम्ब,
अणुबॉम्बशिवायभाषायेतनाहीत्याला।

तसाहीतोजगाचानिघालासर्वनाशकराय
ला।

म्हणूनदेवातुचतरकेलीनाहीनाहीलीला।
कोरोनाच्याअवताराततुचतरनाहीनाआ
ला।।

मानवताविसरूनमहासत्ताबनण्याची
आसक्तीप्रत्येकाला।
त्यासाठीमानवाचाजीवरेखुपचस्वस्त
झाला।

कोणीकितीहीकिड्या,
मकोळ्यागतमरोतकाहीचनाहीचिंताकु
णाला।
म्हणूनखरीमहासत्ताकुणाचीहेदाखवून
देण्यालातरदेवाकेलीनाहीनाहीलीला।
कोरोनाचेअवताराततुचतरनाहीनाआ
ला।।

खरचतुचअसशीलआलेलातरदेवामाझी
मनस्वीविनंतीतुलासर्वपापीजणांचास
मूळनाशकरूनच
मुक्ततादेयाविश्वालामुक्ततादेयावि
शवाला।

देवातुङ्गीचतरनाहीनाहीलीला।

-आदित्यमानकर

TE Civil



What is Artificial Intelligence?

Artificial intelligence (AI) sometimes called machine intelligence, is intelligence demonstrated by machines, unlike the natural intelligence. Some books defines AI as any device that perceives it's environmental and takes action that maximize it's chance of successfully achieving goals

AI is computer system able to perform tasks that ordinarily require human intelligence. Many of these artificial intelligence systems are powered by machine learning, some of them are powered by deep learning and some of them are powered by very boring things like rules.

There are a number of different forms of learning as applied to artificial intelligence. The simplest is learning by trial and error method. For example, a simple computer program for solving mate in one chess problems might try moves at random until mate is found.

The long term economic effects of AI are uncertain. A survey of economists showed disagreement about whether the increasing use of robots and AI will cause a substantial increase in long term employment, but they generally agree that it could be a net benefit, if productivity gains are redistributed. The relationship between automation and employment is complicated.

There are some of the most popular examples of artificial intelligence that is being used today Siri, Alexa, Tesla, Cogito, Boxever, Netflix, Amazon. Etc. Philip Dick considers the idea that our understanding of human subjectivity is altered by technology created with artificial intelligence.

-Jaidev Gupta SE Civil



You did it! *Congratulations*

Topper Students



Suraj Thakur
1st Rank



Priyanka Desai
1st Rank



Yash Pethe
1st Rank



Aashi Upadhyay
2nd Rank



Darshan Verma
2nd Rank



Ravi Khatik
2nd Rank



Suresh Suthar
3rd Rank



Ankur Marathe
3rd Rank



Akshay Chate
3rd Rank



Alumni Review



Achievements-applauds, opportunities-thoughts, this is what I gained from St. John College of engineering and management. SJCEM gave me a platform that I will cherish always. Someday I won and some days I learned. SJCEM always held my back, from inspiring words of our Chairman sir and Principal Sir to petty sweet scolding of our beloved teachers, my life in SJCEM was and will be the best experience. I can ever get from my life. This college let us fall by our own but made us climb on the ladder to success.

- **Viral Gala.**

Asst. Manager,
Generic engineering construction
and projects ltd, Vikhroli West,
Mumbai



Feels like yesterday, when I stepped into SJCEM in Civil Department. Every memory is still so afresh in the mind and the experiences and lessons to strive for excellence imbibed back then still exist. From being naive & to a friend to all, I introduce myself as an alumna of the class of 2017 Civil Engineering. It's always sad to leave your nest but I think it's really important to explore the world and never to settle, after all, we all were taught to 'explore our potential'. I started my career as a Govt. Contractor in Boisar, Palghar. No matter where you go, there are few things which will never leave you- the lessons learned in those classes which you didn't want to attend, the friends you met in those 4 years of life with whom you always try to stay in touch and that one place where you always wish to go back to time but can't.

- **Akshay Nandgawle**

Galaxy enterprises
Govt. Approved Contractor
Boisar, Palghar



I was ambitious; I wanted to be a successful technocrat in Civil Field. SJCEM allowed me the ability to achieve my goal. Being a student of Civil branch. Being alumni of SJCEM I was blessed with a very good lectures and friend circle. Before joining engg college my eyes were full of dreams like every other engg aspirant. And after joining wit, in spite of all d struggle. We enjoyed every moment there. We witnessed a lot of development n good things for which our teachers were working very hard. And after graduation when I came to the competitive world, I realized that we gained lot of knowledge in our college. What all matters to the outer world is knowledge. So, believe in yourself, study honestly and you'll come out with all the flying colours. Always remember you join a UG college as student but you come out as an individual.




- **Anjali Singh**

SNC- lavalin engineering India
Pvt.ltd.

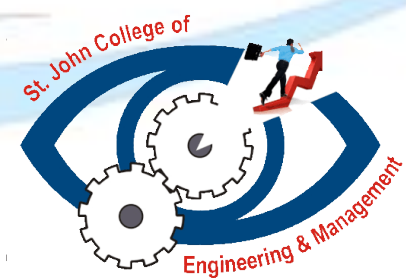
Editorial Team

The editorial board is Glad to release the current issue of "CONSTRUCTO" online magazine, Dec 2019. The magazine provides a perfect platform to highlight the literary and artistic segments of the SJCEM (Department of Civil Engineering) family. The purpose of this departmental magazine is to unlock the hidden potential within the students and helped the students for self-motivation. I want to extend my sincere thanks to my editorial team for the support to make this magazine stand out.

The editorial board welcomes the comments and suggestions to improve the quality of magazine. I would like to thank students, teaching & non-teaching staff for your kind & continued support in the progress of this department. May the Almighty God shower his choicest blessings upon all. Be true to yourself, help others, and make each day your masterpiece.

Faculty Co-ordinator	Student Co-Ordinator
 Ms. Swati Dhurve Chief Editor	 Akshay Salvi (SE) Student Editor
	 Ravi Khatik (TE) Student Editor
	Dharmik Patil (SE) Graphic Designer

Thank You



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