

# SANKALAN (संकलन)



## Vision of the Department

*To prepare civil engineering professionals with an ability to develop designs and initiate innovative thoughts focusing on infrastructural needs with a social responsibility.*

## Mission of the Department

*M1: To enhance technical skills among the students by adopting effective teaching-learning processes.*

*M2: To impart knowledge of emerging infrastructural needs of the society for developing eco-friendly designs.*

*M3: To inculcate technical competencies among the students to enable them to meet present and future challenges.*

*M4: To prepare for life-long learning with professional ethical practices.*

## Editorial Board

### Faculty

**Dr. G. Manohar,**

**Professor & Head, - Editor**

**T. RajaRamanna - Co-ordinator**

**P. Dhanamma - Co-ordinator**

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### Students:

**1. D. Akash**

**2. A. Rohan**

**3. J. Praveen Nayak**

## MATRUSRI ENGINEERING COLLEGE

Approved by AICTE & Affiliated to Osmania University  
16-1-486, Saidabad, Hyderabad-500059

## DEPARTMENT ACTIVITIES

1. Guest Lecture on Non Destructive Testing for Condition Assessment of Concrete Structures **by Dr.S.Bhasker**, SERC, Chennai. On 23/01/2016.
2. STAAD PRO workshop in association with IIT Bhubaneswar by **E.R.Pradeep** Resource person from IIT,Chennai on 26/02/16 & 27/02/16.
3. One day Guest Lecture on Ground Water Improvement for Onshore Terminal near Kakinada Port by Dr. **D.Babu Rao**, Professor & Head, C.E.D, Osmania University on 15/03/2016.
4. Seminar on E-TAB software and its application by **Er.Syed Abdul Majid Imarat** consultancy services,Hyd on 22/01/2016.
5. Guest lecture on “Conservation of Musi River” on Water Day celebrations by **Prof. R.C Reddy**, MVSR on 22/03/2016.
6. Seminar on white topping as a Rehabilitation method for Bituminous pavement by **Dr.B.Sridhar**, Professor, Vasavi College of Engineering. By 15/04/2016.

## FACULTY ACTIVITIES

1. **Sri.T.RajaRamanna, Sri.P.Prashanth, and Smt.P.Dhanamma** Attended Two –Week ISTE STTP Workshop on *‘Introduction to Structural Engineering’* conducted by Indian Institute of Technology Kharagpur, under the National Mission on Education through ICT (MHRD) FROM 4/1/16-9/1/16 at Anurag Group of Institutions, Hyderabad.
2. **Smt.P.Dhanamma** Attended One Week Refresher on *“Engineering Mechanics”* from 18 june to 24 june”16 At MVSR Engineering College, Nadargul, Hyderabad.
3. **Smt.G.Satyavathi** Attended Three day conference on “Science Technology for Indigenous Development in India” from 22/2/2016 to 24/2/2016 at RBVRR Women's' College, Hyderabad.

## FACULTY ACHIEVEMENTS

4. **G.Satyavathi** published a paper in the International Journal of Plant breeding and Genetics with title Variability in Physiological and Yield Performance of Castor genotypes under rain fed conditions of Alfie soils.

## STUDENT ACTIVITIES

1. **Miss.T.Harshitha Reddy** B.E.IV/IV (Civil) won Bronze in Badminton in South Zone inter University, Kavali, Nellore from 25<sup>th</sup> Jan to 30<sup>th</sup> Jan, 2016.

## Technical Write-up

### MANUAL DRAFTING VS AUTO CAD DRAFTING

An engineering drawing is prepared by using conventional tools. Traditionally, drawing board drafter, T- Square, drawing sheet other drafting instruments have been used. The popular alternative now is to prepare engineering drawing with aid of computer. This method is known as computer aided drafting and is abbreviated as CAD. The CAD requires computer hardware and drawing software. The user needs a good training on the drawing software, which can reduce the time of drawing.

#### **Computer Aided Drafting system:**

1. The system totally eliminates the traditional equipments.
2. The well known software used for engineering drawing is Auto CAD developed by a company Auto Desk.
3. Autodesk, the developer of Auto CAD software is the world leading supplier of computer aided design and drawing software packages.

#### **Advantages of Computer Aided Drafting:**

1. The computer has tremendous speed and it has almost unlimited storage and rapid recall capabilities. This results in reduction of drafting labour and drafting time.
- 2..The drawing can be stored in database for future use by different programmers for variety of applications.
- 3.With the ability to interact with the computer, we can quickly correct a drawing error and see a revised picture on the graphic screen.

4. Visual modelling of any object or engineering component is possible.
  5. When we use computer aided drawing for a drawing containing the same component at several places, we can draw the component once and then insert it whenever needed.
  6. Colour graphic help to display more distinct information on the screen, highlight certain important features etc.,.
- The Computer Aided Drawing can be exported to commercial analysis software for analysis purpose.
8. Computer Aided Design and Drafting is used in the creation, modification, analysis and optimization of designs for improved engineer productivity, an engineer can try out different design ideas by just sitting at the terminal without making any prototype.

#### **Applications of Computer Aided Drafting :**

1. Mechanical: Design of machine elements, CNC machine tools, Robotics.
2. Automotive: Kinematics, Hydraulics, Steering.
3. Electrical: Circuit layout, panel design, control system.
4. Electronics: Schematic diagrams of PCs ICs, etc.
5. Communication: Communication network, satellite transmitting pictures, T.V. tele-casting.
6. Civil: Mapping, contour plotting, building drawing, structural design.
7. Architectural: Town planning, Interior decorations, multi stored complex.
8. Aero space: Design of spacecraft, flight simulators, lofting, etc.

#### **Manual Drafting Vs Auto CAD Drafting :**

1. In manual drafting while drawing we convert the real dimensions to a convenient scale to accommodate the figures on the given sheet. Whereas in case of Autocad drafting no need of converting real dimensions because we can adjust our screen size according to our drawings.
2. In manual drawing we have to use a lot of tools (Example scale, pencil etc.,) for drawing purpose whereas in AutoCAD no need of all these drawing tools. Drawings are made from pre-defined entities such as lines; circles etc., by using respective commands.
3. In manual drawing if modifications came it is not possible (or) difficult to modify the drawing whereas in case of Autocad we can modify the drawings easily.
4. In manual drawing it is difficult to represent repetition plans (i.e. time taking) whereas in Autocad repetition plans can be created fastly.

**Mrs. P. Dhanamma**  
Assistant Professor