# **Department of Civil Engineering**

# **GOVERNMENT POLYTECHNIC KHAMGAON**

(Under Directorate of Technical Education, Maharashtra Government)



Vol. No. 02 | 10 June 2022

http://www.gpk.edu.in/

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• Mr. M. D. Ghodle

Co - Editor

• Mr. P. V. Theng

### **Publisher**

• Mr. V. T. Atole (HOD, CE Dept.)

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  - Dr. P. V. Bahekar
  - Mr. S. B. Fadtare

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# **VISION:**

"To be an outstanding department dedicated to provide competent technical manpower catering to needs & challenges of industry & society."

### **MISSION**

Department of Civil Engineering is committed to:

- 1] To create Civil Engineers with essential knowledge, technical skills & ethical values to serve the industry & society.
- 2] To provide the resources that contributes to effective learning environment.
- 3] To promote innovative thinking & lifelong learning with industry interaction.

# **PROGRAM OUTCOME (POS)**

- POS 1. Basic and Discipline specific knowledge: Apply knowledge of basic mathematics, science and engineering fundamentals and engineering specialization to solve the engineering problems.
- POS 2. Problem analysis: Identify and analyze well-defined engineering problems using codified standard methods.
- POS 3. Design/ development of solutions: Design solutions for well-defined technical problems and assist with the design of systems components or processes to meet specified needs.
- POS 4. Engineering Tools, Experimentation and Testing: Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.
- POS 5. Engineering practices for society, sustainability and environment: Apply appropriate technology in context of society, sustainability, environment and ethical practices.
- **POS 6. Project Management**: Use engineering management principles individually, as a team member or a leader to manage projects and effectively communicate about well-defined engineering activities.
- **POS 7. Life-long learning:** Ability to analyse individual needs and engage in updating in the context of technological changes.

# PROGRAM SPECIFIC OUTCOMES (PSOS):

- **PSO 1. Construction, Planning and Designing:** Perform optimal Civil Engineering construction planning and designing activities of desired quality.
- **PSO 2. Construction, Execution and Maintenance:** Execute Civil Engineering constructions and maintenance using relevant materials and equipment's.
- **PSO 3. Local Need Aspect:** The application of maintaining and operating new & existing infrastructure while protecting the public and environmental health.

# PROGRAM EDUCATIONAL OBJECTIVES (PEOS):

- **PEO 1:** Provide socially responsible, environment friendly solutions to Civil engineering related broad-based problems adapting professional ethics.
- **PEO 2:** Adapt state of the art Civil engineering broad based technologies to work in multi-disciplinary work environments.
- **PEO 3:** Solve broad based problems individually and as a team member communicating effectively in the world of work.

# From Editor's Desk...



# Dear Readers,

It is indeed a great honour to be the Newsletter Editor for the Civil Engg. Department and it is an immense pleasure to launch this edition for June 2022.

In this issue, we will recount the various projects and activities in which department is actively involved. Few points I would like to highlight here are, regular departmental activity, bridge course for practical's of course for second year and final year, different technical site visit , arranging expert lecture, and various CESA activities along with NBA preparation .

Finally, huge thanks to Shri.S.P.Thotange (EE PWD), Shri. J.N.Kale (AEE PWD), Mr. N.U.Dhawale (Govt. Contractor), Shri. Rajesh Mantri Sir, Shri. A. A.Patil Sir, All Civil Engineering Faculty and students who has contributed for the wonderful writing, without which this newsletter issue wouldn't have been completed. Last but not least, I would like to thank Shri. Vijay.T. Atole (I/C HOD, CE), Shri. P.V.Theng (Co-Editor), for everlasting support throughout the creation of this edition.

# Shri. Manas D. Ghodle

Lecturer, CE

# From Principal's Desk...



Dear Readers,

# The Journey Of Thousand Miles Starts With A Small Step!

It is an honor and a thing of pride to be a part of an institute which has long legacy of success. Government polytechnic khamgaon basically, caters to the needs of rural area in and around Buldana district.

It is very much complimented by Community polytechnic to serve the purpose of technical education of all strata of society. Government Polytechnic Khamgaon was founded in 1961. It started with three core branches viz. Civil Engg., Mechanical Engg. & Electrical Engg. Later it spread its wings and began two branches named Computer Engg. & Electronics Engg.

Government Polytechnic Khamgaon is a stepping stone in the shine of Vidarbha region. Institute has given numerous engineers to the society since 1963. They are servings to the best of their capacity because of the strong foundation and platform provided by Government Polytechnic Khamgaon. That's why Institute has always been sought after by students all over Maharashtra. The cream and meritorious students are further trained and polished with required engineering skills and human values, so that society gets skilled engineers and good human beings.

After taking over the charge of such a vibrant campus, it's an opportunity and challenge for me as an engineer and Principal.

The challenge is very much accepted by starting technical activities like internships, MOOCS, industrial visits, expert lectures in the field of engineering, soft skills and so on.

New ideas, suggestions, corrections are welcomed so that Government Polytechnic Khamgaon will be on national and international horizon inthe field of engineering.

The woods are lovely, dark and deep But I have promises to keep And miles to go before I sleep And miles to go before I sleep

Dr. Sameer S. Prabhune Principal G. P. Khamgaon

# From HOD's Desk...



# Dear Readers,

It gives me immense pleasure to lead the department of Civil Engineering.

Education is recognized to be primarily a process of getting students absorb new ideas and ways of thinking to prepare them for life.

Civil Engineering is a broad field of engineering which involves the building of various structures like Roads, Railways, Airports, Tunnels, Aqueducts, Dams, Retaining walls, Cannels, Culverts, Buildings, Water tanks, Water Supply lines, Drainage lines etc. It involves planning, Design, Construction, Maintenance and Management of Structures.

Civil Engineering Department of Government Polytechnic Khamgaon aims at developing analytical and experimental skills in students to apply in various fields of Civil Engineering.

The Civil Engineering Department has well-qualified teaching faculties with industrial experience who are enthusiastic in imparting the quality teaching to the students along with different expert lecture from Expertise in the field. The emphasis is laid on a proper understanding of the fundamentals of the subjects through site visits, industrial training, PPT, Video clips and case studies. It has well-equipped laboratories, computational facilities, classrooms and provides a good environment for learning. All faculty members are also engaged in research and consultancy projects which benefit the students for active learning. The department also has its own library housing a good number of quality reference books for the benefit of staff and students.

I will assure that our students will prove to be an invaluable asset to society and industry. Our Objectives:

- 1. To provide sound academic environment to students for a complete learning experience.
- 2. To provide state-of-the-art technical infrastructure and motivate students to realize their own potential.
- **3.** To promote the technical skills and ensure all-round development of the students. I wish all the Students and Faculty a great academic career.

Shri.V.T . Atole I/C Head of Department Civil Engineering

# Learn from Home

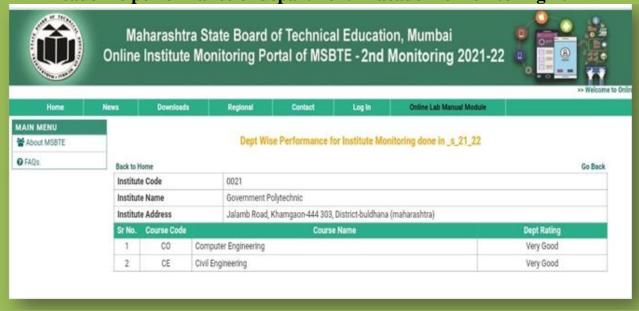
Different modes of online learning i.e. Google meet, Zoom meet, You tube, Google classroom etc. are effectively used by the department from the last one and half year for better understanding of students.



# EIMC visit to Department

As per the policy of Maharashtra state Board of Technical Education, Mumbai, external academic and institute monitoring is carried out once in academic year. In this A.Y 2022-2023, External institute monitoring committee i.e. EIMC visited our institute and department in April 2022. Dr. A. A.Gulhane sir (Principal, G. P. Achalpur) was the chairman of EIMC, while Mrs. SushmaBailmare Madam, Mrs. R.S.Majgaonkar, were the members. EIMC team throughly observes the teaching learning process and NBA work done by department and also share their experience regarding NBA. At last EIMC team gave best wishes for the NBA.

# Academic performance of department in academic monitoring 2021-22



# **Faculty Achievement 2021-22**

# Mr. Vijay T. Atole (I/C HOD Civil Engg. Department) has successfully completed;

- 1) One week online FDP on "Advance surveying instruments & techniques" organized by AICTE & AISSMS, Pune from June 16 to June 22, 2021.
- 2) One week online FDP on "Advance surveying instruments & techniques" organized by AICTE & AISSMS, Pune from June 16 to June 22, 2021.
- 3) Online FDP on "Renewable energy-A future alternative" organized by ATAL Academy, New Delhi during January 17 to January 21, 2022.
- 4) Online FDP on "Role of technical institution in community development" organized by NITTTR, Bhopal during Feb. 07 to Feb 11, 2022.
- 5) "Utilization of E-waste in construction industry" organized by AICTE, during January 18 to January 23, 2022.

# Mr. Sachin R. Soni (Lecturer in Civil Engg.) has successfully completed;

- 1) one week online FDP on "Emerging Trends in Energy Management and Energy Audit" during 17May to 22 May 2021 organized by Government Polytechnic, Amaravati.
- 2) one week online FDP on "Advance surveying instruments & techniques" organized by AICTE & AISSMS, Pune from June 16 to June 22, 2021
- 3) one week online FDP on "Renewable energy A future alternative (AICTE- ATAL)" organized by Government Polytechnic, Thane during Jan. 17 to Jan. 21, 2022
- 4) Two week online FDP on "Industrial Training in Additive Manufacturing & its Applications" organized by Ministry of Electronics & Information Technology, Govt. of India during Feb. 02 to Feb. 15, 2022.
- 5) Two week online FDP on "Industrial Training in robotics process automation" organized by NIELT, Aurangabad & MSBTE Mumbai during March 21 to April 01, 2022.

# Dr. Prasad V. Bahekar (Lecturer in Civil Engg.) has successfully completed;

- 1) One week online FDP on "Startup motivations to students" organized by AICTE & AISSMS, Pune from June 16 to June 22, 2021.
- 2) Two week online FDP on "Industrial Training in Additive Manufacturing & its Applications" organized by Ministry of Electronics & Information Technology, Govt. of India during Feb. 02 to Feb. 15, 2022.
- 3) Two week online FDP on "Industrial Training in robotics process automation" organized by NIELT, Aurangabad & MSBTE Mumbai during March 21 to April 01, 2022.

# Mr. M.D.Ghodle (Lecturer in Civil Engg.) has successfully completed;

- 1) Eight week online Teacher Training on "Module 3: Communication Skills, Modes and Knowledge Dissemination" during 01 Sept. to 31 Oct. 2021 organized by AICTE & NITTT.
- 2) One week online FDP on "Strategies to improve R & D Activities in Engineering Institutes" during 27 Sept. to 01 Oct. 2021 organised by SRES, Sanjivani College of Engineering, Kopargaon.
- 3) One week online Industrial Training on "Robotics Process Automation (RPA)" during 21 Feb.to01 Apr. 2022 organized Jointly by organised by MSBTE Mumbai and M/s. National Institute of Electronics & Information Technology, Aurangabad.

# EDUCATIONAL VISIT at JIGAON PROJECT 2021-22 (CE-6I) Date:24/03/2022





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# Visit at Jigaon project

Educational Visit is arranged at jigaon project, to study the construction of earthen dam.

It is a major irrigation project at Nandura Taluka in Buldhana District. It involves construction of earthen dam with gatedspillway, it is irrigation project through Lift Irrigation Scheme.







# EDUCATIONAL VISIT at YERALI BRIDGE (CE-61) Educational Visit is arranged atyeraliMajor bridge consisting of 1080 mtr. Length over Purna river.

# EDUCATIONAL VISIT TO AUDITORIUM HALL N.P.KHAMGAON (CE-4I)



Educational visit is arranged at Auditorium Hall under construction costing Rs. 7 cr. By Municipal Council, Khamgaon. For the better understanding ofstudents to know more technical and practical knowledge about materials and construction processes .









# AnandSagarShegaon: A Majestic Oasis of Tranquillity

Greetings to all the readers!

Today, I am delighted to take you on a virtual tour of a magnificent destination that holds a special place in the hearts of many - AnandSagarShegaon. Located in the serene town of Shegaon in Maharashtra, AnandSagar is a breathtaking oasis that offers a perfect blend of spirituality, nature, and tranquility.



As civil engineering students, we not only study the science and principles behind construction and infrastructure but also appreciate the beauty and significance of well-designed spaces. AnandSagar stands as a testament to the marvels of architecture, landscape design, and sustainable development.

Spread across a vast area of lush greenery, AnandSagar showcases an amalgamation of religious devotion and natural splendor. The centerpiece of this enchanting oasis is the magnificent Shri GajananMaharaj Temple, dedicated to the revered saint GajananMaharaj. The temple's architectural grandeur, intricate carvings, and peaceful ambiance create an aura of spiritual bliss for devotees and visitors alike. Apart from the temple, AnandSagar boasts an array of captivating attractions. As you explore the premises, you will encounter beautifully manicured gardens, serene water bodies, and well-designed pathways. These elements not only enhance the visual appeal but also provide a soothing environment for visitors to relax and rejuvenate.

One of the highlights of AnandSagar is the breathtaking musical fountain show. This captivating spectacle combines water, light, and music in perfect harmony, creating a mesmerizing experience for everyone. As the water dances to the rhythm of the melodious tunes, spectators are transported into a world of enchantment and wonder.

AnandSagar also offers a delightful boating experience in its tranquil lake. The serene waters and picturesque surroundings make it an ideal spot for spending quality time with family and friends. The joy of gliding through the gentle ripples of the lake amidst the backdrop of scenic beauty is truly a memorable experience.

Furthermore, AnandSagar houses a museum that showcases the life and teachings of Shri GajananMaharaj. The museum provides a glimpse into the saint's profound wisdom, teachings, and the impact he had on the lives of his followers. It serves as an enlightening space for spiritual seekers and those interested in the rich cultural heritage of Maharashtra.

AnandSagarShegaon is not only a tourist destination but also a symbol of community development and social initiatives. The premises include a hospital, a school, and a residential complex for pilgrims. These facilities are a testament to the dedication and vision of the organizers to create a holistic space that caters to the needs of the community.

As civil engineering students, we are inspired by the meticulous planning, engineering marvels, and sustainable practices evident in the development of AnandSagarShegaon. The seamless integration of architecture, landscaping, and infrastructure showcases the immense potential and impact our field has on shaping the environment around us.

I encourage all of you to plan a visit to AnandSagarShegaon and experience the tranquil ambiance, spiritual bliss, and architectural splendor firsthand. It is a place that not only connects us with our rich cultural heritage but also offers a respite from the hustle and bustle of everyday life.

Let us appreciate the marvels of AnandSagarShegaon and continue to explore and learn from the wonders of civil engineering that surround us.

Wishing you all a fulfilling journey in the world of engineering and beyond.

--- Sakshi Tayade, 3rd Year Student of Civil Engineering,

# PARTICIPATION OF STUDENTS IN DIFFERENT CURRICULAR, CO-CURRICULAR &EXTRA CURRICULAR ACTIVITIES



### RANGOLI COMPETITION ON THE OCCASION OF "SHIVSWARAJY DIN"



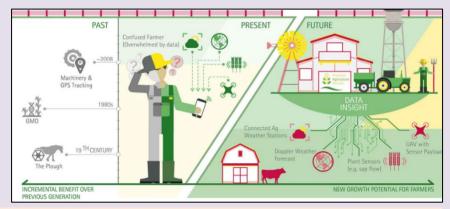




RangoliCompete tion is arranged on the occasion of Shivswarajya Din& National Voters day. Students of civil dept. participate in this events & win prizes.

# ADAVANCE SURVEYING TECHNIQUES

Surveying plays crucial role in construction providing projects, accurate measurements and for data design, planning, and implementation. In the Indian context, the field of surveying has witnessed significant



advancements and the emergence of new techniques. This article highlights the recent developments in surveying and their implications for construction projects in India.

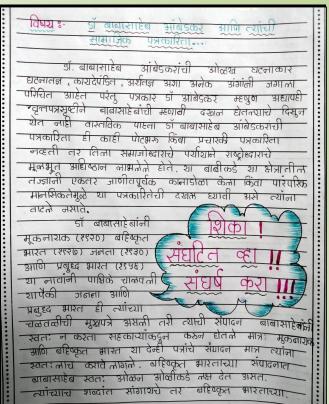
- 1. **LiDAR Technology:** Light Detection and Ranging (LiDAR) technology has gained popularity in Indian construction projects. LiDAR systems use laser pulses to measure distances and create high-resolution three-dimensional (3D) models of the surveyed area. This technology enables faster and more accurate data collection, especially for large-scale projects like infrastructure development and urban planning. LiDAR is particularly beneficial for topographic mapping, contouring, and detecting changes in land features over time.
- 2. **Drone Surveying:** Unmanned Aerial Vehicles (UAVs), or drones, have revolutionized surveying in the Indian construction industry. Drones equipped with high-resolution cameras and GPS receivers can capture aerial imagery and create detailed maps of construction sites. This technique provides a cost-effective and efficient way to monitor project progress, identify potential issues, and generate accurate topographic data. In India, drone surveying has been instrumental in infrastructure projects, land management, and disaster management.
- 3. Global Navigation Satellite Systems (GNSS): Global Navigation Satellite Systems (GNSS), including the Indian Regional Navigation Satellite System (IRNSS), have greatly improved the accuracy and precision of surveying in India. With the integration of satellite-based positioning, GNSS enables surveyors to determine the exact coordinates of points on the Earth's surface. This technology allows for real-time positioning, efficient data collection, and seamless integration with other surveying instruments and software. GNSS has been extensively used in Indian construction projects, such as road networks, railways, and smart city developments.
- 4. **Terrestrial Laser Scanning**: Terrestrial laser scanning, or 3D laser scanning, has gained prominence in the Indian construction industry. This technique involves the use of laser beams to capture millions of data points, creating a detailed and highly accurate representation of the surveyed object or area. Terrestrial laser scanning enables surveyors to obtain precise measurements, even in complex and inaccessible terrain. It has found applications in Indian construction projects, including heritage conservation, industrial plant layouts, and urban infrastructure development.
- 5. **Mobile Mapping Systems**: Mobile Mapping Systems (MMS) have been increasingly adopted in Indian construction projects. MMS combine various surveying technologies, such as LiDAR, GNSS, and cameras, into a single platform. MMS are typically mounted on vehicles or drones and can capture data while moving, allowing for rapid and efficient surveying of large areas. This technique is particularly useful for highway and railway projects, urban planning, and asset management in India. The recent advancements and new techniques in surveying have transformed the way construction projects are planned and executed in India. Technologies like LiDAR, drone surveying, GNSS, terrestrial laser scanning, and mobile mapping systems have significantly improved the accuracy, efficiency, and cost-effectiveness of surveying. As civil engineers, it is essential to stay updated with these developments and leverage them to enhance project outcomes and meet the evolving demands of the Indian construction industry.

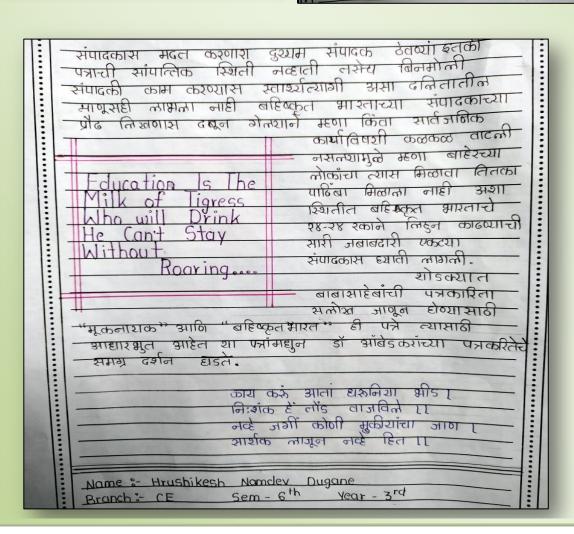
Mr. V T Atole

**HOD, Civil Engineering Department.** 

# ESSAY COMPETITION ON THE OCCASION OF "SHIVSWARAJY DIN"







# POSTER PRESENTATION COMPETITION ON THE OCCASION OF "मराठी भाषा दिन"

# शासकीय तंत्रनिकेतन, खामगांव जिमखाना विभाग २०२१-२२ मराठी भाषा दिन-२०२२ : भित्तीचित्र स्पर्धेचा निकाल

प्रथम क्रमांक कु.भाज्यश्री अरुण अढाव अंतिम वर्ष यंत्र व्दितीय क्रमांक ऋषीकेश नामदेव दुगाने अंतिम वर्ष स्थापत्य तृतीय क्रमांक कु.साक्षी दिनेश दुटे अंतिम वर्ष स्थापत्य



सर्व विनेत्यांचे मनःपूर्वक अभिनंदन



प्रा.प्रकाश निळ जिमखाना सचिव प्रा.राजेश मंत्री जिमखाना उपाध्यक्ष प्रा.डॉ.समीर प्रभुषे प्राचार्य व जिमखाना अध्यक्ष

सर्व विजेत्यांना वार्षिक पुरस्कार वितरण सोहळ्यात सदर पुरस्कार वितरीत करण्यात येतील.





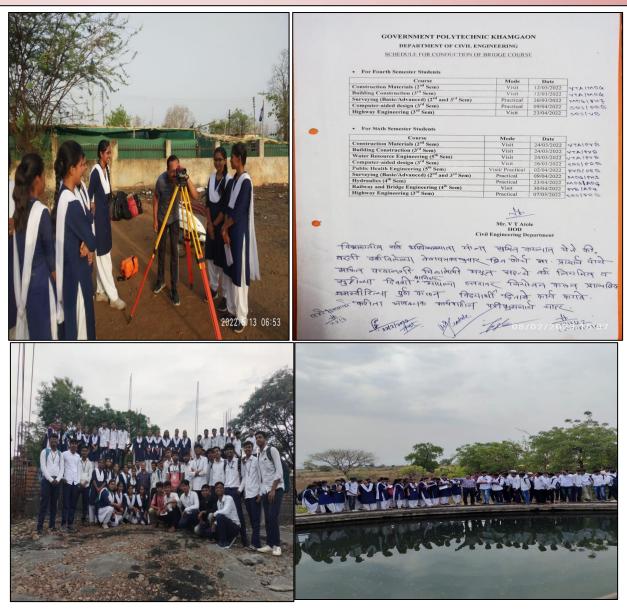


On the occation of Engineers
Day Students of Civil Engg.
Dept. Participated in the
Poster Presentation
competition & win Prizes.

# Bridge Course Activity during 2021-222

A bridge course for newly admitted students was conducted during the academic year 2021-22 by the civil Engg. Dept.as during pandemic all classes were held online mode because of that students missed out lot of practical contents and site visits which is to be performed in the laboratory or in the field.

To fulfill this purpose on department level we arrange the practical classess and different site visits for the fourth & sixth semester students before the commencement of the their semester classes. The main objective of the course is to bridge the gap between subjects studied in pandemic situation and subjects they would be studying in regular semester after pandemic in offline mode.





# RETIREMENT FUNCTION OF MR. G.V.UMALE SIR (HOD CIVIL ENGG. DEPT.)



Mr. G.V.Umale sir (HOD Civil Engg Dept.) is get retired on 31 JAN. 2022. He is an excellent, creative, and hardworking teacher. Throughout his33 years of service, he had humbly give his effort towards the development of students and department ultimately his experience help us in tough situations. His presence in the department is deeply missed by us.





### EXPERT/ALUMNI LECTURE ORGANISED BY DEPARTMENT 2021-22

The invitation of experts as guest lecturers offers students the opportunity to meet passionate, committed and expert peoples and to learn from them in various ways. Guest lecturers provide an important educational experience for students based on their real-world life experiences. Students get to see the insight and perspective of the guest lecturers' specific field. The format can enable students to interact with professionals in formal and informal ways. Through discussions, interpersonal competence and communicative skills are fostered. Guests' contributions can take the format of a single lecture, a lecture series over a specific period or workshops.

Another benefit is the link that students get to make between what they learn in their textbooks and the experiences shared by the guest speaker. Students thereby build important connections between what they have learned and the real world.

Guest/Alumni lecturers can act as role models and bring an authentic, vivid picture of the real world to students, thereby enabling trans disciplinary learning. Experiences and perspectives from local actors and entrepreneurs inspire students in their own (entrepreneurial) projects, creating motivation and an action-orientation. They bring in special expertise and experiences that teachers cannot provide.

# List of Expert Lectures organized by Department

Sr. No.	Date	Topic of Expert Lecture	Resource person	No. of Beneficiary
1	01/09/2021	Organization of PWD (Online mode)	1) Mr. S.P.Thotange (EE PWD) 2) Mr. J.N.Kale (Dy. Engg.PWD)	CE-6I
2	17/09/2021	Tender Procedure (Online mode)	1) Mr. S.P.Thotange (EE PWD) 2)Mr. J.N.Kale (Dy. Engg.PWD)	CE-6I
3	20/10/2020	Brief view of EAC (Online mode)	Mr. RajendraPachekar (Lect. CED GPA)	CE-5I
4	26/11/2021	Taking Out Quantities	Mr. J.N.Kale (Dy. Engg.PWD)	CE-5I 80 Students
5	04/12/2021	Advance Surveying Equipments	Mr. R.P.Patil (Civil Engg. & Contractor)	CE-5I 78 Students
6	15/01/2022	Tender and tender documents	Mr. J.N.Kale (Dy. Engg.PWD)	CE-5I 80 Students
7	21/04/2022	Organization Structure of PWD	Mr. HarshalKadukar (AE-I MJP Nagpur)	CE-6I 80 Students
8	30/04/2022	Working as a contractor in construction field	Mr. N.U.Dhawle (Civil Engg. & Contractor)	CE-6I 80 Students
9	10/05/2022	Entrepreneurship development skills	Mr. P. Sonawane (Owner of Goldson industry)	CE-6I 79 Students

# **Faculty Speaks:**

# 10 HABITS TO BECOME AN EFFECTIVE STUDENT!!!



The key to becoming an effective student is learning how to study smarter, not harder. This becomes more and more true as you advance in your education. So if you want to become a successful student, don't get discouraged, don't give up, just work to develop each of the study habits below and you'll see your grades go up, your knowledge increase, and your ability to learn and assimilate information improve.

1. Do not attempt to cram all your studying into one session -

Successful students typically space their work out over shorterperiods of time and rarely try to cram all of their studying into just one or two sessions. If you want to become a successful student then you need to learn to be consistent in your studies and to have regular, yet shorter, study periods. 2. Plan when you're going to study - Successful students schedule specific times throughout the week when they are going to study & then they stick with their schedule & you get a time to review your courses will ensure you develop habits that will enable you to success in education.3. Study at the same time - Not only is it important that you plan when you're going to study, it's also important you to create a consistent, daily study routine, then that will become a regular part of your life. You'll be mentally and emotionally more prepared for each study session and each study session will become more productive. 4. Each study time should have a specific goal - Simply studying without direction is not effective. You need to know exactly what you need to accomplish during each study session. 5. Never procrastinate your planned study session - Successful students DO NOT procrastinate studying because then that will become much less effective and you may not get everything accomplished that you need to. **6. Start with the most difficult subject first -** As your most difficult assignment or subject will require the most effort and mental energy, you should start with it first. Believe it or not, starting with the most difficult subject will greatly improve the effectiveness of your study sessions, and your academic performance.7. Always review your notes before starting an assignment -Before you start each study session, and before you start a particular assignment, review your notes thoroughly to make sure you know how to complete the assignment correctly. Reviewing your notes before each study session will help you remember important subject matter learned during the day, and make sure your studying is targeted and effective. 8. Make sure you're not distracted while you're studying - Everyone gets distracted by something. Maybe by TV, Radio or Mobile Phone or may be family members, will lead to very ineffective studying. So, before you start studying find a place where you won't be disturbed or distracted. 9. Use study groups effectively - Studying in groups enables you to get help from others when you're struggling to understand a concept, complete assignments more quickly, and teach others, whereby helping both the other students and yourself to internalize the subject matter. 10. Review your notes, schoolwork and other class materials over the weekend - Successful students review what they've learned during the week over the weekend. This way they're well prepared to continue learning new concepts that build upon previous coursework and knowledge acquired in the previous week.

Shri Rajesh Mantri,

Lecturer in Mechanical Department, Government Polytechnic, Khamgaon

# Mindfulness and Meditation...



Mindfulness can be described as the practice of paying attention in the present moment, and doing it intentionally and with non-judgment. Mindfulness meditation practices refer to the deliberate acts of regulating attention through the observation of thoughts, emotions and body states. Typical mindfulness activities include:

• Mindful non-judgmental awareness of breath, body, feelings, emotions and/or thoughts (in sitting meditation practice or throughout the day)•Mindful walking meditation•Mindful

eating•Mindful body scans in a sitting or lying down position• Listening with non-judgment.

### What can mindfulness do for students?

- **Reduced Stress**: Improved ability to manage stress.
- Increased Focus: Improved ability to pay attention, focus and concentrate.
- •Improved Emotion Regulation: Reduced impulsiveness, improved child behavior.
- Increased Emotional Intelligence: Improved conflict resolution skills
- Increased Empathy and Respect: Increased empathy and understanding of others
- Increased Resilience: Increased capacity to overcome challenges
- Improved Physical Well-being: Increased engagement in physical activity
- Improved Creativity & Collaboration: Improved expression of creative arts.

Students will find it much easier to focus and actively engage in the classroom. The class will benefit as a whole from a collective calm. These skills can also be applied to maturely navigate challenging peer or family interactions. Students will be less likely to abuse others, and those students who are abuse will be more resilient. Students are also less likely to engage in high-risk behaviors as they will be calmer and less reactive.

### What can mindfulness do for teachers?

- Reduced stress and burnout (and reduced absenteeism from stress and burnout related conditions)
- Improved learning conditions
- More easily managed classrooms
- Positive bilateral teacher-student relationships.

Teachers will be able to spend more time teaching and less time managing the classroom and also be better equipped to handle the stresses of work. Teachers teaching students that are practicing mindfulness will also find students to be better mentally equipped to learn.

# Mr. AmeyPatil,

Lecturer. Electronics and Communication Engineering.

# **Automation in Construction Industry - Rural Aspect**

The construction industry plays a pivotal role in the development of rural areas, providing essential infrastructure and improving the overall quality of life. With the rapid advancements in technology, automation has emerged as a game-changer, revolutionizing the construction industry worldwide. This article explores the application of automation in the rural aspect of construction and its potential benefits.



Enhancing Efficiency: Automation in construction

brings significant improvements in efficiency and productivity. Rural areas often face challenges due to limited resources and a shortage of skilled labour, making construction projects time-consuming and costly. By implementing automated construction processes, such as using robotic systems and autonomous machinery, the overall efficiency of projects can be greatly enhanced. Tasks that would typically require hours or days to complete manually can now be accomplished swiftly and accurately with the help of automation.

**Reducing Labour Intensity:** One of the major benefits of automation in rural construction is the reduction in labour intensity. Construction projects in remote areas often struggle to find skilled workers, leading to delays and increased costs. Automation technologies can minimize the dependence on manual labour and allow the completion of tasks with fewer workers. This not only reduces labour costs but also mitigates the risks associated with hazardous construction activities, ensuring improved safety standards.

**Quality Assurance:** Automation in construction also ensures better quality control in rural projects. With the use of advanced monitoring systems and sensors, construction activities can be constantly monitored and analysed. This helps in identifying potential issues or deviations from design specifications at an early stage, allowing for timely interventions. By minimizing errors and maintaining higher standards, automation contributes to the overall quality and durability of rural infrastructure.

Cost-effectiveness: Although automation technologies may initially require a significant investment, they prove to be cost-effective in the long run. In rural construction, automation can streamline processes, optimize resource utilization, and reduce material wastage. By achieving higher levels of accuracy and efficiency, projects can be completed within budget and with reduced maintenance requirements. Moreover, automation helps in minimizing the project's environmental impact by optimizing resource consumption and reducing carbon emissions.

Challenges and Adoption: While the benefits of automation in rural construction are evident, there are several challenges to its widespread adoption. Limited access to advanced technologies, lack of awareness, and the need for skilled technicians are some of the hurdles that need to be overcome. Therefore, it is imperative to bridge the knowledge gap by providing training programs and promoting awareness among construction professionals and workers in rural areas.

Overall, automation in the construction industry holds immense potential to transform rural development. By embracing automated construction processes, rural areas can experience improved efficiency, reduced labour intensity, enhanced quality, and cost-effective project delivery. To fully harness the benefits of automation, it is crucial for stakeholders, including government bodies, educational institutions, and industry professionals, to collaborate and invest in the necessary infrastructure and skills development.

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