







#### ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY CHIKMAGALUR-577102

## DEPARTMENT OF CIVIL ENGINEERING & PIONEER TECHNICAL CONSULTANCY, DAVENGERE

#### ADD-ON Course

HANDS ON TRAINING ON TOTAL STATION

Date: 21/02/2024 to 24/02/2024

Venue: Department of Civil Engineering

Organized by:

Department of Civil Engineering

AIT, Chikkamagaluru

#### **Objectives:**

 The main objective of this course is to empower students with usage of Total Station and Post processing of Survey data using AUTOCAD and E-Surveying software

Total duration of the course will be 30 hours.

Name of Expert:

YASHWANTH H G Managing partner

SHASHIDHAR K Quantity surveyor

Name of the Firm: Pioneer Technical Consultancy, Davengere

Participants:

Second and Third year Civil Engineering Students.

Dr. Kiran B M
Organizing Secretary
Professor & Head
Dept. of Civil Engineering
AIT, Chikmagalur

#### Co- Organizing Secretaries:

- Kavan M R, Asst. Professor
- Vinay Kumar C V, Asst. Professor
- Ranjith A , Asst. Professor

#### Course Outcome:

After a successful completion of the course, the student will be able to:

- Handling Total Station instrument
- Site marking, Boundary Survey using Total Station.
- Capture data to process and perform analysis for survey problems with the use of Total Station & E-Surveying Software.

#### Summary:

- Day 1: Introduction to total station and applications of Total Station was explained using Power point Presentation. After that, parts and its functions, setting up & operation of Total Station were demonstrated.
- Day 2: Students solely carried the Measurement of Boundary, leaving the Control points on ground.
- Day 3: Students solely carried the marking the plots of given dimensions on the ground using stakeout.
- Day 4: After practical session in the morning, extraction of data from instrument through .csv and .dwg file was trained. Plotting contour and earthwork was demonstrated using E Surveying Software.

"AITECH"

Adichunchanagiri Shikshana Trust (Regd.)

Estd: 1980

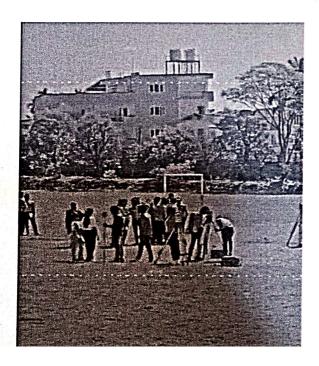


## ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY CHIKMAGALUR



#### DEPARTMENT OF CIVIL ENGINEERING

#### **PHOTOS**







## ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY CHIKMAGALUR



#### DEPARTMENT OF CIVIL ENGINEERING

Dear Students, note down the timetable for the Add-on course. All are informed to attend the session at 09:00 am from 21/02/2024 to 24/02/2024 without fail.

#### Add on Course

#### HANDS ON TRAINING ON TOTAL STATION

#### **Training Schedule**

Sl. No	Date	Timings
1	21/02/2024	9: 00 am to 05:00 pm
2	22/02/2024	9: 00 am to 05:00 pm
3	23/02/2024	9: 00 am to 05:00 pm
4	24/02/2024	9: 00 am to 05:00 pm

Signature of HOD Dr. KIRAN B. M.

Professor & Head B.E., M.Tech., Ph.D Department of Civil Engineering Adichunchanagiri Institute of Technology CHIKKAMAGALURU-577102









#### ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY CHIKMAGALUR-577102

## DEPARTMENT OF CIVIL ENGINEERING & INNERVOICE & CADD ACADEMY

ADD-ON Course,

## E-TABS & SKETCHUP FOR VIII SEMESTER STUDENTS

Venue: Department of Civil Engineering

Organized by:

**Department of Civil Engineering** 

AIT, Chikkamagaluru

#### **Objectives:**

- The main objective of this course is to empower students with usage of sketchup for creating a good elevation of the structures
- ETABS for the design calculations of the high rised structures.

Total duration of the course has been upto 2 weeks.

Name of Expert:

SAYED RHUMAN INCHARGE STAFF

MANOJ SUPPORTIVE STAFF

Name of the Firm: INNERVOICE & CADD ACADEMY

Participants: 8<sup>TH</sup> SEMESTER, Civil Engineering Students.

Organizing Secretary
Professor & Head of
Civil Engineering
department.

#### Co- Organizing Secretaries:

- ☐ CHETHAN VR, Asst. Professor
- ☐ Vinay Kumar C V, Asst. Professor
- ☐ Ranjith P, Asst. Professor

#### **1. INTRODUCTION:**

• COMPANY PROFILE:

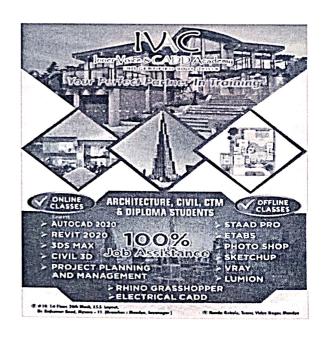
NAME: INNER VOICE & CADD ACADEMY (ISO 9001 : 2015)

COMPANY PRESIDENT: SAYED RUHMAN

B.E in Civil Engineering.

9th year going.

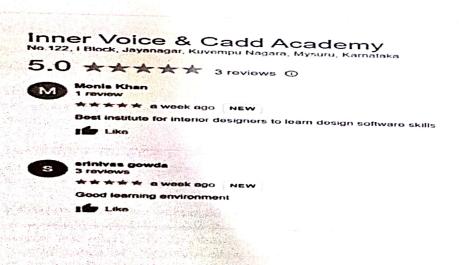




## 1.1 ABOUT INNERVOICE CADD ACADEMY:

IVAC is committed to its Students to make them industry ready by imparting real world Engineering design skills that will make them stand out of the crowd this we will achieve by constant leveraging CAD and CAE techniques, Collaboration with companies. Diploma in Interior Designing: We provide 1 year and 6 months course with International ISO certification. Softskills: We train up the students to become a Professional softskill trainer with international ISO certification. Interships: We handle Interships for all the Engineering braches with international ISO certification. Programming languages: We provide training for all the programming languages like Python, Java, Android, C++, C sharp and many more with International ISO certification".

**REVIEWS AND PHOTOS** 



#### 2.SKETCHUP



SketchUp is a 3D modeling software that allows users to create and manipulate 3D models of buildings, landscapes, furniture, and other objects. It is commonly used in architecture and interior design. Trimble Inc. SketchUp is owned by Trimble Inc.

- 1. Ease of Use: SketchUp is renowned for its simplicity and ease of use. It features a straightforward interface that allows users to quickly create 3D models without extensive training.
- 2. Versatility: SketchUp is used across various industries, including architecture, interior design, landscape architecture, engineering, film, and video game design. Its versatility makes it suitable for a wide range of projects.
- 3. Editions: SketchUp comes in different editions, including SketchUp Free (formerly known as SketchUp Make), SketchUp Pro, and SketchUp Studio. SketchUp Free is a web-based version that offers basic functionalities for hobbyists and beginners. SketchUp Pro is the desktop version, which provides additional features and tools for professional users. SketchUp Studio includes SketchUp Pro plus additional tools like Trimble Connect for collaboration and VR support.
- 4. Modeling Tools: SketchUp provides a variety of modeling tools such as push/pull, extrude, rotate, and scale, which allow users to easily create and manipulate 3D shapes.
- 5. Extensions and Plugins: SketchUp supports extensions and plugins that enhance its functionality. Users can access a wide range of extensions through the Extension Warehouse, which offers tools for rendering, animation, structural analysis, and more.

- Integration: SketchUp integrates seamlessly with other software applications like Layout, which is used for creating presentations and documentation, as well as Trimble Connect for collaboration and sharing models.
- Community Support: SketchUp has a large and active community of users who share
  tips, tutorials, and resources. This community support makes it easier for new users to learn
  the software and troubleshoot any issues they may encounter.

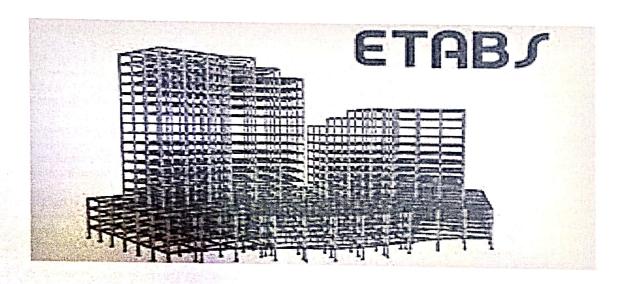
#### 2.1 Advantages:

- Architecture: Architects use SketchUp to create 3D models of buildings, structures, and landscapes. It's widely used for conceptual design, site planning, and architectural visualization.
- 2. Interior Design: Interior designers use SketchUp to visualize and design interior spaces, including furniture layout, color schemes, and lighting design.
- 3. Landscape Design: Landscape architects and designers use SketchUp to create 3D models of outdoor spaces, including gardens, parks, and urban landscapes. It helps them to plan and visualize the layout of plants, hardscapes, and other elements.
- 4. Engineering: Engineers use SketchUp for various purposes, including mechanical design, product modeling, and prototyping. It's useful for creating 3D models of machinery, equipment, and mechanical components.
- 5. Construction: SketchUp is used in the construction industry for project planning, coordination, and visualization. Contractors and construction professionals use it to create 3D models of buildings and construction sites, allowing them to identify potential issues and plan construction processes more efficiently.
- 6. Film and Video Game Design: SketchUp is utilized in the entertainment industry for creating 3D models of sets, props, and environments for films, animations, and video games. It's often used for previsualization and concept design.
- 7. Education: SketchUp is widely used in educational settings, from K-12 schools to universities, for teaching 3D modeling, design principles, and spatial reasoning. It's valued for its ease of use and accessibility, making it suitable for students of all ages and skill levels.

#### 2.2 Disadvantages:

- Limited Rendering Capabilities: SketchUp's built-in rendering capabilities are somewhat basic compared to dedicated rendering software. While it's possible to create highquality renders within SketchUp using plugins or extensions, achieving photorealistic results may require additional software or plugins.
- Not Suitable for Complex Organic Modeling: While SketchUp excels at creating
  geometric shapes and architectural models, it may not be the best choice for modeling
  complex organic shapes or characters. Other software packages, such as Blender or Maya, are
  better suited for such tasks.
- Subscription Model for Pro Version: SketchUp Pro is available on a subscription basis, which may not be ideal for users who prefer perpetual licenses. This subscription model can become costly over time, especially for users who only require occasional access to the software.
- 4. Learning Curve for Advanced Features: While SketchUp's basic tools are easy to learn, mastering more advanced features and techniques can require significant time and effort. Users may need to invest in additional training or resources to fully leverage the software's capabilities.
- 5. Limited Collaboration Features in Free Version: SketchUp Free (formerly known as SketchUp Make) lacks some of the collaboration features available in SketchUp Pro and SketchUp Studio. This can make it challenging for teams to collaborate effectively on projects using the free version.
- 6. Hardware Requirements: Running SketchUp smoothly, especially with larger and more complex models, may require a computer with sufficient hardware specifications. Users with older or less powerful computers may experience performance issues when working with large models or complex scenes.
- 7. Dependency on Plugins for Advanced Functionality: While SketchUp's core features are robust, users may find themselves relying on third-party plugins or extensions to access advanced functionality. This can lead to additional costs and potential compatibility issues as plugins may not always be updated to work with the latest versions of SketchUp.

## 3.E tabs (Extended Three Dimensional Analysis of Building Systems)



ETABS (Extended Three-dimensional Analysis of Building Systems) is a

Widely - used software for structural analysis and design of buildings. Developed by Computers and Structures, Inc. (CSI), ETABS is known for its robust capabilities in modeling, analyzing, and designing complex structural systems.

- Structural Analysis: ETABS allows engineers to perform linear and nonlinear static and dynamic analysis of building structures. It can analyze a wide range of structural elements, including beams, columns, slabs, walls, and foundations.
- 2. Modeling Capabilities: ETABS provides a user-friendly graphical interface for creating 3D models of building structures. It supports various modeling techniques, including extrusion, shell, and frame elements. Users can easily input geometry, properties, and loads to accurately represent the structure.
- 3. Lond Analysis: ETABS enables engineers to apply different types of loads to the structural model, including dead loads, live loads, seismic loads, wind loads, temperature

loads, and more. It also allows for the combination of loads based on various design codes and standards.

- Design Optimization: ETABS offers design optimization tools to ensure that structural
  elements meet code requirements while minimizing material usage and cost. It can
  automatically generate design results, including reinforcement layouts for beams, columns,
  and slabs.
- 5. Integration with Other Software: ETABS seamlessly integrates with other CSI software products like SAP2000 (Structural Analysis Program) and SAFE (Slab Analysis and Design Software). This allows for a more comprehensive analysis and design workflow, especially for projects with complex structural systems.
- 6. Code Compliance: ETABS supports various international design codes and standards, including ACI (American Concrete Institute), AISC (American Institute of Steel Construction), Eurocode, BS (British Standards), and many others. Engineers can specify the relevant code provisions for their project and ensure compliance during the design process.
- 7. Graphical Output and Reporting: ETABS provides detailed graphical output and reporting tools to visualize analysis results and generate comprehensive reports. Users can view results in graphical form, including diagrams, contours, and animations, as well as generate tabular reports for further analysis and documentation.
- 8. Educational Resources and Support: CSI offers extensive documentation, tutorials, and technical support to help users learn and effectively utilize ETABS. Additionally, there are numerous training programs and resources available to assist engineers in mastering the software.

#### 3.1 ADVANTAGES:

- 1. Comprehensive Structural Analysis: ETABS provides a wide range of analysis capabilities, including linear and nonlinear static analysis, dynamic analysis, and time-history analysis. This allows engineers to accurately model and simulate the behavior of complex building structures under various loading conditions.
- 2. Efficient Modeling Tools: ETABS offers efficient modeling tools for creating 3D models of building structures. Engineers can quickly generate structural elements such as beams, columns, slabs, walls, and foundations using intuitive graphical interfaces. The software supports various modeling techniques, including extrusion, shell, and frame elements.

- 3. Integration with Design Codes: ETABS integrates seamlessly with international design codes and standards, such as ACI, AISC, Eurocode, BS, and others. Engineers can specify the relevant code provisions for their project, and ETABS automatically checks the structural elements for compliance during the design process.
- 4. Design Optimization: ETABS includes design optimization tools that help engineers optimize structural elements to meet code requirements while minimizing material usage and cost. The software automatically generates design results, including reinforcement layouts for beams, columns, slabs, and walls, streamlining the design process.
- 5. Seismic Analysis and Design: ETABS is widely used for seismic analysis and design of building structures. The software incorporates advanced seismic analysis methods, including response spectrum analysis and time-history analysis, allowing engineers to evaluate the seismic performance of structures and design them to withstand seismic loads effectively.
- 6. Graphical Output and Visualization: ETABS provides detailed graphical output and visualization tools, allowing engineers to visualize analysis results in graphical form, including diagrams, contours, animations, and rendered views. This helps engineers better understand the behavior of the structure and communicate design concepts effectively to stakeholders.
- 7. Interoperability with Other Software: ETABS seamlessly integrates with other software tools, such as SAP2000 and SAFE, also developed by Computers and Structures, Inc. (CSI). This interoperability enables engineers to transfer models between different software packages and perform more comprehensive analysis and design tasks.
- 8, Technical Support and Training: CSI offers extensive technical support, documentation, tutorials, and training programs to help users learn and effectively utilize ETABS. Engineers can access online resources, attend webinars, and participate in training workshops to enhance their skills and proficiency in using the software.

#### 3.2 DISADVANTAGES:

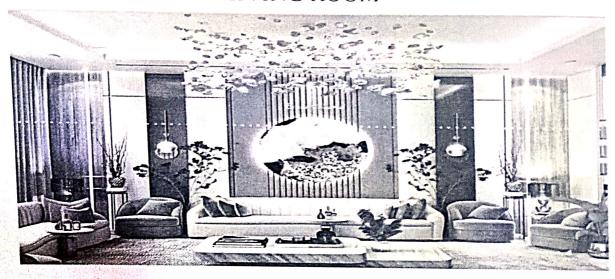
- Learning Curve: ETABS has a steep learning curve, particularly for beginners or users transitioning from other software packages. Mastering the various features and capabilities of ETABS may require significant time and effort, as well as additional training or resources.
- 2. Complexity of Modeling: Modeling complex building structures in ETABS can be challenging, especially for projects with irregular geometries or non-standard structural elements. Engineers may encounter difficulties in accurately representing intricate architectural features or complex structural systems within the software.

- Limited Customization: ETABS has limited customization options compared to some other structural analysis software. Users may find it challenging to customize the user interface, define custom analysis procedures, or implement specialized analysis techniques within the software.
- 4. Resource Intensive: Running complex analyses or large-scale models in ETABS can be resource-intensive in terms of computational power and memory requirements. Users may experience performance issues or slowdowns when working with large models or conducting advanced analyses on less powerful hardware.
- 5. Software Stability: Some users have reported occasional stability issues or software crashes while using ETABS, particularly when working with large and complex models or performing resource-intensive analyses. While updates and patches are periodically released to address stability issues, occasional bugs or glitches may still occur.
- 6. Cost: ETABS is a commercial software package, and the cost of purchasing licenses or subscriptions may be prohibitive for some users, particularly small firms or individual practitioners with limited budgets. Additionally, ongoing costs associated with software maintenance, updates, and technical support can further contribute to the overall expense of using ETABS.
- 7. Limited Scope: While ETABS is well-suited for the analysis and design of building structures, it may not be the best choice for specialized applications or industries outside of building design. Engineers working in fields such as aerospace, automotive, or industrial engineering may require specialized software packages tailored to their specific needs.
- 8. Dependency on Vendor Support: Users may encounter challenges or limitations in using ETABS if they rely heavily on vendor-provided technical support or documentation. Lack of comprehensive support or documentation for certain features or functionalities may hinder users' ability to effectively utilize the software.

Post of the form of the first decide

### MODELS MADE BY STUDENTS

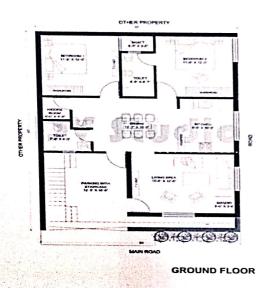
#### INTERIOR DESIGN OF LIVING ROOM



#### INTERIOR DESIGNING USING SKETCHUP

This is the interior design of the living room using sketchup. The dimension of this room is 15'x15' demo design. The living room consists of all required furnitures including lights, carpets, wallpapers, wall ceiling etc. The renderingos done through lumion/vray for sketchup.

#### 2.3.2BUILDING DESIGN USING SKETCHUP





FIRST FLOOR

Fig1.1PLANS FOR OUTER ELEVATION BUILDING DESIGN

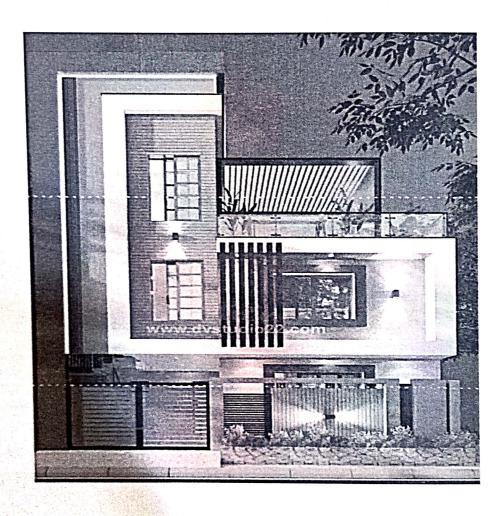
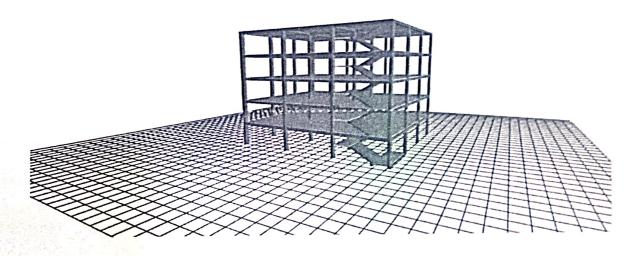


Fig 1.2 OUTER ELEVATION OF G+2 BUILDING AS PER PLAN

This is the elevation and plans mentioned by the tutor for the students. By referring the plan the student have created the exact outer elevation using the sketchup software and later rendered by the Lumion/v-ray software.

#### **WORKS ON ETABS:**



This is the design of the G+5 building. All sesmic loads, dead loads, live loads etc. are mentioned and calculated properly. All beams, slabs, columns & staircase loads are mentioned as per the IS cods. The proper result is obtained without any warning and the result was checked with manual calculation by using the Kanis method.

#### STUDENTS AT THE CLASS:



#### **Course Outcome:**

After a successful completion of the course, the student will be able to. The students can analyse and create the plan according to site adjustment. Creation of outer elevation and design of the house interiors are done using sketchup

Using ETABS the students are known to design the structural loads.

#### Summary:

- · Week1: Introduction of sketchup & ETABS software.
- Students learnt about the basic tools in sketchup software. Simple sketchup designing and perfecting with the tools.
- Design of single room with interiors and furnitures.
- Creating the building elevation according to plan given by the instructor, with good quality of rendering on the created elevation.
- Week2: Introduction of ETBS software and using of basic tools.
- Creating the basic design of according to the questions given by the instructor.
- Creating the plan and designing the loads according to the requirements of the site.

## A PROPOSAL ON SOFTWARE TRAINING PROGRAM FOR CIVIL STUDENTS



ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY, CHIKMAGALUR, KARNATAKA -577101

#### **Submission of Proposal**

About us

As an Established Training Institute, we pride ourselves on providing suite of Training and Solutions. Our team consistently delivers state-of-the-art training and solutions in various areas.

We believe in

At Inner Voice & CADD Academy, we think that everyone ought to have the chance to contribute to technological development and cultivate future abilities. With learning pathways and courses produced by industry professionals, we assist enterprises and people in benchmarking skills across jobs and developing safe, dependable products.

**Foundation** 

Since our foundation in 2017, we provide Computer Aided Engineering (CAE), Computer-Aided Design (CAD), CAM, Project Management courses, MEP Course, Professional Interior Designing Course, Computer Courses and Programming languages. We provide software training for Civil, Mechanical and Computer Science and other Degree Students.

Inner Voice & CADD Academy is a one-stop shop for all your employable skills training requirements. With a team of experienced instructors and a commitment to delivering industry-relevant skills, we aim to empower students with practical knowledge and to help students maximize their education. We provide a variety of courses, certificates, placement support and career preparation resources.

Branches
Jayanagar,
K.R Pete.

Email: wacacademyinfo@gmail.com Website: www.ivacacademy.com

To,
The HOD,
Department of Civil Engineering,
Adichunchanagiri Institute of Technology,
Chikmangalur,
Karnataka-577101.

Dear Sir/Madam,

Subject: Proposal for Software Training Collaboration

I hope this letter finds you well. I am writing to propose a collaboration between "Inner Voice and CADD Academy" and "Adichunchanagiri Institute of Technology" for providing comprehensive software training to the Civil Engineering students at your esteemed institution.

Proposal Overview:

We propose to offer a specialized software training program tailored to meet the specific needs of Civil Engineering students at your institution. Our curriculum covers a range of software applications essential for the modern engineer.

#### Benefits of Collaboration:

- 1. Enhance Employability: Equip students with practical skills that make them more marketable in the industry.
- Industry-Relevant Curriculum: Our courses are designed based on industry trends and requirements, ensuring students learn the latest tools and techniques.

Email: ivacacademyinfo@gmail.com Website: www.ivacacademy.com

- 3. Experienced Instructors: Our team comprises seasoned professionals with extensive industry experience.
- 4. Certification: Upon completion of the program, students will receive certifications from Inner Voice and CADD Academy.

#### Customization:

We understand the unique requirements of your Institute and we are open to customizing the program to align with your academic calendar and specific learning objectives.

Thank you for considering our proposal. We look forward to the opportunity to contribute to the academic and professional growth of the students at your esteemed Institute.







#### **General Terms of Proposal**

- Upon completion of software training program, students will be issued a
  certificate from Inner Voice and CADD Academy.
- Course will be delivered in Offline mode.
- Students must maintain 90% of attendance during the software training program.
- Study material will be provided for the students.
- Each and every participant will get benefited by our CADD Academy to avail lifetime free service of software.
- Placements assistance will be provided based on students skill set and interest.
- Daily attendance of the students will be monitored and performance analysis of each student will be done.
- Classrooms and systems should be provided from college side only.
- Training fee charged by Inner Voice and CADD Academy from the students who undergo the software training program as per agreed cost is mentioned in the below table

SOFTWARE	Fee per Student
1. Sketchup Pro and Vray	Rs. 2250/-
2. ETABS	Rs. 2250/-
Total	Rs. 4500/-

Email: ivacacademvinfo@gmail.com Website: www.ivacacademy.com

• If changes are required, can be made on mutual agreement, The fee may change depending on the changes.

#### 1. Payment Terms

- a) Payment can be made either through cheque or online transaction.
- b) 100% payment should be made as the software training program is completed.

**Contact Information:** 

Address:

#10,1st Floor, 26th Block, J S S Layout, Dr.Rajkumar road,

Mysore.

Phone:

7975421140/9886296726.

LADD Academy

ISO 9001:



For Inner Voice and CADD Academy

Syed Ruman

Head

Email: wacacademyinfo@gmail.com Website: www.ivacacademy.com



Date:2/02/2024

To,
The HOD,
Civil department,
Adichunchanagiri Institute of technology,
Chikmangalur,
Karnataka.

Subject: Proposal for Comprehensive Software Training Program for the Students.

Dear Sir/Madam,

I want to propose a comprehensive software training program for the Civil Engineering Department at your Institute. As technology continues to play a pivotal role in the field of civil engineering, it is imperative for students to stay updated with the latest software tools and applications.

Objective: The primary objective of this training program is to enhance the technical skills of students, enabling them to effectively utilize modern software tools in various aspects of civil engineering projects. The program will cover a wide range of software applications relevant to the field, fostering a more handson and practical approach to learning.

#### **Program Highlights:**

- 1. Introduction to Industry-Standard Software:
  - Sketchup Pro and Vray.
  - ETABS.

#### 2. Hands-On Workshops:

- Interactive sessions with experienced instructors.
- Practical exercises and real-world case studies.
- Q&A sessions for doubt clarification.

Website: www.caddcentre.com

Email: caddcentreservices.com



#### 3. Certification:

 Participants will receive certificates upon successful completion of the training program.

#### 4. Post-Training Support:

- Continued access to training materials and resources.
- Technical support for any software-related queries.

Cost: We understand the budget constraints of educational institutions. Our proposal includes a detailed breakdown of costs, with options for customization based on the college's preferences and requirements.

#### Fee Structure:

Software	Fee per Student
1. E-TABS	Rs. 3000/-
2. Sketchup and Vray	Rs. 3000/-
	Total: Rs. 6000/-

#### Benefits:

- Empower students with practical skills in using industry-standard software.
- Bridge the gap between academic knowledge and industry demands.
- Foster collaboration and innovation within the department.

Thank you for considering our proposal. We look forward to train your students at your Institute and making them industry ready.

Website: www.caddcentre.com

Email: caddcentreservices.com



Best Regards,
Chethan M,
Branch Head,
RT Nagar Branch,
Bangalore.

Contact Details:

NO.43, 2nd Floor, MALLIAIH PLAZA, RT Nagar, Bengaluru.

9916046773/9900828311.

Please feel free to contact us.

Website: www.caddcentre.com

Email: caddcentreservices.com



ISO 9001: 2015

# Certificate of Participation









This certificate is presented to

### SANJAY B L

For his/her active participation from 12th to 17th February 2024 in Software training on

"Sketchup Pro with Vray" held at ADICHUNCHANAGIRI INSTITUTE OF TECHONOLOGY, CHIKMAGALUR

Executive Director



Syed Ruman Instructor



# Certificate of Participation









This certificate is presented to

#### SANJAY B L

For his/her active participation from 19th to 24th February 2024 in Software training on

"ETABS" held at ADICHUNCHANAGIRI INSTITUTE OF TECHONOLOGY, CHIKMAGALUR

Executive Director



Syed Ruman Instructor