



**K. S. SCHOOL OF ENGINEERING AND MANAGEMENT - 560 109**  
**DEPARTMENT OF CIVIL ENGINEERING**  
**INPLANT TRAINING PROGRAMME FOR DIPLOMA-CIVIL ENGINEERING**  
**PROGRAMME DETAILS**

SL NO	DATE & DAY	MORNING SESSION (10:00 AM-12:30PM)		AFTERNOON SESSION (1:30PM-3:00PM)	
1	30/05/2022 MONDAY	INAGURATION	BUILDING MATERIALS TESTING LAB (Dr Arekal Vijay & Mrs.Sushma M)	CONCRETE TECHNOLOGY LAB (Mr Veerendrakumar & Mrs Sai Sushma)	
2	31/05/2022 (TUESDAY)	ENVIRONMENTAL ENGINEERING LAB (Dr Rashmi & Mr Shashi Prasad)		SITE VISIT TO CONCRETE BLOCK MANUFACTURING UNIT (Mr Prashanth M & Mr Manjunath B)	
3	01/06/2022 (WEDNESDAY)	GEO TECHNICAL ENGINEERING LAB (Dr Arekal Vijay & Mrs.Sushma M)		CAD LAB (Mr Naveena MP and Mr Shashi Prasad)	
4	02/06/2022 (THURSDAY)	DESIGN IN E TABS (Mr Prashanth M & Mr Manjunath B)		DRAFTING (Mr Prashanth M & Mr Manjunath B)	
5	03/05/2022) (FRIDAY)	CENTRE LINE MARKING (Mr Prashanth M & Mr Manjunath B)		PREPARATION OF BARBENDING SCHEDULE (Mr Naveena MP and Mr Shashi Prasad)	Valedictory



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**INPLANT TRAINING PROGRAMME TO DIPLOMA-CIVIL ENGINEERING STUDENTS HELD  
BETWEEN 30/05/2022-03/06/2022**

**1) SUMMARY OF TRAINING AT CAD LAB.**

The session was conducted by Mr. Naveena M.P, Assistant Professor and Mr. Shashi Prasad N, Assistant Professor, Dept. of civil Engineering and was attended by 28 students of final semester Diploma in Civil Engineering from KS Polytechnic. The session mainly focused on training on Auto Desk drafting software used widely in industries with a requirement to design and drafting. In this course, the students got in-depth knowledge of all-important tools as well as their real world applications. In addition, students assigned on drafting of the 2D plan of residential building which was there accordance to the practical implementation to understand of design intent and will also be required to make a portfolio of the work done

**2) SUMMARY OF TRAINING AT GEO TECHNICAL ENGINEERING LAB.**

The students of KS Polytechnic visited Geotechnical Engineering Lab for inplant training program. Dr Arekal Vijay briefly explained the objectives and applications of all the experiments. He also discussed some case studies to explain the concepts of geotechnical engineering tests. The application of these tests include analysis and design of foundations, earth retaining structures, dams, underground structures, excavation, embankments and pavement design. Unconfined compression shear test, Direct shear test and permeability tests were conducted as per IS codes and explained the concepts and applications of these tests. Other tests like, compaction test, vane shear test and sieve analysis tests were demonstrated. The session was interactive and students were involved actively.

**3) SUMMARY OF TRAINING AT CONCRTE LAB.**

The session was conducted by Mr. Veerendra Kumar M, Associate Professor and Mrs. Amrutha Dhiraj, Assistant Professor, Dept. of civil Engineering and was attended by 28 students of final



semester Diploma in Civil Engineering from KS Polytechnic. The session mainly focused on comprehensive cement concrete mix design as per the Indian Standards Codal Provisions of IS 10262:2019. A detailed power point presentation was made in the seminar hall pertaining to characterization of various ingredients such as fine aggregate, coarse aggregate, cement, water and admixtures along with relevance of the properties of the ingredients in the mix design, after which a detailed sample mix design calculation for M40 grade concrete was carried out.

From the design mix proportion, concrete cube was casted in the concrete laboratory and its workability characteristics were determined. After the age of 6 days, the casted cube was tested in Compression Testing Machine (CTM) to determine its compressive strength. From the obtained compressive strength at the age of 6 days, its 28 days compressive strength was predicted based on which the necessary modifications required for the design mix procedure were discussed in the concluding session on 08/09/2021. All the clarifications from the students were addressed.

#### **4) SUMMARY OF TRAINING AT MATERIAL TESTING LAB.**

The students of K.S. Polytechnic were briefed about the importance of Material Testing Lab and the experiments that are conducted in this lab. Considering the behavior of mild steel under tension test to be important, students were taught about the experiment and given hands-on to conduct the experiment on 03-09-2021.

In tension test ends of a test piece are fixed into grips connected to a straining device and to a load measuring device. The test involves straining a test piece by tensile force generally to fracture for the purpose of determining one or more of the mechanical properties.

The stress strain graph of mild steel is divided into four areas in which the first section represents elastic deformation and in remaining areas only plastic deformation will takes place. However, the material behaves differently in each individual phase of plastic deformation. Area 'B' defines the flow region here the material is stressed beyond its elastic load ability and within the flow region the stress changes very irregularly with increasing strain so that a wavy line results in the graph. In section 'C' the stress increases sharply and the plastic deformation also increases. At the maximum load ability the material cross-section begins to reduce in size and ultimately failure occurs.

The students were briefed about the procedure and loading conditions as per IS 1608 (2005):  
Metallic Materials- Tensile Testing at Ambient Temperature



#### **5) SUMMARY OF RMC PLANT VISIT**

- Event: Industrial visit to RMC Plant
- Date: 3<sup>RD</sup> September 2021
- Time: 1P.M – 3.30 PM
- Venue: SOBHA RMC PLANT, Tulsipura
- Participants: 30 students and 3 Faculty Members

#### **PURPOSE OF VISITING RMC PLANT:**

1. Technical exposure of Concrete Technology, Manufacturing Processes and other Engineering aspects of Concrete Technology Subject.
2. Students have learnt Process of making concrete, Material used in manufacturing of concrete, Test conducted over Concrete Blocks, Curing process for Concrete Blocks etc.

#### **6) SUMMARY OF ETABS TRAINING.**

The session was conducted by Mr. Prashanth M, Assistant Professor Mr. Manjunath B, Assistant Professor, Dept. of civil Engineering and was attended by 30 students of final semester Diploma in Civil Engineering from KS Polytechnic. The session mainly focused on Practical design of a building starting from reading architectural drawings, drawing of beams and columns, modelling in Etabs, analysis and design in Etabs.

Students were given a simple residential building plan and were asked to draw beams and columns as per their view, then the practical sizes applications and difficulties of beams and columns were explained. In the next session students were explain how the modelling is developed in AutoCAD and imported to Etabs. Finally, the loads were applied and the model was analyzed and designed.

#### **7) SUMMARY OF TRAINING OF DETAILING OF STRUCTURES.**

The session was conducted by Mr. Manjunath B, Assistant Professor, and Mr. Prashanth M, Assistant Professor, Dept. of civil Engineering and was attended by 30 students of final semester Diploma in Civil Engineering from KS Polytechnic. The session mainly focused on detailing of concrete structures referring to SP-36 code book.

Students were told about the basic parameters of detailing of structures pertaining to SP-36, detailing of RC Beams, RC Columns, and RC Slabs were explained. Once the explanation was done students were asked to detail the RC Members of the structure which was previously designed in Etabs by them.

#### **8) SUMMARY OF CENTERLINE MARKING SESSION**

The session was conducted by Mr. Prashanth M, Assistant Professor and Mr. Manjunath B, Assistant Professor, Dept. of civil Engineering and was attended by 30 students of final semester Diploma in Civil Engineering from KS Polytechnic. The session mainly focused on teaching students how practically centerline marking will be done in sites for marking footings.

Students were given the footing drawings of the same building which was designed by them in Etabs.

The site boundary perpendiculars were marked first and then grids were drawn on the floor using conventional centerline threads, from the grids columns and footings were marked.

#### **9) SUMMARY OF BAR BENDING SCHEDULE TRAINING**

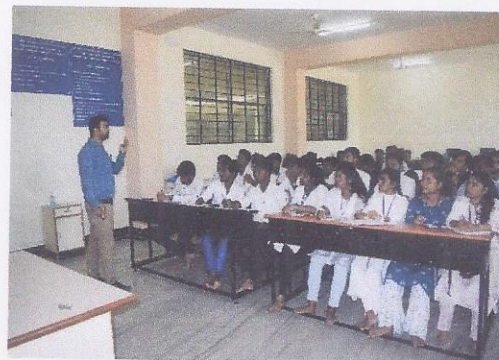
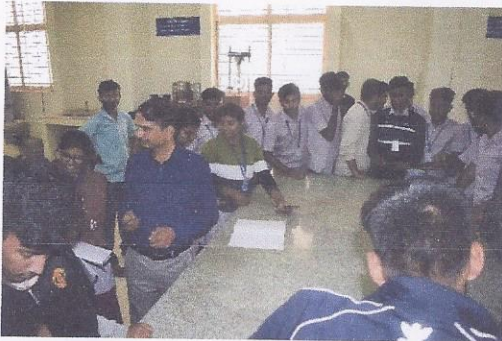
The session was conducted by Mr. Naveena M.P, Assistant Professor and Mr. Shashi Prasad N, Assistant Professor, Dept. of civil Engineering and was attended by 28 students of final semester Diploma in Civil Engineering from KS Polytechnic. The session mainly focused on training on Preparation of Bar Bending Schedule (BBS). In this course, Student has focused on how to do list the reinforcement bars in tabular form giving the particulars of bars, the shape of bending with sketches, length of each, total length and total weight. This course has helped the students to determine the total quantity of steel needed for the construction of a structure which reduces cost and time in industry.



### Outcomes of the Sessions.

- 1) To apply basic CAD concepts to develop and construct accurate 2D geometry through creation of basic geometric constructions.
- 2) To create 2D model plan of Architectural drawing accordance with Industry need.
- 3) To prepare Bar Bending Schedule (BBS) for the structural drawing which reduce construction cost and time.
- 4) To improving quality control at the site.
- 5) Knowledge about the site conditions where RMC plant proves useful.
- 6) Improved knowledge about information of use of admixtures.
- 7) RMC plant visit was beneficial to gain overall idea about elements of batching and mixing process.
- 8) To characterize various ingredients used for making cement concrete.
- 9) To design cement concrete mix as per IS 10262:2019.
- 10) To predict the 28 days strength at the age of 7 days and to make necessary modifications for the design mix.
- 11) To draw centerline for the given footing and column drawing.
- 12) To analyze and design in Etabs
- 13) To read the practical drawings.

### PHOTOGRAPHS.





**Program in charge**

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**Head of the Department**

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