

CIVIL TECH AND TRENDZ

MAGAZINE OF CIVIL ENGINEERING DEPARTMENT
JUNE - DEC 2018

**THERE'S
A LOT
INSIDE....**



CHECK AND EXPLORE THE MARVELS

Let me guide you along the way through this magazine.



DEPARTMENTAL EVENTS

ACHIEVEMENTS

ARTICLES AND MARVELS

CAREERS

TRICK ZONE

**IN THE WORDS OF
DIGNITARIES....**

...THERE IS MUCH MORE.....

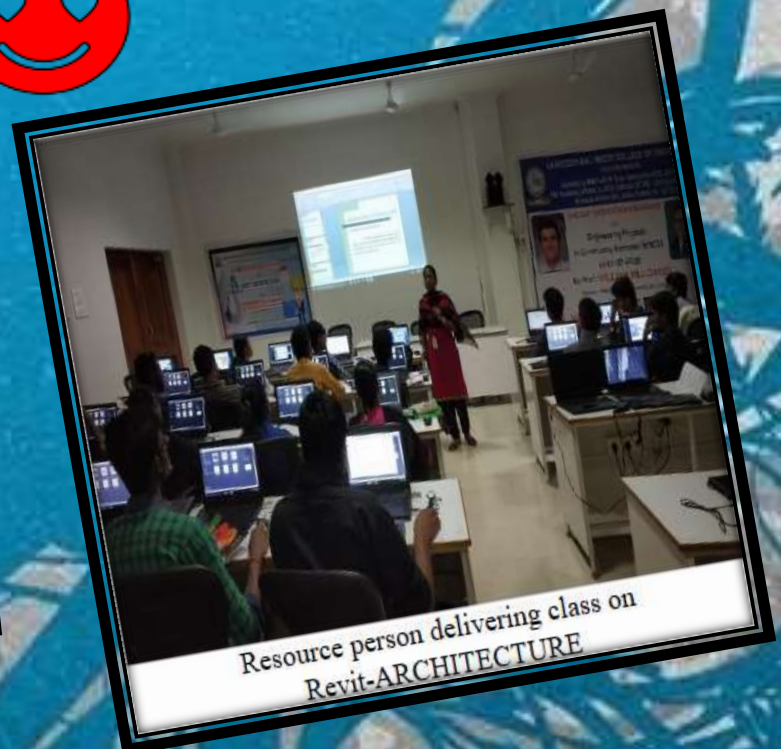


→ DEPARTMENTAL EVENTS

CERTIFICATION PROGRAM ON AUTOCAD PROFESSIONAL
19-11-2018 to 01-12-2018 . FOR 2nd YEAR STUDENTS



CERTIFICATION PROGRAM ON REVIT -ARCHITECTURE
15-11-2018 to 28-11-2018 .FOR 3rd YEAR STUDENTS

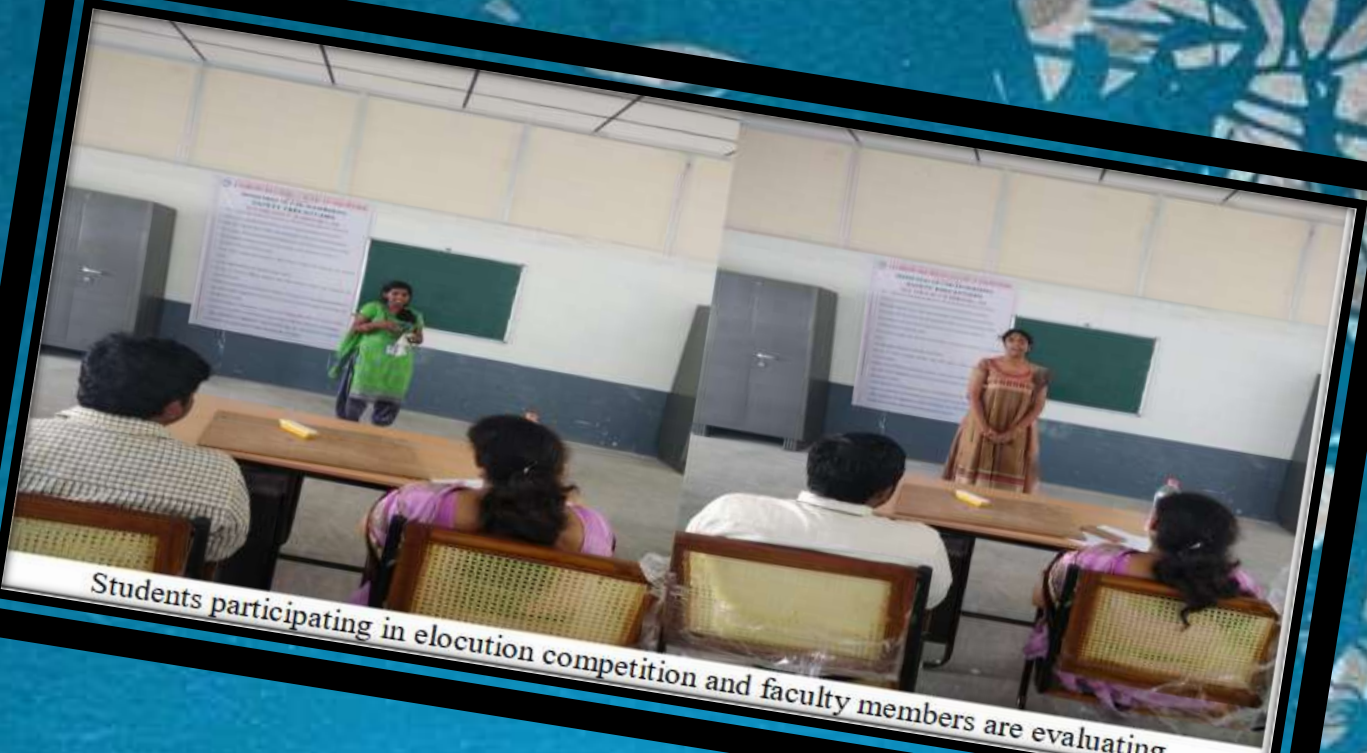


We shape our buildings, thereafter they shape us.

Winston Churchill

ENGINEERS DAY CELEBRATIONS

14-09-2018 One day



Students participating in elocution competition and faculty members are evaluating

TWO DAY WORKSHOP ON GIS PROFESSIONAL TRAINING

11.9.2018 to 12.9.2018 BY Dr K.B. Chari, Director, GIS Labs, Hyderabad



Dr K.B. Chari addressing the students



Section of gathering



Certificate distribution to participants



TWO-DAY WORKSHOP on E-TABS

23-06-18 to 24-06-18



HOD Dr. V. Rama Krishna addressing the importance of design and analysis of structures.



Students actively participating in workshop



ONE DAY SEMINAR ON WATER RESOURCES MANAGEMENT -CONCEPTS, PROBLEMS AND SOLUTIONS

7.8.2018 BY Dr P. Lakshminarayana, Associate Professor, Department of Hydraulics and Water Resources Engineering, Wolatia Soda University, Ethiopia.



BRIDGE IT(MODEL MAKING) BY CLUB VARADHI

29-08-2018 One day



Students participating in model making competition



Instructions are giving by faculty and student coordinators

TECHNICAL QUIZ BY CLUB VARADHI

13-07-2018 One day



Students participating in main Technical Quiz



Students participating in screening test conducting by faculty and student coordinators



THAT WAS A LOTRIGHT??????????

ACHIEVEMENTS

ACADEMIC ACHIEVERS

PRATHIBHA AWARDS 2018

- 1.EDA HEEMA SHIVANI (14761A0114)
- 2.YAGANTI HARI KRISHNA (15765A0113)

ACADEMIC MERIT ONGOING

- 1.EDA HEEMA SHIVANI (14761A0114)
- 2.CHUNDURU GAYATHRI (15761A0114)
- 3.ADUSMALLI NAGARAJU (16761A0101)
- 4.PINGALA MOHAN SAI TEJA REDDY (17761A0141)

EXTRA-CURRICULAR ACHIEVEMENTS

EXTEMPORE(11-09-18) BY NSS

- 1.SAIGIRI NADA(16761A0138)
- 2.N.V.JAYASIMHA REDDY (16761A0139)

ELOCUTION (14-09-18) BY IEI STUDENT CHAPTER

- 1.G.DILEEP (18761A0112)
2. T.KAVYA SRI (17761A0148)
- 3.P.UMA MAHESWARI(17761A0135)

ELOCUTION(10-08-18) BY SPOORTHI LITERARY CLUB

- 1.SAIGIRI NADA(16761A0138)

SPOT PAINTING(10-08-18) BY SPOORTHI LITERARY CLUB

1. P.UMA MAHESWARI(17761A0135)

WEALTH FROM WASTE(15-09-18) BY SPOORTHI LITERARY CLUB

- 1.A.AMBICA TEJASWI(16761A0102)
- 2.E.JAHNAVI (18761A0110)

LAKSHYA 2K18 (27-12-18)

- 1.SHAIK KHADAR BASHA(15761A0148) in model expo and pragna

ARTICLES

PRE-CAST CONCRETE STRUCTURES

The concept of precast (also known as “prefabricated”) construction includes those buildings, where the majority of structural components are standardized and produced in plants in a location away from the building, and then transported to the site for assembly. These components are manufactured by industrial methods based on mass production in order to



The main features of this construction process are as follows:

1. The division and specialization of the human workforce
2. The use of tools, machinery, and other equipment, usually automated, in the production of standard, interchangeable parts and products
3. Compared to site-cast concrete, precast concrete erection is faster and less affected by adverse weather conditions.
4. Plant casting allows increased efficiency, high quality control and greater control on finishes.

This type of construction requires a restructuring of entire conventional construction process to enable interaction between design phase and production planning in order to improve and speed up construction.

TYPES OF PRECAST SYSTEMS:

Depending on the load-bearing structure, precast systems can be divided into the following categories:

- * Large panel systems
- * Frame systems
- * Slab-column systems with walls
- * Mixed systems

LARGE PANEL SYSTEMS:

The designation "large-panel system" refers to multistory structures composed of large wall and floor concrete panels connected in the vertical and horizontal directions so that the wall panels enclose appropriate spaces for the rooms within a building.

These panels form a box-like structure. Both vertical and horizontal panels resist gravity load. Wall panels are usually one story high. Horizontal floor and roof panels span either one-way or two-way slabs.

When properly joined together, these horizontal elements act as diaphragms that transfer the lateral loads to the walls.

FRAME SYSTEMS:

Precast frames can be constructed using either linear elements or spatial beam column sub-assemblages. Precast beam-column sub-assemblages have the

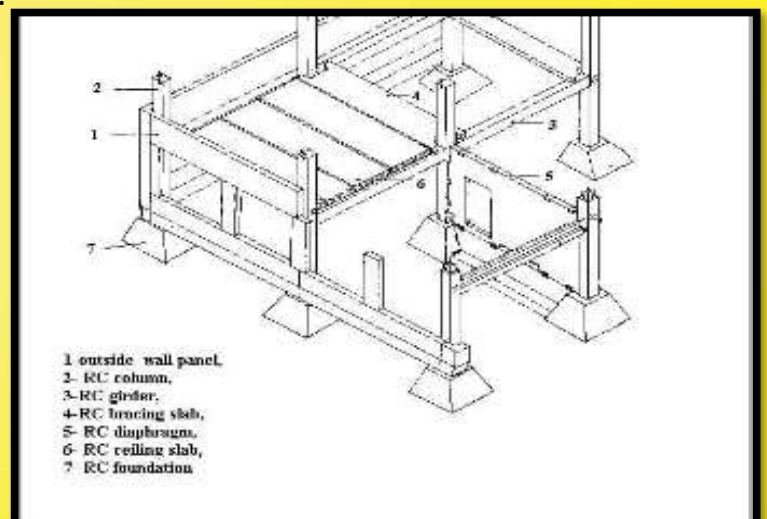
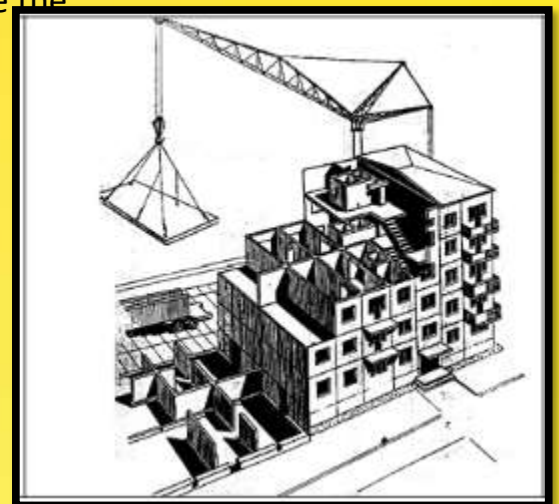
advantage that the connecting faces between the sub-assemblages can be placed away from the critical frame regions; however, linear elements are generally preferred because of the difficulties associated with forming, handling, and erecting spatial elements. The use of linear elements generally means placing the connecting faces at the beam-column junctions.

SLAB COLUMN SYSTEMS WITH SHEAR WALLS:

These systems rely on shear walls to sustain lateral load effects, whereas the slab-column structure resists mainly gravity loads.

There are two main systems in this category:

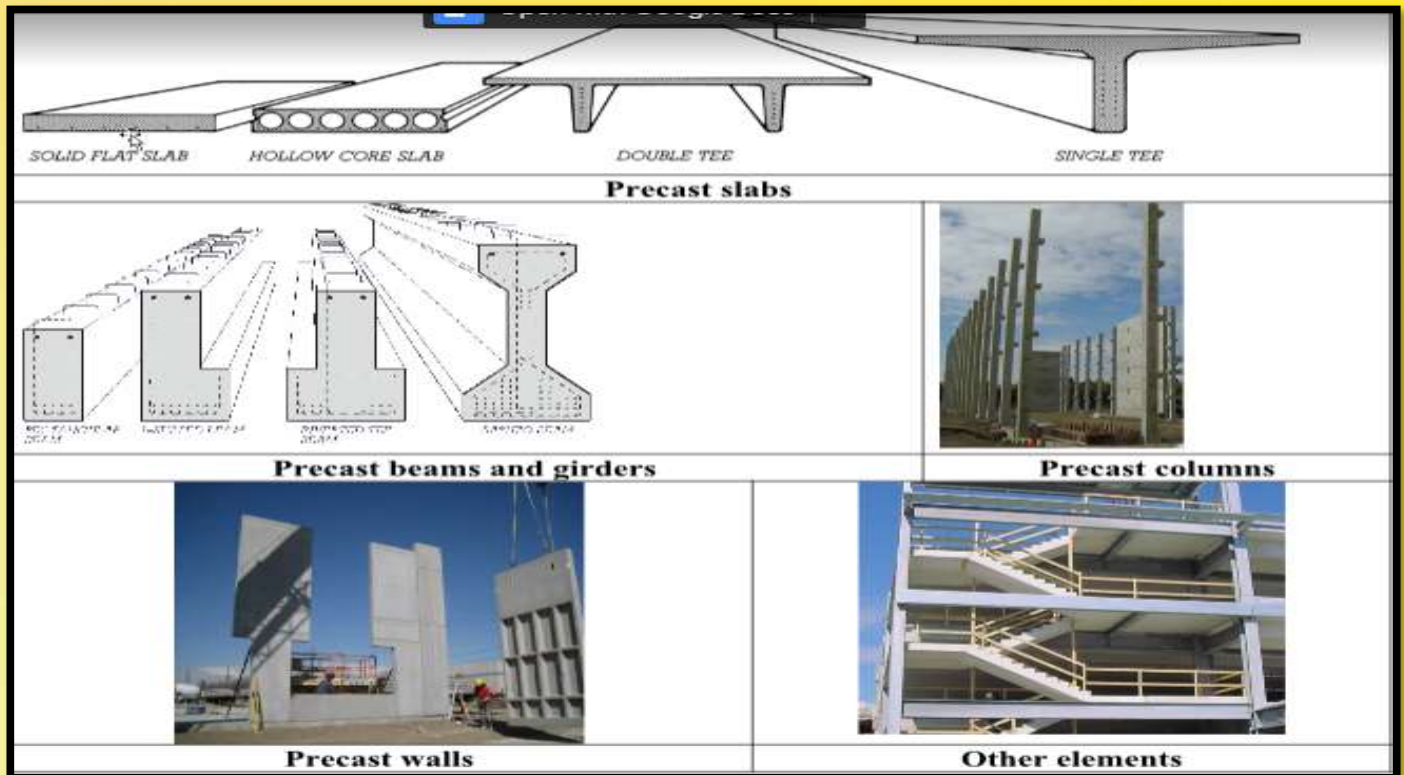
- Lift-slab system with walls
- Prestressed slab-column system



In the Lift –slab system, the load-bearing structure consists of precast reinforced concrete columns and slabs. Precast columns are usually two stories high. All precast structural elements are assembled by means of special joints. Reinforced concrete slabs are poured on the ground in forms, one on top of the other. Precast concrete floor slabs are lifted from the ground up to the final height by lifting cranes. The slab panels are lifted to the top of the column and then moved downwards to the final position. Temporary supports are used to keep the slabs in the position until the connection with the columns has been achieved.



PRECAST CONCRETE STRUCTURAL ELEMENTS:



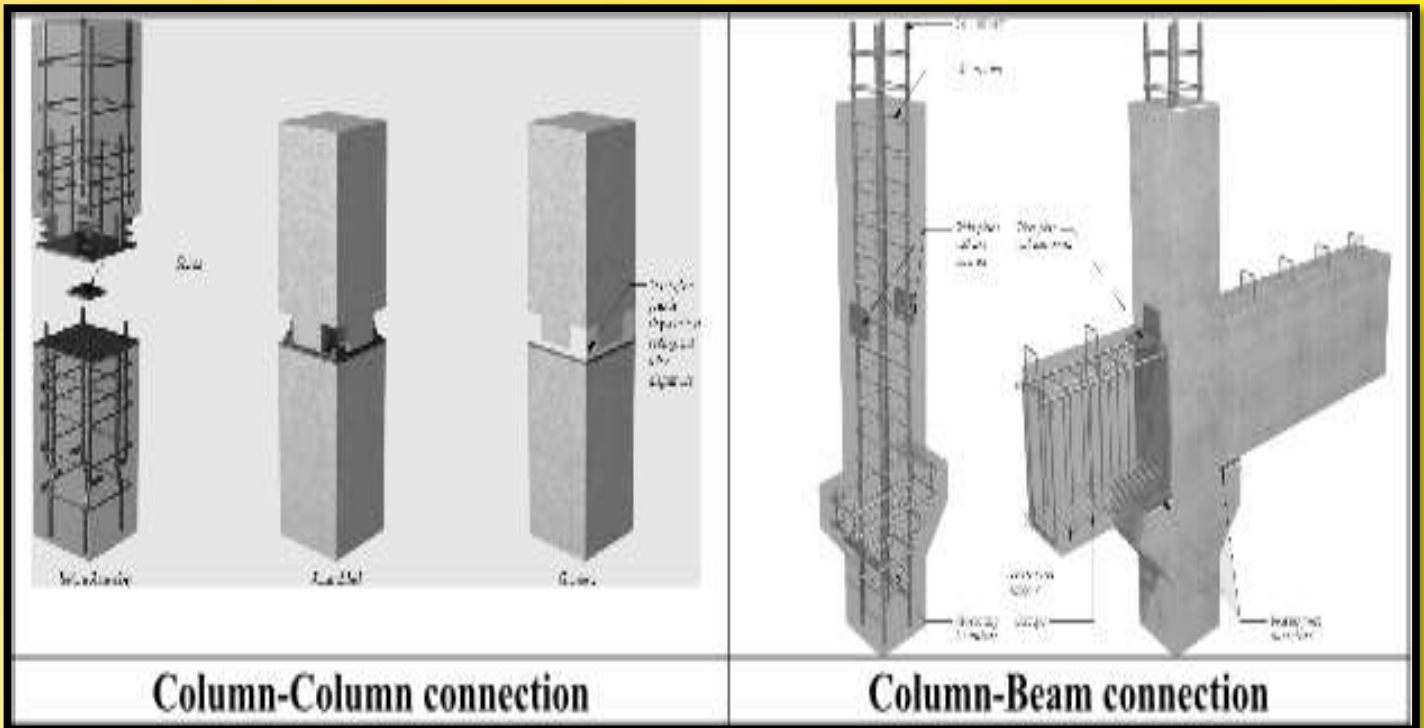
DESIGN CONCEPTS FOR PRECAST CONCRETE BUILDINGS

The design concept of the precast buildings is based on the buildability, economy and standardization of precast components. In design of precast members and connections, all loading and restraint conditions from casting to end use of the structure should be considered.

The stresses developed in precast elements during the period from casting to final connection may be more critical than the service load stresses. Special attention should be given to the methods of stripping, storing, transporting, and erecting precast elements.

When precast members are incorporated into a structural system, the forces and deformations occurring in and adjacent to connections (in adjoining members and in the entire structure) should be considered. The structural behavior of precast elements may differ substantially from that of similar members that are monolithically cast in place. Design of connections to transmit forces due to shrinkage, creep, temperature change, elastic deformation, wind forces, and earthquake forces require special attention. Details of such connections are especially important to insure adequate performance of precast structures.

Precast members and connections should be designed to meet tolerance requirements. The behavior of precast members and connections is sensitive to tolerances. Design should provide for the effects of adverse combinations of fabrication and erection tolerances. All details of reinforcement, connections, bearing elements, inserts, anchors, concrete cover, openings and lifting devices, and specified strength of concrete at critical stages of fabrication and construction, should be shown on either the contract documents prepared by The architect/engineer of record or on the shop drawings furnished by the contractor. The shop drawings should show, as a minimum, all details of the precast concrete members and embedded items. Sample connections are shown below.



DONE BY



Mr.M.SATYANARAYANA
Asst.Professor

ENGINEERING MARVELS

STATUE OF UNITY

Statue of unity is a colossal statue constructed in memory of Indian statesman and first Home Minister of Independent India, Sardar Vallabhbhai Patel (1875–1950).

Location: Gujarat, India facing Sardar Saorvar Dam near Narmada river and 100 kilometres southeast of the Vadodara city.

Height: 182 m (597 ft)

Year of construction: Started in 2013 and completed in 2018

Inaugurated by: Shri Narendra Modi, Prime Minister of India on Oct 31 st , 2018.

Builder: Larsen & Toubro for a contract price of ₹2,989 crore

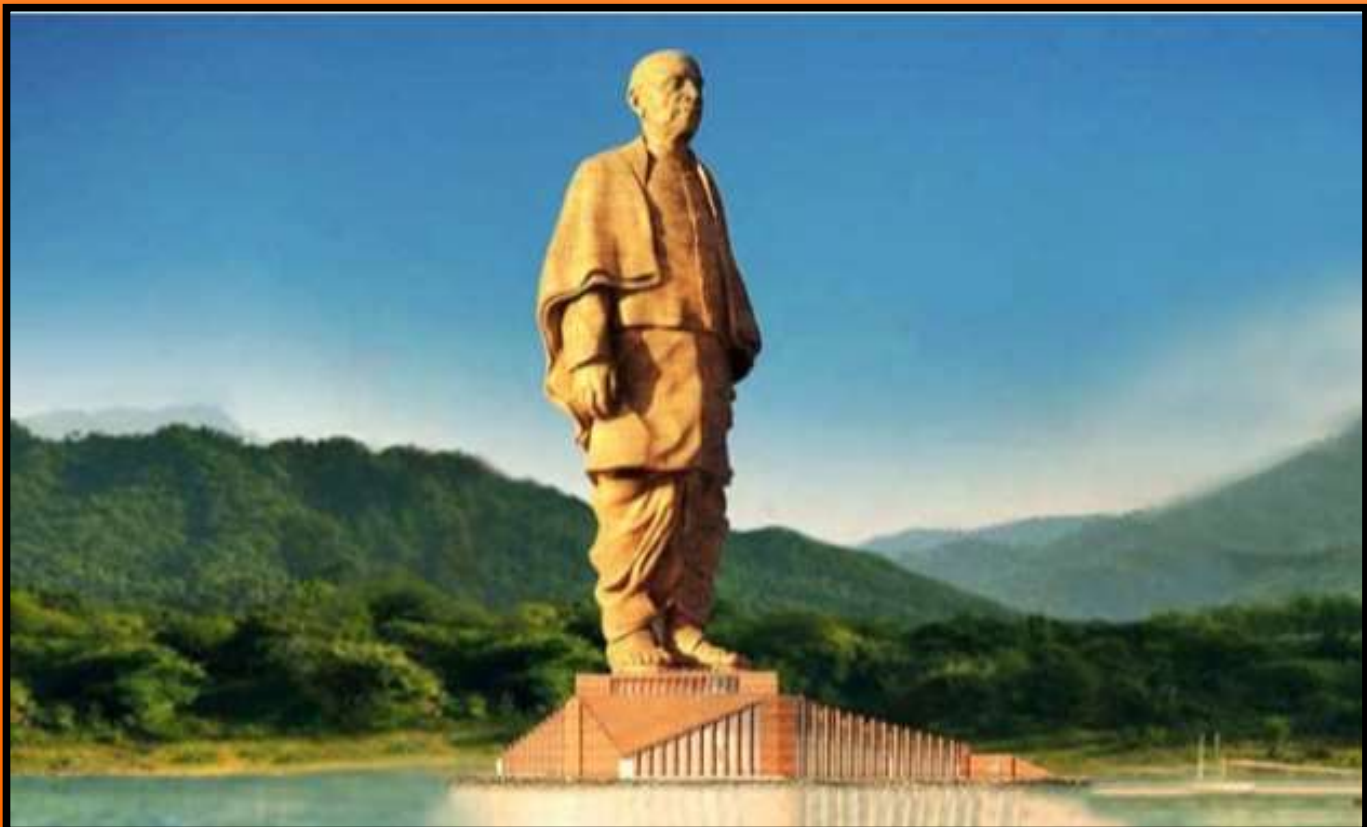
Sculptor: Ram V Sutar.

Significance of idol design: The expression, posture and pose justify the dignity, confidence, iron will as well as kindness that his personal exudes. The head is up, a shawl flung from shoulders and hands are on the side as if he is set to walk Time taken for completion: 57 months: 15 months for planning, 40 months for construction and two months for handing over by the consortium

Manpower involved: 3000 workers and 250 engineers

Material used: 210,000 cubic metres (7,400,000 cu ft) of cement concrete, 6500 tonnes of structural steel, and 18500 tonnes of reinforced steel. The outer façade is made up of 1700 tonnes of bronze plates and 1850 tonnes of bronze cladding which in turn comprise 565 macro and 6000 micro panels. A total of 135 metric tonnes of scrap iron had been collected

and about 109 tonnes of it was used to make the foundation of the statue after processing.



Highlights of the statue: The statue is divided into five zones of which only three are accessible to the public.

1. From its base to the level of Patel's shins is the first zone which has three levels and includes an exhibition area, mezzanine and roof. Zone 1 contains a memorial garden and a museum. The museum in zone 1 catalogues the life of Sardar Patel and his contributions. An adjoining audio-visual gallery provides a 15 minute presentation on Patel and also describes the tribal culture of the state.

** The second zone reaches up to Patel's thighs at 149 metres,

** Third zone extends up to the viewing gallery at 153 metres

**Zone 4 is the maintenance area

**Zone 5 comprises the head and shoulders of the statue.

**The concrete towers which form the statue's legs contain two elevators each. Each lift can carry 26 people at a time to the viewing gallery in just over 30 seconds. The gallery is located at a height of 153 metres and can hold up to 200 people.

Tourism attraction: Over 128,000 tourists visited it in 11 days since it was opened to the public on 1 November 2018 and kept on attracting tourists.

**COMPILED BY
SHAIK.SALIHA SULTHANA
16761A0151**



Nothing is so inspiring as seeing big works well laid out and planned and a real engineering organisation.

-Frederick Handley Page

CAREERS

OPTIONS AVAILABLE.....



OPPURTUNITIES AWAITING....



HAVE A GLANCE AT TOP INDIAN CONSTRUCTION COMPANIES

1. Ajay Kadam Association
2. Antant Access
3. Macro Marvel Infrastructure
4. Balaji Railroad Systems Ltd.
5. Dr. Kelkar Consultants Pvt. Ltd.
6. Expert Technology – Chennai
7. Gammon India Ltd.
8. Hiranandani Construction Pvt.Ltd.
9. IVRCL Infrastructure & Projects Ltd.
10. Jaypee Group
- 11.APZENCO
- 12.NTPC
- 13.CAD Deploy
- 14.NHPC
- 15.Nagarjuna Constructions
- 16.IVRCL
- 17.GMR Group
- 18.Hindhustan Construction Company
- 19.DLF India
- 20.Shoba Developers
- 21.Pung Lyod Group
- 22.Soma Constructions
- 23.Gayathri Projects
- 24.ESSAR Group
- 25.Sujana Group

DON'T MISS THE INTERNATIONALS

- 1.Arup.
- 2.Atkins
- 3.Vinci
- 4.Mott Mc Donald
- 5.Stantec
- 6.Balfour beatty
- 7.Bechtel
- 8.Shanska
- 9.Laing O'Rourke
- 10.Arcadis

TRICK ZONE

HEY FELLAS.TRY THESE.....



1	10	7	16
28	19	22	13
25	34	31	40
?	43	46	37

1.What number should replace the question mark?

2.What number should replace the question mark?

1, 3, 4, 7, 11, 18, 29, ?

3. If my train journey takes 47 minutes and my taxi journey takes 19 minutes longer, what is my total travelling time in hours and minutes?

4. In the below puzzle, a proverb is written with exactly one letter of each word replaced with another. Can you figure out what the original proverb is?

So is a sap, nor is a no.

5. Add three consecutive letters of the alphabet to the group of letters below, without splitting the consecutive letters of the alphabet, to form another word.

GERE

Answers

1.52

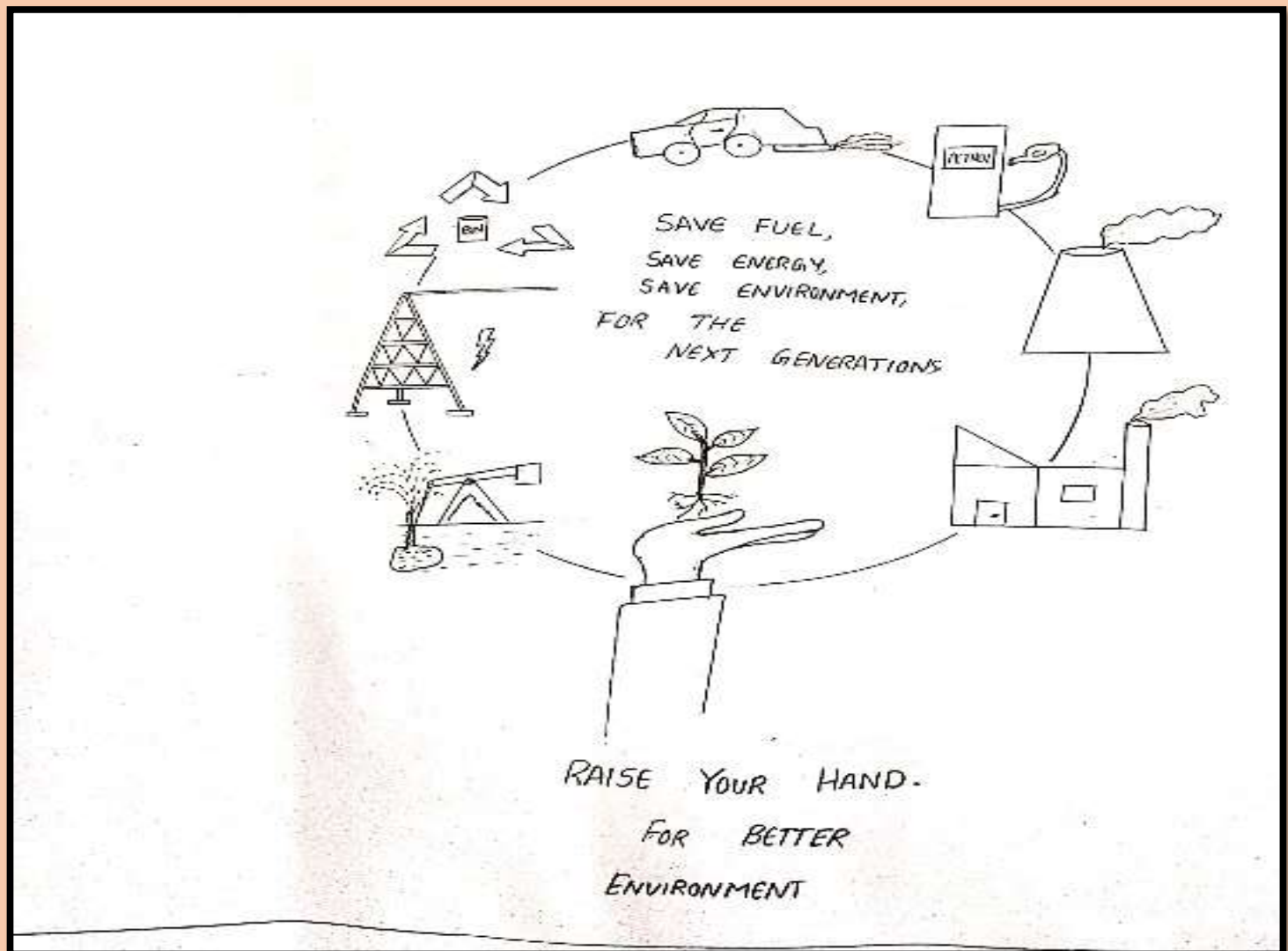
2.47

3.1'53''

4.Do As I Say Not As I Do

5.Gesture

STUDENT ART GALLERY



IN THE WORDS OF DIGNITARIES

NAME : Dr. K.V.M. Achutaramayya
DESIGNATION : Professor
AREAS OF RESEARCH : Geology
EMAIL : achut_kala@yahoo.com



WHAT SUBJECT TO CHOOSE IN PRE AND POST GRADUATIONS...

Career includes higher education, sports and jobs. Anyone can choose any subject according to their interest and availability of jobs. Perfection in any field of study also earns good reputation and excellency in time.

WHAT DO FIRMS EXPECT FROM YOU???

Fundamentals and basic knowledge regarding the subject allows the students to develop problem solving ability, which was the most expected skill of the times by any firm.

TECHNICAL SKILLS OR SOFT SKILLS??

Technical and soft skills together make an employee. A right blend of these two gives great results.

SOFT SKILLS??

Every human being possess 5 senses namely feel, taste, vision, hearing and speaking. Senses other than these are termed as soft skills which make the individual exceptional in his/her respective field of work or study.

COMMUNICATION..REALLY NECESSARY??

Communication defines the interactive skills of an individual. The whole world lives with interactions. To make livelihood possible in present day life communication serves as great weapon.

DEVELOP COMMUNICATION IN ENGLISH LIKE THIS..

Try to improve your lexical resource by referring dictionaries, go through English novels, refer newspapers and practice in reality through presentations and seminars.

TO WHAT SHOULD THE STUDENT BE EXPOSED??

Engineering students like you should inculcate themselves in various activities like literary activities, cultural clubs, innovation center activities etc., to make a remarkable journey forward.