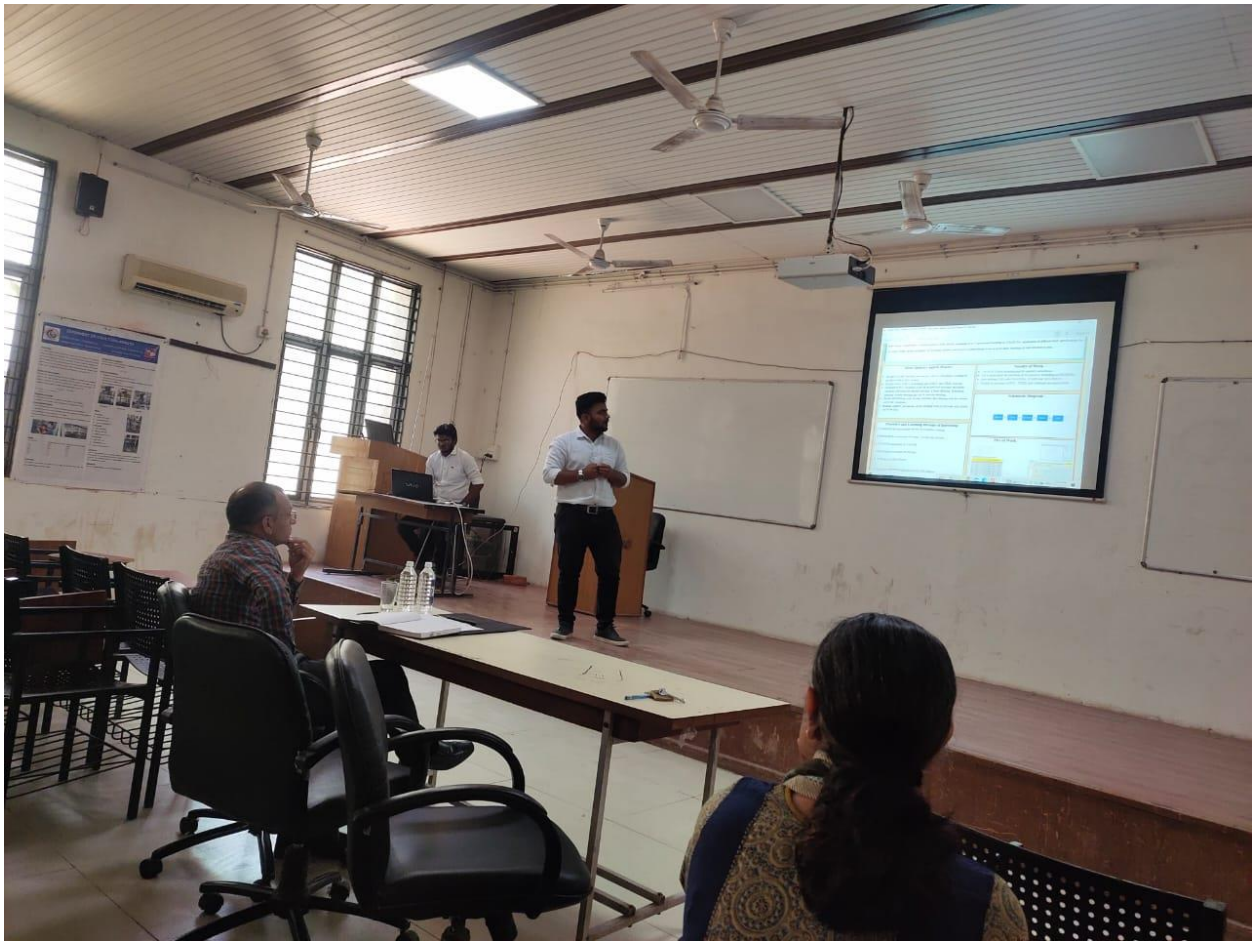
Report on Kaizen – 2022

APPLIED MECHANICS DEPARTMENT

L D College of Engineering, Ahmedabad

22.04.2022



PRESENTATION AT VISVESVARYA HALL (Room No. 626)

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PRESENTATION AT Room No. 619

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MEMENTO GIVEN BY Major Dr. C.S.Sanghvi TO JUDGE Mr. Sandip Patel

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1. Brief Description of the Event:

KAIZEN 2022 was organized at Applied Mechanics Department, L.D.College of Engineering with great enthusiasm. The event was constructed with great efforts and support by Head of the Department Major Dr. C.S.Sanghvi , department coordinator Prof. Payal H. Andharia and and all the faculty members of Applied Mechanics Department.

There were presentation of 20 Internship Projects of Final Year students of B.E.(Civil Engineering), which were shortlisted from 49 Internship projects through internal evaluation process. Students had undergone extensive exposure of structural engineering softwares, analysis and design of structures, activities as site engineer as a learning of Internship Project.

Eminent experts were invited as jury members of the event. One of the jury members was Mr. Shreyaans Doshi, Owner, Swetraj Group and another jury members was Mr. Sandip Patel, Dy. Executive Engineern, Gandhinagar Urban Development Authority, Gandhinagar. Respected jury members have very well guided the students with their in depth skill and knowledge.

Schedule in table format:

Time	**Event**
10:30 a.m. to 1:00 p.m.	KAIZEN - POSTER PRESENTATION
1:00 p.m. to 2:00 p.m.	LUNCH BREAK
2:00 p.m to 4:30 p.m.	KAIZEN - POSTER PRESENTATION
4:30 p.m. onwards	PHOTOGRAPH SESSION & FAREWELL PARTY
6:30 p.m.	DINNER

2. List of Projects

Expert: (1) Mr. Shreyaans Doshi (2) Mr. Sandip Patel

Sr.No.	**Enrollment No.**	**Name of the Student**	**Name of the Guide**
1	180280106006	Grishma bhatt	Dr. C.S.Sanghvi
2	180280106065	Amin Aakash Dilipbhai	Prof. D.R.Tarachandani
3	180280106066	Parmar Akshay Gambhirsinh	Prof. D.R.Tarachandani
4	180280106057	Pavan Mistry	Prof. M.G.Vanza
5	180280106007	Ashil Pranav Bhavsar	Prof. P.J.Mehta
6	180280106014	Chaudhary Prit Pravinkumar	Prof. A.J.Shah

7	180280106021	Dhairya Chavda	Prof. A.J.Shah
8	180280106038	Kadia Keyur Hiteshkumar	Prof. D.H.Raval
9	180280106042	Kapadiya bhargav mansukhbhai	Prof. D.H.Raval
10	180280106046	Raj Lalani	Prof. A.G.Hansora
11	180280106048	Venica Maclean	Prof. A.G.Hansora
12	180280106050	Makawana Harshkumar Dineshbhai	Prof. K.A.Parmar
13	180280106055	Hetavi Mandal	Prof. K.A.Parmar
14	180280106071	Patanvadia Mayank Kailasbhai	Prof.M.V.Shah
15	180280106075	Patel Harsh Pritiben	Prof. M.V.Shah
16	180280106097	Vidhi Kanaiyalal Prajapati	Prof. C.D.Patel
17	180280106099	Pujara Jigar Shankarlal	Prof. P.I.Modi
18	180280106117	Somani Devam Kaushikkumar	Prof. P.H.Andharia
19	180280106118	Jaymit Swadas	Prof. P.H.Andharia
20	180280106124	Undhad Jaydeep Pareshbhai	Prof. B.R.Patel

Schedule of the session:

Event	**Timing**
Inaugural	10:30 a.m.
Discussion	11: a.m. to 4 p.m.
Announcement of results	4 p.m.
Valedictory	4.30 p.m.

3. Brief Detail of Top-4 innovative projects having good industry/societal impact

A. Inernship Project 1

1. Name of project : ROOF STRUCTURE OVER AN OPEN AIR THEATRE

2. Abstract: The main objective of the internship is to enable the students to analyse the integral working of an organization with mature eyes and un-derstand the dynamics in a much better manner. The first phase of this 3 month internship included thorough learning and understanding the CAD and design softwares including Autocad, Sketchup, Staad pro and Etabs. The second phase was later completed comprehen-sively which involved intense architectural design coupled with appropriate structural treatment of the iconic roof structure of an open-air theatre. As a result, the form and layout of the roof for audience seating was set. In later phase, the analyses was done in compli-ance with the load requirements specified in the Indian Standards. Connections between the various members, including Roof truss frame, Trestles, inclined beams, Purlins, Bracings, Gusset plates, Base plates, Bearing plates cross beams, welded and bolted connec-tions between secondary members were designed Finally, a spreadsheet showcasing the design checks in detail is prepared and the re-port culminates with a bill of materials, prepared by calculating the quantities of different materials used and considering the current prevailing market rates of these materials.

3. Name of the Student : Hetavi Mandal
4. Guided by : Prof. Kamini A. Parmar
5. Photos

B. Internship Project 2

1. Name of project : DETAILED DESIGN PRACTICES FOR RCC AND STEEL STRUCTURES

2. Abstract : During the tenure of 12 weeks of internship , various tasks related to the structural consultancies were carried out. These tasks include surveying, reading of architectural and structural drawings, modelling in STAAD Pro software, estimation of building materials, working with MS Excel and structure. Design of beams and detailing as per Indian standards, calculations of different kind of loads acting on various structures like, dead loads (IS 875– part 1), live loads (IS 875– part 2), Wind loads (IS 875– part 3) on buildings and calculations of earth pressure loads, surcharge loads acting on the retaining wall structure. Designing and detailing of STEEL STRUCTURES and the connections of steel members.

3. Name of the Student : Mayank K. Patanvadiya
4. Guided by : Dr. M.V.Shah

C. Internship Project 3

1. Name of project : Internship as Executive Site Engineer at Bridge Construction Site

2. Abstract : During the tenure of 12 weeks of internship , various tasks related to the bridge construction were carried out . These tasks include surveying, reading of architectural and structural drawings, estimation of building materials, supervising the boring of pile, various tests on pile etc. Site is located on Pragatinagar junction, Ahmedabad. The scope of the project is to provide smooth flow of traffic from Akhbarnagar to Pallav circle which are the most busiest junctions on the road. The Width of the Bridge is 8.4 meter and Length is 939 meters. The project is funded by AMC and has an budget of around 77crores . Duration of the project is 22-09-2021 to 21-01-2024.

3. Name of the Student : Dhairya Chavda
4. Guided by : Prof. A.J.Shah
5. Photos

D. Inernship Project 4

1. Name of project : Design of roof for an open air theatre and design of an industrial shed

2. Abstract : The main objective of the internship is to analyze the integral working of an organization with mature eyes and understand the dynamics in a much better manner The first phase of this 3 month internship included thorough learning and understanding the cad and design softwares including Staad pre,Etabs.The second phase was later completed comprehensively which involved a structural design of the iconic roof structure of an open air theatre.As a result, the form and the layout of the roof for audience seating and stage was set. In later phase the analysis was done in compliance with the load requirements specified in the indian standards.an industrial shed which is to be used for storage of an industrial raw materials was also designed in subsequent months.various connections of columns,inclined purlins,bracings,gusset plates, base plates,bolted and welded connection between secondary members were designed in excel sheets.

3. Name of the Student : Grishma Bhatt

4. Guided by : Major Dr. C.S.Sanghvi

5. Photos :

5. Brief detail of Top 3 SSIP Projects

A. SSIP - 1

1. Name of project : Shake it up

2. Abstract : The engineering practice in the market to test and design for earthquake resistant buildings is theoretical. Practical approach is sporadic due to limitations such as costly lab setup, fixed instruments which test the models and time consuming process. We have developed an instrument which can solve all the said problems and which can help one demonstrate the complex behaviour of structures under earthquake forces on reduced scale models. It is made of aluminium body so it's lightweight. It is a movable setup and very easy to use. No such patented idea has been submitted yet. We aim to increase reliability on practical approaches for determining earthquake resistance of a structure, rather than just theoretical means with this innovation. All the concerned stakeholders of this vast family including civil engineering students, professors, practising engineers, architects, structural consultants and clients are can benefit from this by judging the practical behaviour of a building under practical conditions.

3. Name of the Student : Vinay Limbalkar

4. Guided by : Prof Dr C S Sanghvi

5. Photos :

B. SSIP - 2

1. Name of project : A Handy Bar Bending Tool

2. Abstract : In modern construction sites, for many purposes, the metal bars are required to be bent at some definite angle to fulfil the desired design criteria. Apparatus used at small sites to bend these bars are quite unprofessional and inaccurate which marks the flaws at any structural component they are used leading to damage of that component in future. This invention aims at bringing accuracy in bar bending process by using a very worker-friendly, adjustable and portable tool which can be cheaply adopted at small construction sites. The tool is mounted on adjustable tripod stand for its firm grip. The clamping screw inside the solid cylinder allows the flexibility to adjust the effective surface area of the opening provided in the central metallic plate from where the bar is inserted, thus bringing accuracy in bending. Graduated protractor ring is also provided to check the precision in bending.

3. Name of the Student : Aditya Pal

4. Guided by : Prof C D Patel & Prof B R Patel

5. PHOTOS :

C. SSIP - 3

1. Name of project : Handy Earth Pressure Device

2. Abstract : To prevent ground deformation even disastrous accidents, the earth pressure of soil must be kept balance to that on excavation face during shield tunnelling, while constructing retaining wall, mining dams, braced Excavation, etc. While constructing Retaining wall or other places where deep excavation is required, there will sliding of vertical soil may happened. Due to that many loss of life of labour has been occurred. At the site lot many damages also Occurs. At present not any handy device is available which can measure earth pressure ant any height of excavate soil. Available device is quite tedious and also time consuming and you can use it only once.

3. Name of the Student : Sanidhya Dabhi

4. Guided by : Dr Manish V Shah

5. Photos

6. Feedback

1. Feedback from the experts

Mr. Shreyaans Doshi

Students have presented their Internship work with great enthusiasm. It was really nice to see the young students having knowledge of practice work of civil engineering. Internship has been proved as an advantageous tool for the final year students to get along with practical approach of Civil and Structural Engineering. Proper guidance and remarks have been given to all students for their better perspective of understanding.

Mr. Sandip Patel :

It was my pleasure to be as a jury member in the same college and in the same department, from where I have been graduated. Students have showcased their Internship Project work in a very effective manner. Many students have beneficiated with knowledge of contemporary structural design softwares through their Internship work. Other students have got to acquire practical knowledge of civil engineering site work, which would be definitely helpful them in their career as Civil Engineer. Appropriate remarks and feedback has been given to students, which would be helpful them to enhance their skill.

2. Feedback from the faculty members

Prof. P.G.Patel
Associate Professor
Applied Mechanics Department

KAIZEN 2k22 has not only open a new chapter in the direction of presenting Internship work and making a much needed communication bond between Civil Engineering Practitioner/Structural Engineering Consultants and students through this program. Use of many fundamental features has truly come out through this activity and students showed great interest and enthusiasm in preparing presentation and presenting them against our respected HOD sir and other expert jury members. Students at last were very happy to get appreciation for their innovative idea, hard work and useful suggestions to project their work on larger scale.

Prof. P.H.Andharia
Assistant Professor
Applied Mechanics Department

Students were first time introduced to full time INTERNSHIP (SITE WORK/CONSULTANCY WORK) through GTU syllabus. Students have presented their core work of INTERNSHIP through KAIZEN 2022. Students had seemed to learn very basic fundamental practices through Internship and enhanced their practical knowledge. Overall the KAIZEN 2022turned up to be quite an interesting and insightful program. The jury after the review not only appreciated the hardwork of the students but also gave valuable suggestions which have been duly noted by the students and will be complied.

3. Feedback from the students

Dhairya Chvda :

It was a great learning experience. I got an opportunity to present my internship in front of industrial experts which helped me in improving my presentation skills. Also the mentors and industrial experts gave me very valuable inputs and also gave me tips about how my approach should be if I am on field.

Hetavi Mandal :

It was a great learning experience doing the internship in the final semester of engineering course. I'm glad that I could present my work in the departmental presentation competition - KAIZEN 2022.Selection as the WINNER in KAIZEN made this last stage of engineering journey more memorable. It was a great experience for me to receive the prize from our honourable education minister SHRI JEETUBHAI VAGHANI. The event was organised on great scale and handled with sheer smoothness. I'm thankful to the department for considering me eligible for the prize.