

# Civil

Engineering

# Magazine

Jan-June 2022



# Tech and Trendz

# CONTENTS

**1.**  
**Departmental**  
**events**

**2.**  
**Industrial**  
**Visit**

**3.**  
**Placements**

**4.**  
**ALUMNI**  
**INTERACTION**

**5.**  
**Student**  
**Article**

**6.**  
**Trick Zone**

**7.**  
**ARTS**

## Departmental events

### REPORT ON ONLINE WEBINAR ON “RECENT ADVANCES IN PAVEMENT ENGINEERING”

Event Type	Webinar
Date / Duration	10-01-2023
Resource Person	Dr. UMA MAHESWAR AREPALLI, Assistant Professor, Department of Civil Engineering, SRM University, AP.
Name of Coordinator	P. Mohana Gangaraju, Assistant Professor
Target Audience	III B.Tech and IV B.Tech students
Total no of Participants	89 (Internal -89)
Objective of the event	<ul style="list-style-type: none"><li>➤ To update students in the area of transportation engineering with the current sustainable industry practices and the latest cutting-edge research.</li></ul>
Outcome of event	<ul style="list-style-type: none"><li>➤ Students will get updated with the latest trends in transportation engineering, especially pavement engineering.</li><li>➤ Students get familiar the latest technology that is being used in India, such as Falling Weight Deflectometer (FWD), Network Survey Vehicles (NSV), Full Depth reclamation (FDR), Cold and Warm Asphalt mixes, Mechanistic- Empirical (M-E) pavement design, etc.</li><li>➤ The lecture also provides insights into science vs. engineering and career advice – industry, higher education, and government.</li></ul>
Feedback / Suggestions	<ul style="list-style-type: none"><li>• Students gave positive feedback on the webinar and requested to conduct more webinars and workshops.</li></ul>

# Dr. V. Ramakrishna, HOD addressing event



# Presentation of Resource Person

## Skill Set Requirements – Modern Engineers

Geometric Design	Horizontal and Vertical Curves	MX ROAD Software
Traffic Engineering	Traffic studies, Traffic Management, Safety	Software - VISSIM or CUBES7 Image Analysis Applications
Pavement Engineering	Materials, Design, Construction, and Management	Sustainable paving materials and techniques
Transportation Planning	Urban Transportation Planning, Intelligent Transportation Systems (ITS)	Sophisticated Technology Advances

\*Railways, Airways, and Waterways

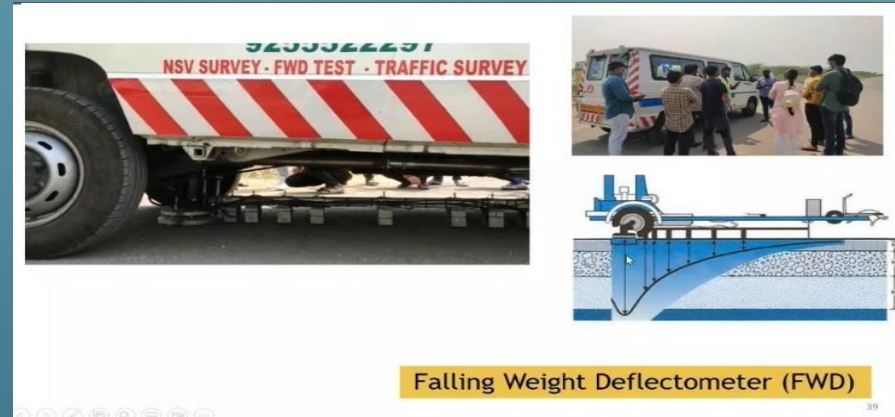
# Presentation of Resource Person

## Pavement Engineering

- Pavement Materials (Mix Design)
- Pavement Design (Structural Design)
- Pavement Construction
- Pavement Management (Maintenance and Rehabilitation)



# Presentation of Resource Person



Falling Weight Deflectometer (FWD)

## REPORT

A oneday webinar on “Recent Advances in Pavement Engineering” is organized in Civil Engineering Department on 10-01-2023 with **Dr. Uma Maheswar Arepalli**, Assistant Professor, Department of Civil Engineering, SRM University, AP acting as Resource Person.

Dr Uma Maheswar dealt with fundamental aspects of pavement engineering such as alignments, materials, mixes and design approaches. He discussed the various methods of bitumen mixing such as hot mix asphalt, warm mix asphalt, coldmix asphalt, recycled asphalt, and porous asphalt. He stressed the importance of pot hole management where cold mix asphalt is more suitable. He deliberated on the material tests that are being carried out in pavement material characterization such as cracking – dynamic modulus, rutting – wheel rut tester, and moisture sensitivity – MiST. He highlighted with case studies the importance of bump integrator and network survey vehicles which are being widely adopted to monitor the unevenness of the pavement surface.



# Report on Industrial Visit to Dr. Narla Thata Rao Thermal Power Station

## Visit Details:

Total no. of students visited plant: 40 (Final year students of Civil Engineering, LBRCE)

**Date of Journey:** 30/1/2023

## Faculty Coordinators:

**Objective of the event:** To understand the fly ash collection and disposal, pollution control measures and power distribution process in Thermal Power Plant

**Outcome of event:** Students acquired knowledge of power production and distribution process in coal based thermal power plant and observed the working of Water treatment plant, coal handling equipment's, coal crushers, Boilers, super heaters, Economisers, Condensers, Generators, Switch yard, ash handing equipment's Cooling tower etc

S.No	Name of the Faculty	Designation
1.	Mr. B. Rama Krishna	Sr. Assistant Professor
2.	Mr. K. Harish Kumar	Sr. Assistant Professor

Students gathering in the Stage V



Mr. Prasad, AE explaining about Stage V construction



## Report on Event:

The IV B.Tech II Semester Students of Civil Engineering accompanied with Two Faculty members visited Dr.NTTPs, Ibrahimpatnam dated 30.01.2023. The main objective of the visit is to bridge the gap between industry and academia. This power plant is one of the coal-based power plants of APGENCO. It is well placed between Ibrahimpatnam and Kondapalli village. Visit contains two sessions morning session Power plant over view class from 11.00am to 1.30pm and afternoon session Plant visit 2.30pm to 5.30pm. After arriving the training Institute of APGENCO, Ibrahimpatnam Mr. Vijay Bhaskar, Divisional Engineer explained about the power plant overview by power point presentation from 11.15 to 1.00pm. In the presentation instructor explained about the Dr.NTTPs introduction and the working of boilers, Steam Turbine, Economiser, coal handling equipment then followed by lunch break 1.00pm to 2.pm. Afternoon session plant visit, Students and faculty moved from Training Institute to plant, where APGENCO training institute Chief Engineer allotted two guides. The guides were explained about the Dr.NTTPs introduction & Safety precautions.

Students gathering at Dr. NTTPS Plant



# Placements

S.NO.	NAME OF THE STUDENT	ROLL NUMBER	DEPT.	YEAR OF GRADUATION	ON CAMPUS /OFF CAMPUS	NAME OF THE COMPANY
1.	B.Hemanth Srinivas	19761A0105	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
2.	Ch.Siddartha Reddy	19761A0110	CIVIL	2023	ON CAMPUS	Megha Engineering and Infrastructure Limited (MEIL)
3.	CH.Ashok Reddy	19761A0112	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
4.	G.Naveen	19761A0116	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
5.	K.Sandeep	19761A0122	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
6.	K.Hemanth	19761A0123	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
7.	K.Mohan sri chandu	19761A0124	CIVIL	2023	ON CAMPUS	Megha Engineering and Infrastructure Limited (MEIL)
8.	P.Nagaraju	19761A0131	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)

9.	P.Keerthi	19761A0136	CIVIL	2023	ON CAMPUS	Accenture
10.	P.Madhu Babu	19761A0137	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
11.	P.Prem Teja	19761A0138	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
12.	R.Rohith kumar	19761A0142	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
13.	Sk.Hashiff	19761A0147	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
14.	T.SivaNaga Raju	19761A0153	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
15.	V.Lakshmi Sravanthi	19761A0157	CIVIL	2023	ON CAMPUS	Design Tribe India Pvt.Ltd
16.	V.Srilatha	19761A0158	CIVIL	2023	ON CAMPUS	Mold-Tek Technologies Ltd
17.	V.Rajesh Kumar	19761A0161	CIVIL	2023	ON CAMPUS	Fortunatus Infrastructures LLP (IRP Infra)
18.	A.Dana Krishna	20765A0101	CIVIL	2023	ON CAMPUS	Mold-Tek Technologies Ltd
19.	B.Komarakonda	20765A0102	CIVIL	2023	ON CAMPUS	Megha Engineering and Infrastructure Limited (MEIL)
20.	D.Poorna chandra rao	20765A0103	CIVIL	2023	ON CAMPUS	Megha Engineering and Infrastructure Limited

# ALUMNI INTERACTION

Event Type : ALUMNI INTERACTION

Date : 03-06-2023 at 12 p.m. [Details of Alumni](#)

Name : Ch. Naga Sowmya Batch/ID No : 2018/  
18761A0105

Contact No : 9505038\*\*\*

E-mail ID : [sowmyacherukuri123@gmail.com](mailto:sowmyacherukuri123@gmail.com)

Present Address & Status : Trainee Associate, Formonic  
Technologies Pvt Ltd..

Target Audience : II. B.Tech-Students Total no of Participants:  
25

Objective of the interaction: Ms.Sowmya has interacted with II year students about her experiences in Formonic Technologies and motivated the students to take up the correct careers in Civil engineering.



# STUDENT ARTICLE

Millau Viaduct is a large bridge in Millau, France in the Department of Aveyron. It was designed by the French structural engineer Michel Virlogeux and British architect Sir Norman Foster.

➤ Before the bridge was built, traffic had to go down into the Michel Virlogeux valley of the Tarn river and pass along the national route N9 near the town of Millau, causing heavy congestion at the beginning and end of the July and August vacation season. The bridge now crosses the Tarn valley above its lowest point, linking the Causse du Larzac to the Causse Rouge, and is inside the perimeter of the Grands Causses regional natural park.

➤ The bridge forms the last link of the A75 autoroute, (la Merredienne) from Clermont-Ferrand to Beziers. The A75, with the A10 and A71, provides a continuous high-speed route south from Paris through Clermont-Ferrand to the Languedoc region and through to Spain, considerably reducing the cost of vehicle traffic traveling along this route.

➤ Many tourists heading to southern France and Spain follow this route because it is direct and without tolls for the 340 km between Clermont-Ferrand and Pezenas, except for the bridge itself.



## History

<b>Designer</b>	<b><u>Dr Michel Virlogeux</u>, structural engineer</b>
<b>Constructed by</b>	Compagine Eiffage du Viadue de Millau
<b>Construction started</b>	16 October 2001; 20 years ago
<b>Construction cost</b>	€ 394,000,000
<b>Opened</b>	16 December 2004, at 09:00 hrs
<b>Inaugurated</b>	14 December 2004; 17 years ago

## Characteristics

Design	<u>Multiple-span cable-stayed viaduct motorway bridge</u>
Material	Concrete, steel
Total length	2,460 m (8,070 ft)
Width	32.05 m (105.2 ft)
Height	336.4 m (1,104 ft) (max pylon above ground)
Longest span	342 m (1,122 ft)
No. of spans	204 m (669 ft), 6×342 m (1,122 ft), 204 m (669 ft)
Clearance below	270 m (890 ft)
Design life	120 years

- One of the greatest achievements in modern engineering, the Millau Viaduct is the world's longest suspended bridge and the tallest cable-stayed road bridge anywhere.
- It measures 8,071 feet in length with a deck that stands 900 feet above the ground beneath. Each of its foundation towers stands 1,125 feet tall- nearly the height of the Empire State Building. And because of its enormous height, the bridge couldn't be built in sections and then assembled into place.

## CHOOSING THE DEFINITIVE ROUTE:

The 'high solution' required the construction of a 2,500-metre-long (8,200 ft) viaduct. From 1991 to 1993, the structures division of sestra, directed by Michel Virlogeux, carried out preliminary studies, and examined the feasibility of a single structure spanning the valley. Taking into account technical, architectural, and financial issues, the Administration of Roads opened the question for competition among structural engineers and architects to widen the search for realistic designs. By July 1993, seventeen structural engineers and thirty-eight architects applied as candidates for the preliminary studies. With the assistance of a multidisciplinary commission, the Administration of Roads selected eight structural engineers for a technical study, and seven architects for the architectural study.



## BEIJING NATIONAL STADIUM, 'THE BIRD'S NEST'

- The National Stadium is definitely one of the most bizarre-looking structures, but its unique design can also withstand a magnitude 8 earthquake. Built to host the 2008 Olympics in Beijing, "The Bird's Nest" was built with over 16 miles of unwrapped steel, which weighed in at 42000 tons. It's 226 feet high, occupies 2.8million square feet of space, and can hold 80,000 to 90,000 people.
- Designed by Swiss architects Jacques Herzog and Pierre de Meuron, the National Stadium is the most energy-efficient and environmentally friendly stadium in the world.
- Built at a cost of 300m, the Beijing National Stadium, located at the south of the centrepiece Olympic Green, is a stunning landmark building that staged the 2008 Olympic Games from 8 August to 24 August 2008.
- Built at a cost of £300m, the Beijing National Stadium, located at the south of the centrepiece Olympic Green, is a stunning landmark building that staged the 2008 Olympic Games from 8 August to 24 August 2008.
- The opening and closing ceremonies and athletic track and field events of the 29th Olympiad took place at the stadium. It also hosted the Summer Paralympics from 6 September to 17 September 2008 and Race of Champions 2009.

- The innovative structure was designed by Herzog & De Meuron Architekten, Arup Sport and the China Architecture Design and Research Group, and has been nicknamed the "bird's nest" due to the web of twisting steel sections that form the roof.



- A gross volume of three million cubic metres made it the world's largest enclosed space at that time. It was then also the world's largest steel structure with 26km of unwrapped steel used

Compiled by  
M.LAVANYA  
21761A0124

## BEIJING NATIONAL STADIUM, 'THE BIRD'S NEST'

- The 91,000-seat stadium was designed to incorporate elements of Chinese art and culture.
- The National Stadium's main structure is an enormous saddle-shaped elliptic steel structure weighing 42,000t. The stadium extends 333m from north to south and 294m from east to west, with a height of 69.2m. The stadium design included demountable seats of 11,000.
- "The £300m Beijing National Stadium is located at the south of the centre piece Olympic Green."

### Beijing National Stadium structure and design:

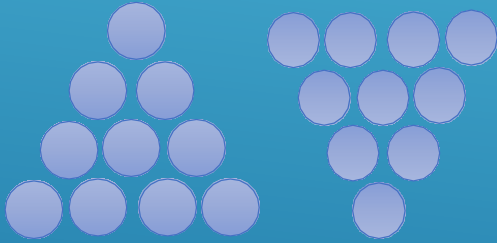
- The stadium has two independent structures, a red concrete seating bowl and the outer steel frame around it at a 50ft distance.
- As this was an Olympic venue, there were many standards that the design consortium had to conform to. Everything from the width of the track to the size and location of the long and high jump pits needed to satisfy the requirements set out by the International Olympic Committee (IOC) and the International Amateur Athletics Federation (IAAF).
- The circular shape of the Beijing Olympic stadium represents heaven, but has been described as a bird's nest, with its pattern inspired by Chinese-style crazed pottery.
- A series of cantilevered trusses has been designed to support the roof, shading the seats. While designing the national stadium, architects and engineers also ensured comfortable seats and optimum view for all spectators.
- The football field of the stadium with an area of 8,000m<sup>2</sup> provided enough space for the underground pipes of the geothermal heat pump (GHP) system, through which ground-source energy is collected.
- In winter, the system absorbs the heat from the soil and helps heating the stadium, while in summer the coldness from the soil is stored which cools the stadium.
- Computational fluid dynamics (CDF) simulation based on the Games-time situation has been used to calculate the temperature and airflow speed at each angle of the structure and optimise all ventilation facilities accordingly.



# TRICK ZONE

## Number puzzles

1. Can you name the biggest number that can be written with four 1s ?
2. Can you make 2 squares and 4 right angled triangles using only 8 straight lines?
3. Make the left arrangement look like the right arrangement by moving only three circles from the left arrangement.



4. What is the smallest number that can be expressed with 2 digits ?

5.

?	+	?	=	8
+		+		
?	-	?	=	6
=		=		
13		7		

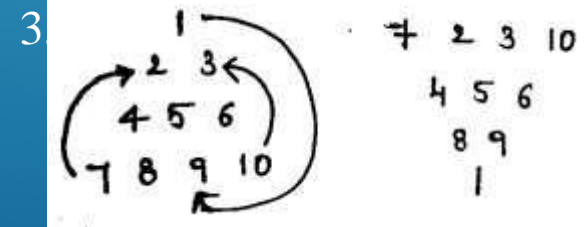
1. A is father of B. But B is not the son of A. How that's possible ?
2. If there are 12 fish and half of them drown, how many are there ?
3. How many times can you subtract 10 from 100 ?

### Answers

1. B is the daughter.
2. 12, fish don't drown.
3. Only one time. Next time you would be subtracting 10 from 90.

### Number puzzles answers

1.  $11^{11}$



4. 1/1, 2/2, 3/3 etc. up to 9/9

5. 

4	+	4	=	8
+		+		
9	-	3	=	6
=		=		
13		7		

# ARTS



ART BY  
N.SRAVANI  
20761A0136