

Shri Balasaheb Mane Shikshan Prasarak Mandal, Ambap's
ASHOKRAO MANE GROUP OF INSTITUTIONS

Vathar Tarf Vadgoan Tal:Hatkanangale Dist:Kolhapur 416 112, www.amgoi.org

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Civilization

**Department of Civil Engineering
News Letter and Technical
Magazine**

2016-17

Ashokrao Mane Group of Institutions is one of the 'Rural-semi Urban-society centered and focused educational institute's group. When Ashokrao Mane dreamt of education, Shri Balasaheb Mane Shikshan Prasarak Mandal took its birth, with a holy intension bridging the gap between 'literate & illiterate'. Shikshan Prasarak Mandal's founder President Ashokrao Mane believed that, it is need of rural India to establish different educational Institutes. Accordingly, near about 30 various educational institutes are established for quenching the thirst of knowledge oriented people. The educational campus is located at Vatar Turf Peth Vadgaon; Tal-Hatkanangale; Dist-Kolhapur. The campus is spreaded across 20 acres of lush greenery with well planed infrastructure.

Institute Vision

To become a globally renowned institute of excellence in technology and management education for rural community

Institute Mission

- To achieve excellence in technical and management education through effective teaching learning process.
- To develop professionals having values of ethics, lifelong learning, team work and social responsibility.
- To inculcate research and development culture.
- To enhance industry- institute interaction.
- To empower the rural community.
- To implement outcome based education (OBE).

Department Vision

To develop proficient civil engineers by providing quality technical education to fulfill the global needs.

Department Mission

- ❖ To enrich the domain knowledge and employability of the student through quality education.
- ❖ To promote the exploratory culture by application of modern tools and techniques.
- ❖ To develop concrete alumni and industry-institute interaction to culminate in research and development.
- ❖ To cultivate professional, social, ethical and lifelong learning skills among the students.

About Department

Civil Engineering Department was established in 2009. Department is steadfast on focus on students overall development with sincere effort of faculty & staff members.

Department with its excellent infrastructure, advanced liberalities & computing facilities is extending unlimited opportunity to students, to develop, to their full potential & abilities & to make them a Good Engineer. Department having number of digital instruments in different laboratories viz. total station (Pentax) in surveying laboratory. Department of Civil Engineering is active in promoting students for curricular & Extra-curricular activities.



**Dr. D.N. Mudgal,
Executive
Director, BMSPM.**

Greetings from BMSPM !!! We are working at AMGOI with a vision of India 2020, to bring progressive changes in Science, Engineering and Technology. Civil engineering is one of the branches which contribute for the prosperity of our country.

It is great to notice that interesting events are taking place frequently at our campus. All of us are equally delighted to witness the happenings of significant events and tremendous achievements. I wish to record my Heartily Congratulations to those who have brought laurels to the institution and I appreciate all of you for working together as a team. I am sure, it is just a beginning and there is lot more to be happening. Go ahead and continue the good work. I wish you all the best for achieving greater success and scaling newer heights in your education and career ahead.

**Dr. K. Ravi,
Director AMGOI.**



I am happy to note that the Department of Civil Engineering is releasing its Annual Newsletter enumerating the various activities and achievements of their faculty and students. It is clear that the department is striving hard to make a mark in this Institution by way of its academic growth. I congratulate all the students who have put their mite in bringing forth this edition consolidating the annual report of their department. I also congratulate all the faculty members and the HOD for motivating their students towards this fulfillment. I wish each one of them in the Department success in all their endeavors.



Prof. A.V. Karvekar,
H.O.D.,
Civil Engineering Department,
AMGOI.

A warm and affectionate welcome from the Department of Civil Engineering. Civil Engineering is a professional engineering discipline that deals with the design, construction and maintenance of the physical and naturally built environment. Our department has a team of qualified and experienced faculty and staff members and we are striving hard continuously to improve upon the quality of education and to maintain its position of leadership in engineering and technology. We always work with the motto "Nothing can be achieved without genuine effort." The core values of the department help the students to develop their overall personality and make them worthy technocrat to compete and work at global level. Our department has been conducting seminar / workshop since its beginning to keep the faculty and students abreast with the latest developments in the field of technical education. I am certain that our students will prove to be an invaluable asset to an organization. I congratulate the entire editorial team for their hard work.

Prof. G.N.Chavan-Patil
Editor.
Civil Engineering Department,
AMGOI.



It gives us great pleasure to bring you the Third issue of Civilization 2017, the civil engineering department Newsletter. 'Civilization 2017', presents the achievements, participation of students and staff. Also focus on all activities conducted by department & CESA. We would like to place on record our gratitude and heartfelt thanks to all those who have contributed to make this effort a success. We profusely thank the management, Executive Director, Director and HOD for giving support and encouragement and a free hand in this endeavor. We truly hope that the pages that follow will make an interesting read.

Student Editor: Mr. Ajay Maruti Raut. (B.E. Civil)

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Departmental Events



Van Savarndhan Din Celebration

The CESA had organized a “Tree Plantation” activity on occasion of “Van Sanvardhan Din” on 23rd July 2016. The Volunteers initially dig out and then planted more than 30 trees. Dr. K. Ravi , Director, AMGOI, Prof. A.V. Karvekar, HOD, Civil Engg. Department, Prof. J. M. Shinde, CE-SA Co-ordinator, Prof. D.B. Ghag, All faculty members & students were present for the function.

- Civil Engineering department organized workshop on “Advance Presentation Skills & Life Skills for Teachers” on 30th July 2016 at the Department. The Resource Person was Prof. Ajay Maske, faculty of MBA Department mainly focused on Skills & life Skills For Newly joined Staffs so that they can attract the students. Finally the session was concluded by giving a token of love and honor.



Workshop on Advance Presentation Skills & Life Skills For Teachers



Guest Lecture on Tendering, Estimation and Opportunities in UAE.

Guest Lecture arranged on Tendering ,Estimation and Oppor- tunities in UAE” on 08th Aug 2016. Mr. Sachin Sarjerao Patil the Cost Estimator, National Marine Dredg- ing Company Abu Dhabi, UAE, de- livered lecture on the importance of the Estimation, software to be used and the opportunities to face the up- coming job for civil in UAE . The session was concluded by giving a token of love and honor. Prof S. K. Patil felicitated the guest.

Departmental Events



World photography day celebration

“World photography day” was celebrated by CESA on 19th August 2016. The students and Staff of Civil Engineering department were involved with their photographs. Prof. A. V. karvekar, HOD, inaugurated the exhibition then photographs Exhibition was open to all students.

On 27th August 2016 the guest lecture delivered on “Best Practices in Plumbing & Fire Frightening Systems on Site” by Mr. Vijay Gaikwad, Alumni Civil Engineering department. Prof A.V. Karvekar felicitated the guest by a book. Mr. Gaikwad delivered lecture on modern plumbing and fire fighting system to TE and BE students. Vote of thanks was given by Prof. J. M. Shinde.



Guest Lecture on “Best Practices in Plumbing & Fire Frightening Systems on Site”



Parents Meet



The Civil Department has organized “Parents Meet” on 1st Sept 2016. The parents of civil department students were attend the session and get awareness of progress of their ward. Dr. K. Ravi was the chief guest of the meet. Prof V.A. Kulkarni, Prof A.V. Karvekar gives brief introduction of institute and department. Mr. Saverdekar Parents representative address to all. The Parents Meet was coordinated by Prof. T. S. Sawant.

Departmental Events



Guest Lecture on “3D Max software”.

The Civil Department and CESA has organized guest lecture on “3D Max software” on 3rd september 2016 at the GL-04. The Resource Person was Mr. P. L. Shinde, Director, ATech Consultancy, Kolhapur. He delivered the lecture on awareness of 3D Max civil Software to student with demonstration of RCC building with 3D view.



Engineers Day celebration

“Engineers Day” was celebrated on 15th Sept 2016. The Students & staff gathered near civil department. Prof A.V. Karvekar enlightened the lamp and provided great information of M. Vishweshvayya with good examples. All civil Engineering students were present.

Departmental Events



Blood Donation Camp

SAVE BLOOD! SAVE LIVES!!

As a social activity, Every year CESA has organized Blood Donation camp from 2010. This year also the CESA has organized “Blood Donation Camp” on 20th Sept 2016. About 210 Donors were donate their blood. Dr. Priti Rajput of Sanjeevan blood bank and team successfully conduct the camp.

The “Hasyavinod & Mimicry” pro- gram was arranged on 21st Sept 2016 on the occasion of fresher’s party. The Hasyasamrat Mr. Sachin Jagtap had shown his beautiful art.



Entertaining program named as, “Hasyavinod & Mimicry”.



Welcome to direct second year students “Fresher’s Party”.

“Fresher’s Party” was arranged on 21st Sept 2016 for fresher students of the department. Main attraction of the Party was Mr & Miss Fresher. It was won by Ganesh Kore as the Mr Fresh-er & Pranita Shide as the Miss Fresh-er. Lots of funny games were arranged for fresher students. Dr. K. Ravi sir was the Chief Guest. Program was ar- ranged by TE and BE students.



Technical Event “Reflex 2K16”

The Ashokrao Mane Group of Institutions has organized “Reflex 2K16” National Level Technical Symposium on 1st Oct 2016. Civil Departmental event inaugurated by Judge of the activity Prof. Abhay Joshi, DYP Kolhapur. A variety of technical events like Quiz, Technical paper presentation, Wake up (mobile film making), Roborace, Gaming events like NFS-Most wanted, Counterstrike, and branch specific events were organized at various venues in the Institute campus.

“Makar Sankranti Din” was celebrated on 14th Jan 2017. On that day BE students felicitate all staff member of the department by small gift. Funny games were arranged for all staff members.



Makar Sankranti Din

Departmental Events



Radial Contouring

“Radial Contouring” a Survey project conducted on 18th Jan. 2017 at Pargaon Village for the Second year Students. Total 77 students were present for this project. Prof S. A. Jangam guided the students.

- Workshop organized on “On site application of Total Station for Civil Engg Field Surveying” under lead college activity on 23rd and 24th January 2017. Prof. S.S. Varur of KIT college was the resource person. Faculties and students of various engineering colleges were took the benefit.



On site application of Total Station for Civil Engg Field Surveying



Guest Lecture on Stadd Pro

Guest Lecture was organized on “Importance of Stadd Pro” on 9th Feb 2017. The Resource Person was Mr. Sameer Latkar, Director, IFS Academy, Pune. TE & BE students attend this session. All students received participation certificate through online.

Departmental Events



INFRATECH 2K17

“INFRATECH 2K17” a national level competition has organized by CESA having various technical and non technical events for the Students. Function was inaugurated by Dr. K Ravi, Director AMGOI in presence of Dr. D. S. Badkar dean R & D, Prof. V. A. Kulkarni Dean Academics. The various events inaugurated by Prof. A. V. Karvekar HOD, Prof. J. M., Shinde, Infratech coordinator. Total 1024 students were participated in various events. The INFRATECH 2K17 includes various events like Q-Buzz, Field Star, Cad Master, Typo Fast, Cuba, Mini Militia, Model Tech, Galli Cricket, Debate.

The main attraction was the statue of the Shiv-Smarak. Mr. Ajay Raut INFRATECH Student co-ordinator, Mr Rohit Patil INFRATECH treasurer, Mr Rohit More CESA President, Ms. Shweta Pol CESA vice president, and all civil engg students took the lead for making the event memorable.



INFRATECH 2K17

Departmental Events



Science Day Celebration

The CESA Celebrates “Science day” on 28th Feb 2017. On occasion of Science Day University Toppers were felicitated. Nilesh Kadam achieved 1st Rank in university and Vinayak Desai achieved 6th rank in university. They gave motivational speech regarding the preparation of the final exam.

● Guest lecture was conducted on “Intra personal Skill and how to face interview” on 8th March 2017.

● Guest lecture was delivered by Mr Rakesh Jain, Regional Head, Ultra Tech cement. Mr. Mahesh Shinde Ultra tech cement was also present. TE & BE students benefited by this valuable speech.



Guest Lecture on Intra personal Skill



3D Max Workshop

“3D Max Workshop” was conducted in the month of February 2017. Mr.Satyam Gujar, Director Nisha Consultancy Sastara invited as resource person. Certificates were distributed by Dr. K. Ravi, Prof. A.V. Karvekar HOD civil department on 30th March 2017. The workshop was organized by Prof. J.M. Shinde.

Departmental Industrial Visit



Industrial Visit to “RMC Plant”.

Industrial Visit to “Ultratech RMC Plant” Shirol and “Shivsamarth Stone Crusher” Manapadale was organized on 4th August 2016. Prof. J.M.Shinde organized this visit. The final year students of Civil Engineering department attended the Visit for their growth in future success and awareness of advanced materials.



Industrial Visit to “LAVASA”.

Industrial Visit to “LAVASA” was arranged on 5th Oct 2016. The Students & Professors of the Civil Department visited the Mulsi Dam and Multi storied car parking, various building and Beautiful landscape in the LAVASA. The Industrial Visit was organized successfully and left its imprints like flowing water embarks its impression on a pebbled shore. Prof. J.M.Shinde organized this visit under the subject Elective-I Advance Foundation Engineering.

Departmental Industrial Visit



Industrial Visit to “Vivek Industries”

Industrial Visit to “Vivek Industries” Shirolī was arranged on 6th Jan 2017. The Third year students of Civil Engineering department attended the Visit for their SDD-I Project. Prof. J.M.Shinde, Prof. S.A.Jangam, Prof. S.S. Mane guided the students.



Industrial Visit to Sewage Treatment Plant

Industrial visit was carried out at Ichalkaranji Sewage Treatment Plant on 15th Mar. 2017 especially for TE students under the subject Environmental Engineering-II. The main objective of visit is to understand different treatment units used to treat and dispose the waste water. Prof. S. M. Name along with TE. Civil class visit to plant.

Departmental Industrial Visit



Industrial Visit to “Hidkal Dam”

Industrial Visit to “Hidkal Dam” was engaged on 18th and 20th March 2017. The Final year students of Civil Engineering department attended the Visit for their academic studies for WRE-II subject. Prof.A.A.Hosurkar and Prof. T.S.Sawant guided the students.



Industrial Visit to Foundation Site

Industrial visit was carried out at Foundation site of Balbharati near Sakal Press, Kolhapur on 22nd Mar. 2017 especially for TE student. The main objective behind the visit was to understand and learn the various aspects construction of shallow foundation and sub soil conditions Prof. P.P. Prabhu along with 80 students left for visit the site.

Departmental Publications

| Sr. No | Name of Faculty | Title of Paper | Journal/Conference | Title of Journal/Conference | National/International | Year of Publication | Citation |
|--------|--------------------|---|--------------------|--|------------------------|---------------------|----------|
| 01 | Dr. D. N. Mudgal | Multi Attribute Utility Theory for Contractor PRF QUALIFICATION” | Journal | International journal of Civil Engineering Seventh Sense Research Group | International | July 2016 | - |
| 02 | Dr. D. N. Mudgal | Use of Agricultural waste Materials For Industrial Noise Reduction | Journal | International journal of Advanced Technology in Engineering and Science | International | Sept 2016 | - |
| 03 | Dr. D. N. Mudgal | Attenuation of Industrial Noise By Using Natural Sound Absorption Materials | Journal | International journal of Advanced Technology in Engineering and Science | International | Oct 2016 | - |
| 04 | Dr. K. Ravi | Public Private Partnership in Highway Construction in India | Journal | International Journal on Recent and Innovation Trends in Computing and Communication | International | April 2016 | - |
| 05 | Dr. K. Ravi | Energy Retrofitting to reduce energy consumption of residential building | Journal | International Journal of Innovations in Engineering Research & Technology (IJIERT) | International | Jun-16 | - |
| 06 | Mr. S. B. Patil | Multi-Attribute Utility Theory for Contractor Pre-Qualification | Journal | International journal of Civil Engineering Seventh Sense Research Group | International | 2016 | - |
| 07 | Mr. A. A. Hosurkar | Estimation Of Flood Magnitudes For Various Return Periods For Selected Stretch Of Dudhganga River | Journal | Journal of information, knowledge and research in Civil Engineering | International | June 2016 | - |

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|----|-------------------|---|-------------|--|----------------|-----------|--|
| 08 | Mr. D. B. Ghag | Estimation of Groundwater quality of kabnur Odha Basin, Tal - Hatkangale | Confere nce | Chennai International Ground Water Conference | Internatio nal | Feb 2016 | |
| 09 | Ms. S. S. Mane | Experimental Study of Steel Fiber Reinforced Concrete. | Confere nce | National Conference on Recent advancement in Engineering, SETI Panahala | National | Jan 2016 | |
| 10 | Mr. K. R. Patil | Risk Reduction methodology in build operate and transfer Project | Confere nce | National Conference on Recent advancement in Engineering, SETI Panahala | National | Jan 2016 | |
| 11 | Mr. G. S. Murgude | Risk Reduction methodology in build operate and transfer Project | Confere nce | National Conference on Recent advancement in Engineering, SETI Panahala | National | Jan 2016 | |
| 12 | Mr. J. M. Shinde | Study of Compressive Strength of Self Compacting Concrete With Crushed Sand | Journal | Resincap International Journal of Science and Engineering | Internatio nal | June 2017 | |
| 13 | Mr. P. P. Prabhu | The Study of Measurement of Over Engineering In Construction Project | Confere nce | International Conference on Recent Innovations In Engineering and Management (ICIRIEM -16) BIMAT, Kagal-Kolhapur | Internatio nal | Dec 2016 | |
| 14 | Mr. A.V.Karvekar | The Study of Measurement of Over Engineering In Construction Project | Confere nce | International Conference on Recent Innovations In Engineering and Management (ICIRIEM -16) BIMAT, Kagal-Kolhapur | Internatio nal | Dec 2016 | |
| 15 | Mr. S. A. Jangam | Non Linear Static Analysis of An Elevated Circular Water Tank | Confere nce | International Conference on Recent Innovations In Engineering and Management (ICIRIEM -16) BIMAT, Kagal-Kolhapur | Internatio nal | Dec 2016 | |

Staff Workshop/STTP Attended

| Sr No | Name of Faculty | Title of Workshop | Date | Arranged By |
|-------|-------------------|---|-----------------------------|---|
| 01 | Dr. D. N. Mudgal | Hands on Training on Total Station. | 15/12/ 2016 to 17/12/2016 | Rajarambapu Institute of Technology, Rajaramnagar |
| 02 | Dr. K. Ravi | Hands on Training on Total Station. | 15/12/ 2016 to 17/12/2016 | Rajarambapu Institute of Technology, Rajaramnagar |
| 03 | Dr. S. K. Patil | Recent trends in Non-conventional energy sources | 21/01/2017 to 23/01/2017 | AMP, Wathar |
| 04 | Mr. A V. Karvekar | Teaching Methodology | 4/08/2016 | KIT, Kolhapur |
| | | Structural Design & Analysis Using STADD Pro | 22/08/ 2016 | RIT, Sakahrale |
| | | "On Site Applications of Total Station for Civil Engineering Field Surveying" | 23 /01/2017 to 24 /01/ 2017 | AMGOI Vathar |
| | | Induction Training | 3/11/2016 to 9/11/2016 | AMGOI Vathar |
| | | "How to Write a Book and Access of E-Resources" | 16/02/2017 | AMGOI Vathar |
| | | STTP on E Tab Software | 29/12/ 2016 to 2 /01/ 2017 | AIT ,VITA |
| 05 | Mr. J.M. Shinde | STTP on E Tab Software | 29/12/2016 to 2 /01/2017 | AIT ,VITA |
| | | Research Methodology | 13/06/2017 to 15/06/2017 | AMGOI Vathar |
| | | Induction Training | 3/11/2016 to 9/11/2016 | AMGOI Vathar |
| 06 | Mr. S.B. Patil | Teaching Practices and Accrediation Awareness for Polytechnic Faculties | 16/01/2017 to 20 /01/2017 | AMGOI Vathar |
| 07 | Mr. P.P. Prabhu | Teaching Methodology for Revised Syllabus | 4/08/2016 | KITCOE, Kolhapur |
| | | Structural Design & Analysis Using STADD Pro | 22/08/2016 | RIT, Sakahrale |
| | | Formulation and Assessment of PEOs, Pos & Cos for NBA | 23/03/2017 to 24 /03/2017 | SGI, Atigre |

| | | | | |
|----|----------------------|---|-----------------------------|---|
| | | Accreditation Process | | |
| | | Research Methodology | 13/06/2017 to 15/06/2017 | AMGOI Vathar |
| 08 | Mr. K.R.Patil | Teaching Methodology for Revised Syllabus | 4/08/2016 | KITCOE, Kolhapur |
| | | Workshop research in engineering why & how? | 26/03/2016 | AMGOI Vathar(ISTE Faculty Chapter) |
| | | Recent trends in Non-conventional energy sources | 21/01/2017 to 23/01/2017 | AMP, Wathar |
| 09 | MS. S.S.Mane | Research Methodology | 13/06/2017to 15/06/2017 | AMGOI Vathar |
| 10 | Mr. S. A. Jangam | “On Site Applications of Total Station for Civil Engineering Field Surveying” | 23 /01/2017 to 24 /01/ 2017 | AMGOI, Vathar |
| | | Formulation and Assessment of PEOs, Pos&Cos for NBA Accreditation Process | 23/03/2017 to 24 /03/ 2017 | Sgi, Atigre |
| | | Hands on Training on Total Station. | 15/12/ 2016 to 17/12/2016 | Rajarambapu Institute of Technology, Rajaramnagar |
| 11 | Ms. S. M.Name | Research methodology & Patent filling | 7 /01/ 2017 | AMGOI Vathar |
| | | Research Methodology | 13/06/2017 to 15/06/2017 | AMGOI Vathar |
| 12 | Mr. J. A. Patil | Induction Training | 3 /11/ 2016 to 9 /11/ 2016 | AMGOI Vathar |
| 13 | Mr. A. A. Hasurkar | Induction Training | 3/11/2016 to 9 /11/2016 | AMGOI Vathar |
| 14 | Ms T. S. Sawant | Faculty Development Program | 3/11/2016 to 9 /11/2016 | AMGOI Vathar |
| | | “On Site Applications of Total Station for Civil Engineering Field Surveying” | 23 /01/2017 to 24 /01/ 2017 | AMGOI Vathar |
| | | Reserch methodology & Patent filling | 7/01/17 to 7 /01/2017 | AMGOI Vathar |
| 15 | Mr.G.N.ChavanPatil | Research Methodology | 13/06/2016 to 15/06/2016 | AMGOI Vathar |
| 16 | Mr. D.B. Mahadeshwar | Hands on Training on Total Station. | 15/12/ 2016 to 17/12/2016 | Rajarambapu Institute of Technology, Rajaramnagar |
| 17 | Mr. A. A. Kajave | Recent trends in Non-conventional energy sources | 21/01/2017 to 23/01/2017 | AMP,Wathar |

Workshops Arranged By Faculty

| Sr No | Title of Workshop | Date | Resource Person | Arranged By |
|-------|---|-------------------------------------|---|----------------|
| 01 | “On Site Applications of Total Station for Civil Engineering Field Surveying” | 23 Jan 2017 to 24 Jan 2017 (2 days) | Prof. S.V.Varur, KIT,Kolhapur | Mr. S.A.Jangam |
| 02 | 3 D MAX SOFTWARE | 6 Days in Feb2017 | Mr.SatyamGujar, NishaConsultancy,Satara | Mr. J.M.Shinde |

| Patent | | |
|---------------|--|-------------|
| Mr. K.R.Patil | Method and system of performing an action in a browser, based on voice command | 21 Mar 2017 |

Students Achievements

| Sr.No. | Name of Student | Class | Name of Event & Place | Participation | Rank /Participation |
|--------|--------------------------|-------|---|------------------|--|
| 01 | Kadam Nilesh Shivaji | BE | Shivaji University Rank-2015-16 | --- | 1 st Rank |
| 02 | Desai Vinayak Tanaji | BE | Shivaji University Rank-2015-16 | --- | 6 th Rank |
| 03 | Sushant Patil | BE | CESA | --- | Best Outgoing Civil Engg. Student Award Winner |
| 04 | Aarti Shinde | SE | CESA | --- | Mechanics Guru Award Winner |
| 05 | Pol Sweta Sudhir | TE | Reflex-2K-16 AMGOI, VATHAR | Group Discussion | 1 st Prize |
| 06 | Ganesh Dnyandev Lolage | TE | INSPIRA 2K-17 RIT, Sakharale 27 Feb-2017 | Elocation | 2 nd Prize |
| 07 | Abhijeet Anil Shinde | BE | Jidnyasa-2K-17 4 th March-2017 TKIET, Waranana-gar | Project Compaton | 2 nd Prize |
| 08 | Gavade Bharnama Shirdhar | BE | Jidnyasa-2K-17 4 th March-2017 TKIET, Waranana- | Project Compaton | 2 nd Prize |
| 09 | Sharayu Nalawade | TE | Technochem 18 th -19 th March-2017 | Poster Mak-ing | 2 nd Prize |
| 10 | Shelar Yogesh | BE | Milestone TKIET, Waranana-gar, | Gally-Cricket | 2 nd Prize |
| 11 | Shelar Yogesh | BE | Parikramaa SETI, Panhala, 15 th March-2017 | Project Compeion | 2 nd Prize |
| 12 | Kadam Dhenashree Shivaji | TE | 'Second Position' Lead College, SUK | Cricket Women | 2 nd Prize |
| 13 | Mane Supriya Subhash | TE | 'Second Position' Lead College, SUK AMGOI, VATHAR | Cricket Women | 2 nd Prize |
| 14 | Patil Rohit Subhash | BE | 'Third Position' Lead College, SUK | Kho-Kho | 3 rd Prize |

Students Participation

| Sr.No. | Name of Student | Class | Name of Event & Place | Participation | Rank /Participation |
|--------|---|-------|---|--------------------------------------|---------------------|
| 01 | More Vaibhav | TE | 'INNOVATION'2K-17 'Discovery' | Logic Lamp-C | Participation |
| 02 | Kamble Vinayak Antu Tushar D. NARALE | TE | 'ENGENIOUS' AMGOI,16 Feb-2017 | Chanakya | Participation |
| 03 | Kartik Toprani Rohit Sutar | TE | ' VIDYUT ' 2k-17 BMSP, Ambap,13 Feb-2017 | Box Cricket | Participation |
| 04 | Chougale Satish Maruti | TE | AVISHKAR 2K-17 GCE, Karad 18 th & 19 th Feb.-17 | Civil Mania | Participation |
| 05 | Golgire Milind Satishkumar | TE | Milestone TKIET, Waranana- gar,04 th Feb.-17 | Masterpiece Quiz | Participation |
| 06 | Golgire Milind Satishkumar | TE | Avishkar 2K-17 GCE, Karad,18 th & 19 th Feb.-17 | Civil Mania | Participation |
| 07 | Shintre Pooja Baban Parvate Balasaheb s. | BE | Employability Skills Enhancement, D.Y.Patil, Talsande 15 th Mar.-17 | Student De- velopment Programe | Participation |
| 08 | Shintre Pooja Baban, Akole Manisha | BE | Concrete Fest 2K17 SGI, 16 th Mar.-17 | ACI-SGI Student Chapter | Participation |
| 09 | Vishal Shete | BE | INNOVATION 2K- 17 18 Feb-2017 | Field Master | Participation |
| 10 | Sushant A More Nilesh J.Khade | BE | "Parikremaa" SGI, Panhala , 15 th Mar.-17 | Treasure Hunt | Participation |
| 11 | Gautam s.Powar | BE | VIDYUT 2K-17 AMGOI, Vathar, 13 th Feb.-17 | Quiz Compi- tion | Participation |
| 12 | Gautam s.Powar | BE | Cultural Quiz-2017 | Lead Col- lage Acitivi- | Participation |
| 13 | Shelar Yogesh | BE | 'ENGENIOUS' AMGOI,16 Feb- 2017 | Torto -Ride | Participation |
| 14 | Shelar Yogesh | BE | Infrateck 2k-17 AMGOI,22 Feb- | CUBA 2K- 17 | Participation |

STUDENTS ARTICLES

1. Current and Future Advances in Surveying

Student: Sheweta Pol (T.E. Civil)

The role of a surveyor is now extremely significant. A growing number of disciplines including mapping, navigation, and Global Positioning Systems concern the modern surveyor. Advanced surveying techniques are more accurate, faster, and reliable than traditional methods, with new technologies emerge

What Is Surveying:

In the broadest sense, surveying is gathering information about a topic. With regard to geography, surveying is the field of gathering information about land- such as boundaries, areas and elevations-using geometric measurements. Surveying is typically in reference to earth landforms and structures, but is also valid for lunar surfaces and other terrestrial planets. Surveying is an essential science for the fields of design and construction. Boundary surveys apprise people regarding the geographical location and limits of their property, and title surveys are an important part of the real estate business. Land topography maps are required for the preparation of detailed engineering designs. The plotting of river foundations is necessary for dredging. Delineation of corridors through survey techniques precedes the construction of roads, tunnels, airports, and pipelines

Surveying has been an important factor in human civilization since ancient history. The surveyors of ancient Egypt, also called "rope stretchers," measured distances by using ropes at appropriate intervals. They also made measurements with chains with standard length links, pulled firmly to minimize slack. Compasses that provided the deflection measurements measured angles. These survey instruments improved over time by incorporating accurately engraved discs with improved angular resolution. Surveying was also important in Greece. As the Greeks explored the science of geometry, they put it into practice to divide land precisely. The Greeks also developed the first surveying instrument, called a Dioptra. During the industrial revolution, the development of roads, railroads, and canals demanded more precise surveying techniques and surveying technologies advanced. This era saw the development of geodetic and plane surveying.

Modern surveying techniques- Global Positioning Systems, Geomatics, Geodesy and Remote Sensing-have replaced the older surveying techniques. Today, surveying has many purposes. In addition to establishing boundaries between plots of land, it is necessary for mapping the globe, both above and below sea level, and devising land, air- and water navigation routes. It is also necessary for gathering engineering data for constructing roads, bridges, and buildings. Surveying is also essential for acquiring databases for natural resources management.

Geomatics:

Geomatics has redefined the surveying technology of the last quarter of the twentieth century, and it is still undergoing revolutionary progress. This science encompasses a large variety of earth mapping techniques, including Global Navigation Satellite Systems, remote sensing, and photogrammetry. Geomatics is a progressive field that integrates acquirement, modeling, study and managing of data. It uses global, maritime, aerial and satellite based sensors to obtain data. It then transforms the data obtained from different resources into selected information systems. The associated field of hydrogeomatics involves geomatics for surveying on, below, or above the sea surface or other water bodies.

The fast progression and extensive operation of geometrics is due to the advancement in computer technology, software engineering, and computer science. Space sensing technologies have also contributed immensely in the growth of geomatics. Several universities have gone so far as to replace the names of their survey departments with geometrics or geomantic engineering.

Future of Surveying:

With advancements in technology, new surveying equipment and techniques are developing. Current advancements are making the science of surveying more valuable, accurate, and comprehensive than ever. For example, the use of GPS in modern surveying methods is one of the radical changes influencing land measurements. GPS is a breakthrough technology in surveying because it is extremely precise, fast, and reliable.

Furthermore, the role of the surveyor is changing as technology expands and geospatial data becomes available to anyone through programs such as Google Earth. A surveyor is no longer necessary for many basic data acquisition tasks ... because the data already exists. Instead, the modern surveyor needs skills in geospatial data management and analysis

Challenges for the Future Surveyor:

The technical boundaries of the surveying in history are no longer applicable. With current technologies, measurements and estimation have become easy. Subjects of rising significance are the formation and managing of data and, subsequently, data application. The contemporary surveyor's challenges include the induction of modern dominant technologies such as airborne scanning, terrestrial scanning, satellites that create high-resolution images, and an increasing number of satellites.

As surveyors continue to work, they work with an increasingly diverse collection of professionals. The state and private sector is recognizing the economic significance of this discipline and that it has huge future growth prospects. It is an exciting time for the discipline, and surveyors have to adapt themselves rapidly to the latest technologies if they wish to remain valuable in the field of surveying.

2. Causes of Rust and Protection through Galvanization

Student: Kartik Toprani (T.E. Civil)

Rust is a process that occurs when oxygen and moisture contact exposed metal. With the settlement of moisture in dents, and with an increase in the contact period, rust is formed. Rusting is intensified with high temperatures and increased humidity, and leads to a deterioration in the metal.

Formation of Rust: Rust, which is technically known as oxidation, is the process that results when there is an



Fig.1- Rusting of Metal

interaction between oxygen and various metals for an extended time period. The oxygen and metal combine at an atomic level creating a new compound termed an oxide, and the metal bonds are weakened.

When iron or steel are the base metal, then the rust formed is called iron oxide (and similarly rusted aluminum is called aluminum oxide). Iron and steel are apparently hard in appearance, but the minute ruptures and pits in the exposed metal facilitate the penetration of water molecules, and rust is formed.

Rusting is an electrochemical process that is commenced with the move of electrons from iron to oxygen, and the process is expedited in salt water. With the passage of time, and availability of water and oxygen, an iron body will be converted into rust and be disintegrated.

Damage Due To Rust:



Fig.2- Rusting of Car Metal

Rust is a serious issue, and unless taken seriously in the initial stages, may be uncontrollable and cause extensive damage by the deterioration, failure, or weakening of components or appliances. Rust is extremely harmful to cars. As the body is stained, the rust spreads to other parts of the car body if exposed to extreme moisture in the weather- and if appropriate rust prevention measures are not taken.

Electrical appliances and instruments may fail if the metallic parts are rusted since rust is a non-conductor of electricity. Similarly, the machines and equipment that use magnets may malfunction due to the inferior magnetic properties of rust.

Furthermore, since rust formation increases the volume of the initial iron mass, adjacent rusted parts may be forced apart, causing failure of the machines or assemblies. Rusting of iron in reinforced concrete bridges may be a source of serious structural problems that may be extremely dangerous, and also require huge expenditures for repairs.

Rust Prevention by Galvanization:

Galvanization is an important metallurgical process for rust prevention that involves the application



Fig.3- Process of Galvanizing

of a zinc layer, by electroplating or hot dip galvanizing, on the iron or steel object desired to be protected. In this process, iron or steel is dipped in melted zinc at a temperature at which there is a great similarity between these materials, and an alloy is formed, with a zinc coating at the exterior surface.

The coating of zinc protects the metal part object from oxidation and environmental effects like extreme temperatures, snow, wind, and rain. Zinc is used since its corrosion resistance characteristics are better than iron and steel, due to which it forms a physical obstruction against corrosion, and also shields the exposed steel if the zinc layer is damaged. Galvanization is not successful at protecting joints and holes. However, it is widely used for the protection of iron and steel because it is economical, simple in use, and long lasting.

3. Quick sand condition

Student: Mayuri Diwan (B.E. Civil)

Quicksand is a colloid hydrogel consisting of fine granular material (such as sand, silt or clay), and water. Quicksand forms in saturated loose sand when the sand is suddenly agitated. When water in the sand cannot escape, it creates a liquefied soil that loses strength and cannot support weight. Quicksand can form in standing water or in upwards flowing water (as from an artesian spring). In the case of upwards flowing water, seepage forces oppose the force of gravity and suspend the soil particles.

The saturated sediment may appear quite solid until a sudden change in pressure or shock initiates liquefaction. This causes the sand to form a suspension and lose strength. The cushioning of water gives quicksand, and other liquefied sediments, a spongy, fluidlike texture. Objects in liquefied sand sink to the level at which the weight of the object is equal to the weight of the displaced soil/water mix and the submerged object floats due to its buoyancy.

Liquefaction is a special case of quicksand. In this case, sudden earthquake forces immediately increase the pore pressure of shallow groundwater. The saturated liquefied soil loses strength, causing buildings or other objects on that surface to sink.



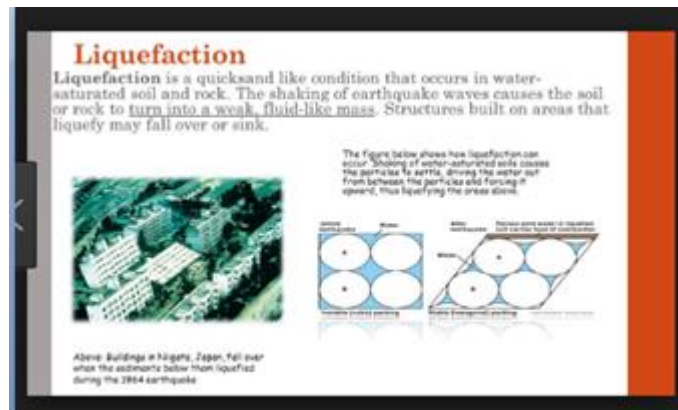
Properties:

Quicksand may be found on riverbanks, near lakes, in marshes, or near coastal areas. Quicksand is a shear thinning non-Newtonian fluid: when undisturbed, it often appears to be solid ("gel" form), but a minor (less than 1%) change in the stress on the quicksand will cause a sudden decrease in its viscosity ("sol" form). After an initial disturbance—such as a person attempting to walk on it—the water and sand in the quicksand separate and dense regions of sand sediment form; it is because of the formation of these high volume fraction regions that the viscosity of the quicksand seems to decrease suddenly. Someone stepping on it will start to sink. To move within the quicksand, a person or object must apply sufficient pressure on the compacted sand to re-introduce enough water to liquefy it. The forces required to do this are quite large: to remove a foot from quicksand at a speed of 0.01 m/s would require the same amount of force as "that needed to lift a medium-sized car. A human or animal is unlikely to sink entirely into quicksand and drown at all; due to the higher density of the fluid (assuming the quicksand is on dry ground and not under water, but even if underwater, sinking is still improbable). Quicksand has a density of about 2 grams per milliliter, whereas the density of the human body is only about 1 gram per milliliter. At that level of density, sinking in quicksand is impossible. Descending about up to the waist is possible, but not any further. Even objects with a higher density than quicksand will float on it—until they move. Aluminum, for example, has a density of about 2.7 grams per milliliter, but a piece of aluminum will float on top of quicksand until motion causes the sand to liquefy.

Continued or panicked movement, however, may cause a person to sink further in the quicksand. Since it increasingly impairs movement, it can lead to a situation where other factors such as weather exposure, dehydration, hypothermia, tides or carnivores may harm a trapped person.

Quicksand may be escaped by slow movement of the legs in order to increase viscosity of the fluid, and rotation of the body so as to float in the supine position (lying horizontally with the face and torso facing up).

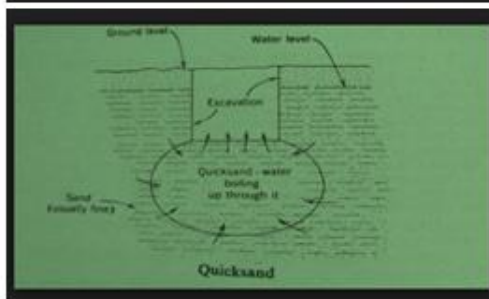
Study case:



Quick sand condition with formula



$$i_c = \frac{G-1}{1+e}$$



4. A Design Model for Water bound Macadam Based on Heavy Vehicle Simulator and Laboratory Test Result.

Student: Balasaheb Parvate (B.E. Civil)

Introduction:

Transportek recently completed a draft guideline document on the selection, design and construction of water bound macadam pavements which were co-funded by the Gauteng Department of Transport and Public Works (GAUTRANS) and the South African National Road Agency Limited (SANRAL). One of the objectives of the project was to develop a rational design method for waterbound macadam from existing Heavy Vehicle Simulator (HVS) data and laboratory test results and to incorporate the new design method into the South African Mechanistic-empirical Design Method (SAMDM). Previous publications on the SAMDM did not include any information on the mechanistic-empirical design of waterbound macadam pavement layers. The information presented in this document is additional to the SAMDM (1) and should be used in conjunction with the SAMDM.

The following items are covered:

- Recommendations on the load sensitivity of water bound macadam base layers, recommendations on the stiffness input parameters required by the SAMDM for waterbound macadam material and

- Design transfer functions for the mechanistic-empirical design of pavements with water bound macadam base layers. The data on which the above recommendations are based were obtained from Heavy Vehicle Simulator (HVS) test data and triaxial laboratory test data.

The design transfer functions were developed from laboratory test results for two practical cases which may be encountered on waterbound macadam construction projects:

- The first case is for a WM2 (2) waterbound macadam base layer constructed on a granular subbase or relatively thin cement-treated subbase. Because of the relatively weak compaction platform provided by the subbase, the base layer is at 84 % of apparent density. Because of the lower density, the saturation level of the base layer is about 30 % for normal moisture conditions.

- The second case is for a WM1 (2) waterbound macadam base layer which is constructed on a sufficient compaction anvil consisting of at least 125 mm cement-treated material and the base density is 88 % of apparent density. Because of the low voids content, the saturation level of the base layer is about 45 % for normal moisture conditions.

The laboratory design models showed good correlation with field test results from the HVS but seem to underestimate the load sensitivity of waterbound macadam. The results from HVS tests were therefore used to investigate the load sensitivity of waterbound macadam base layers. HVS test results also contributed to the general information available on waterbound macadam and results from the following HVS tests were used in this investigation:

- Gauteng HVS tests 400a4 and 402a4 done near Cullinan (3)
- Northern Province HVS tests 404a4 and 405a4 done near Louis Trichardt (4)
- KwaZulu-Natal HVS test 329a3 done near Umkomaas (5)

Test Results on Water bound Macadam

The test programme for section 123a3 consisted of 890 000 load repetitions at 70 kN with a tyre inflation pressure of 600 kPa of which the last 60 000 repetitions were applied with water entering the base layer through 38 mm diameter perforated pipes which were inserted into the layer. 600 000, 100 kN load repetitions at 600 kPa inflation pressure was applied to section 124a3 with water being applied from 480 000 load repetitions onwards. Water was applied to the base layer of section 128a3 for the full 600 000 load repetition duration of the test. The trafficking load was increased from 40 kN at 600 kPa inflation pressure to 60 kN at the same tyre pressure from 220 000 repetitions onwards. The trafficking load for test 178a3 on the thicker waterbound macadam base layer was 100 kN at 600 kPa inflation pressure for 973 000 load repetitions with water being applied from 600 000 repetitions onwards. The surface rut for test section 123a3, 124a4 and 128a3 increased rapidly so that all these sections reached a rut of 20 mm within 400 000 load repetitions of their respective trafficking loads. In all three cases the rapid deformation

of these sections seems to be related to either rain water entering the base layer or the water applied during the test. This indicates that although waterbound macadam may act as a drainage layer, the performance of the layer will be affected by the presence of excess moisture.

Based on the poor performance of the HVS sections tested on this site, a decision was taken to recompact section 178a3 before HVS testing (8). The additional compaction basically consisted of rolling and vibration of the layer followed by the slushing of the layer. The density of section 178a3 before recompaction was 85 per cent of AD and increased to 86 per cent with additional rolling and then increased further to 88,6 per cent after slushing. The additional benefit of slushing is thus clearly illustrated by these data. The density of section 178a3 increased slightly more to about 90 per cent of AD under HVS trafficking. The increased density of section 178a3 had a marked effect on the water absorbed by the layer through the perforated pipes installed in the layer (8). The average water absorption was 15 litre/hour/hole for the low density sections 123a3,124a3 and 128a3 and 0,15 litre/hour/hole for the high density section 178a3. The higher density and hence lower water absorption of section 178a3 resulted in significantly better performance with the section only reaching 20 mm rut at about 1 million 100 kN load repetitions (6). The waterbound macadam layer was, however, again the main contributor to the permanent deformation of all four of the test sections. Horak calculated the bearing capacity of sections 123a3 and 124a3 as ranging from about 3 to 12 million standard axles with that of section 128a3 being even lower at between 0,8 and 3 million because of the higher moisture level in section 128a3. The bearing capacity of section 178a3 was calculated as being between 10 and 20 million standard axles.



Fig: Photos showing wbm

5. Concept of Continuum

Student: Raut Ajay (B.E. Civil)

Well, or continuous medium either of the continuous medium continuous medium the two terminologies are there continuum or continuous medium what is mean by continuum continuous medium? Very simple, now you see in the description of matter what we do? When we define the property or any parameter, for example, the pressure or velocity or any property the temperature well, we define it as a continuous function of space within the matter at any time or we can tell or define it as a function of space and time. So, at any time we define the property or these parameters as a continuous function of space within the matter.

So, what does it assume basically it assumes that in each and every point in the matter there is a molecule, because matters are composed of molecules then only the property can be defined as a continuous function of space in the matter there is no discontinuity, though we know the matters are composed of molecules and there will be a gap between the molecules, but you always assume while defining this way the properties that always there is a molecule at any time at any point in the matter; that means, the gap between the molecule is almost zero.

In fact, this is highly true for solids and liquids where the molecules are closely packed and we can consider this as an assemblance of a single substance, but this is not so far gas as you see in the gas pressure is very low this is not true, but under ordinary conditions we can find that for gases also molecules are very closely packed, you know the number of molecules within a certain volume of gas is given by avocrado hypothesis, if you recollect the number of molecules probably if collect the avocrado hypothesis it gives six point something like 0 to 3 into 10 to the power 23 molecules just you see this is of course, a standard temperature and pressure per 22.4 liters of gas.

So, that standard condition you can find out a molecular density of approximately 2 point 7 into 10 to the power 25 molecules per meter cube; that means divide this by 22 point 4 which gives per liter and multiply with 10 to the power 3.

So, this figure come this is a figure usually we refer approximately 3 into 10 to the power 25 molecules per meter cube, which is so high that under ordinary conditions we can also think that gas molecules are so closely packed that we can neglect the distance between the molecules and can define the properties or any other point functions of the fluid as a continuous function of space within the matter. This is presides the concept of continuum, but at the same time this comes into picture.

So, that always concept of continuum or the continuous medium will be valid, for example: if you go on ratifying the gas, that if the pressure of the gas goes on decreasing continuously we know that the distance between the molecules increases. Well, and the cohesive force between the molecules decreases. So, whether the continuum will be valid or not, yes that pertinent question was answered by a scientist and he found out a criteria based on which the concept of continuum will hold good, and this criteria is based on the distance between the molecules you know the distance between the molecule is well characterized by mean free path.

What is the definition of the mean free path? That is the statistically average distance the molecules travel between two successive collisions; that means, if this path could have been zero theoretically; that means, the molecule is always under at any random at any standard time there is a collision; that means, there is no distance between the molecule. So, λ is not zero it has got some value that is the statistical average distance molecules travel between two successive collisions.

Now the measure of λ relative to the characteristic dimension of the problem defines whether your continuum will be valid or not; that means, you want to investigate certain phenomena in a system, whose characteristic dimension is the order of the molecular dimensions definitely a very common sense even a school boy can tell know molecular the concept of continuum will not hold good, because we'll hardly have a molecule within the system therefore, it comes by the concept of relative magnitude of this mean free path with the characteristic dimensions of the problem.

So, characteristic dimension of the problem will vary from problem to problem for example: it is a case of pie flow it will be the diameter of the pie it is a flow posture body some dimension of the body. So, characteristic dimension of the problem will depend upon the problem.

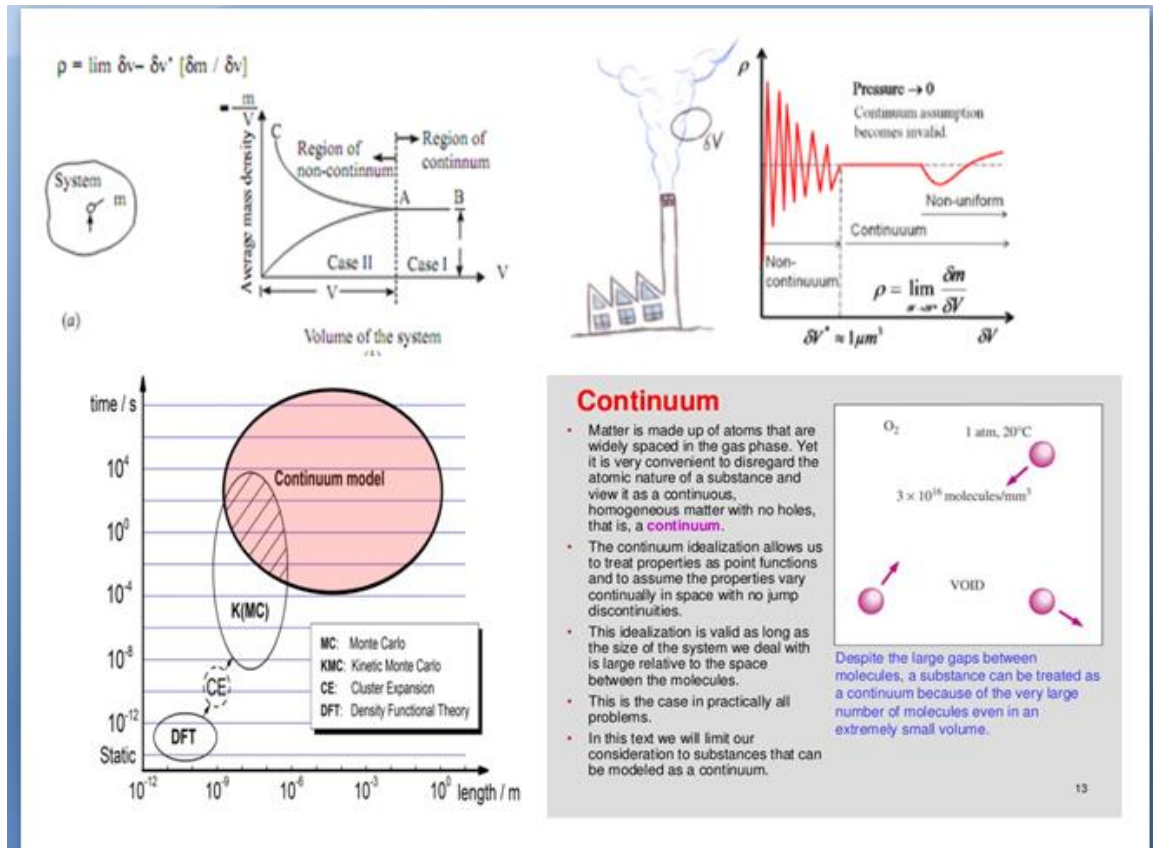


Fig: Graphical Representation of Continuum

FROM THE PROJECTS

Following are the Abstract from the Project undertaken by BE civil Students

1. Traffic Noise Study

Guide: Mr. P.P. Prabhu

Student: Rani Lad

In developing country like India with the vehicle population increasing at high rate, the residents of cities are experiencing severe environmental problems that results from road traffic in particular from automobiles. Noise from road traffic is major source of environmental pollution and it has detrimental effects on human beings.

In this paper road traffic noise survey was conducted on Kolhapur city road .It include industrial, commercial, semi residential and completely residential area. Kolhapur is an important historical city in Maharashtra. Rising level of transportation mainly by road vehicles i.e. tempos, rickshaws, four wheelers, two wheelers and heavy vehicles is one of major source of augmented noise pollution in Kolhapur city.

2. “Plastic Brick – An Excellent Building Material from Recycling Plastic Waste”

Guide: Mr.S.A.Jangam.

Student: Shital Patil.

The rapid industrialization and urbanization in the country as well as world lead lots of infrastructural developments. On the other hand plastic wastes increase seconds by seconds. This process leads to several problems like shortage of natural available construction materials, increased in plastic wastes and its other sub-products. The quantity of waste is expanding rapidly. It is estimated that the rate of expansion is double for every 10 year. This is due to rapid growth of population, urbanization and change in life style which leading on the landscape.

Many Government Organization, Non-Government (NGOs), Private organizations and individuals have completed or in the process of completing a wide variety of studies and research projects concerning the feasibility, environmental suitability and performance of using waste plastics in construction field which needs better and cost effective construction material and reuse of waste plastics and save the world from environmental Pollution.

This paper deals with the reuse of waste plastics as complete replacement of cement concrete by reused waste plastic brick for manufacturing of plastic paving blocks. This project reviews the recycling of different types of plastic wastes into paving blocks. Actually with this reused waste plastic we can make verity of application. But for this paper we considered civil engineering point of view. A wide range of successfully recycled materials and their effects on the physical and mechanical properties of paving block have been discussed.

The plastic bricks manufactured with different types of plastic waste have shown positive nature towards the purpose of this study. It gives about five times greater compressive strength compared with conventional concrete paving blocks. This Paper studies the suitability of our innovated product to the society and environmental aspect in field of Civil Engineering. Various material tastings are carried out for checking the suitability of our innovative product technically and non-technically.

3. Experimental investigation of SCC made by optimizing cementitious materials.

Guide: Prof. J.M.Shinde

Student: Shridhar Gavade

Self-consolidating concrete or self-compacting concrete (SCC) is characterized by a low yield stress, high deformability and moderate viscosity necessary to ensure uniform suspension of solid particles during transportation, placement (without external compaction) and thereafter until the concrete sets. Such concrete can be used for casting heavily reinforced sections, places where there can be no access to vibrators for compaction and in complex shapes of formwork which may otherwise be impossible to cast, giving a far superior surface than conventional concrete. However classical SCC has its pitfalls in terms of high fines content, imbalance between stability and fluidity owing to sensitivity of mix owing to changes in concrete constituent and the unit cost which varies between 30-50 % over conventional concrete.

In today's context almost 65% of the traditional concrete classes are between 20-30Mpa. To convert these strength classes to classical SCC is a big challenge, especially the balance required between stability and fluidity of the concrete mass owing to ever changing scenario in concrete constituents. Low fines yet SCC uses a new state of art synthetic Viscosity Modifying Agent (VMA) incorporated in special Polycarboxylate Ether (PCE) based hyper plasticizer. This low fine, self-consolidating, sustainable solution will help boost productivity and efficiency to help engineers, owners, concrete producers, realize their respective dreams. Low fines SCC realize a host of benefits such as economic (reduction of fines), enduring (durable), ecological (low fines) and ergonomic (almost negligible vibrations). Also it is important that to check whether the SCC is durable or not as compare to conventional concrete. Hence to check the resistance of SCC against various constraints like sulfate attack, freezing and thawing, resistance when exposed to sustain elevated temperature chloride attack.

4. Study of Behavior of Raft Foundation under Seismic Loading Condition

Guide: Mr. P.P.Prabhu.

Student: Sushant Patil

A foundation is the part of structure which transmits the load from super structure to subsoil safely. The raft is combined foundation that may cover whole area under the structure. Use of raft is economic when soil bearing pressure is low, individual spread footings covers more than one half area or chances of differential settlements are higher. This method does not consider moments and shears caused by differential settlement. Sometimes raft can be designed as inverted flat slab with combination of beams and slabs.

As per IS:2950-1981 the determination of contact pressure distribution is complex function of rigidity of super structure, raft itself and supporting soil. The number of simplifying assumptions required to make the problem amenable to analysis. The pressure distribution beneath the foundation depends upon rigidity of foundation, soil type etc. once the pressure distribution is known, and the bending moment and shear forces on foundation can be calculated. The code suggests rigid and flexible foundation approach for design of raft for vertical and evenly distributed loads.

The focus of this project is to study the soil pressure distribution beneath foundation and the interactions between the structure/ raft and soil under seismic conditions. The study includes the characterization and selection of different parameters of raft analysis such as soil sub grade modulus, relative stiffness, settlement, design quantities etc. this study establishes a framework for the optimum analysis of raft.

5. Assessment of Highway Facilities And Safety Measures- A Case Study “NH4 Kini To Nipani”

Guide: Mr. P.P.Prabhu.

Student: Avinash Gurav.

The road or highway project are aimed to investigate the potential deriving surrogate measure of safety and facilities of highway traffic. Safety has been difficult to assess for new and innovative traffic treatments. Road traffic safety refers to the methods and measures used to prevent road users from being killed or seriously injured. Typical road users include motorist, cyclist, vehicles passengers and passengers of on road public transport. The basic strategy of a safety system focus on serious injury and death form vehicle crashes. Road traffic safety describes the safety performance of roads and streets and methods used to reduce the harm (deaths, injuries and property damage) on the highway system from traffic collisions. It includes the design, construction and regulation of the roads, the vehicles used on them and the training of drivers and other road users. It is important to realize that safety is relative. Eliminating all risk, if even possible, would be extremely difficult and very expensive. A safe situation is one where risks of injury or property damage are low and manageable.

For the highway traffic there are number of facilities are available. Facilities includes toll facilities, service stations, ditches, curbs, gutters, traffic signals, guardrails, roadside vegetation, lighting, pavement marking, signs, utilities, maintenance stations, noise walls, drainage structures and bridges and many more.

In this project we are going to study about Highway Facilities and Safety Measures of NH4 Kini to Nipani and compare with National highway traffic safety administration (NHTSA) and National highway authority of India (NHAI) standards.